Artists' Perception of the Use of Digital Media in Painting

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Abstract

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Painting is believed to predate recorded history and has been in existence for over

35,000 (Ayres, 1985; Bolton, 2013) years. Over the years, painting has evolved; new

styles have been developed and digital media have been explored. Each period of change

goes through a period of rejection before it is accepted. In the 1960s, digital media was

introduced to the art form. Like all the painting mediums, it was rejected. It has been over

50 years since it was introduced and yet, it has not been fully accepted as an art form

(King, 2002; Miller, 2007; Noll, 1994). This exploratory study seeks to understand the

artist's perception on the use of digital media as an art tool and its benefit to the artists

and art education.

Grounded theory was used as a methodological guide for the study. Eleven

participants participated in this study. Participants for the study were drawn from art

instructors who teach at 4-year higher education art colleges located in Ohio and Illinois.

The research explored the perception of artists on the use of digital media, otherwise

known as digital media in painting. The study relied on interviewing as a method of data

collection, which was triangulated with reviewed literature relating to the research. The

emergent theory describes how an artist's perception of digital media and digital paintings

can be interpreted. It takes into account three main variables: how the artist defines

painting, how their definition influences their tool of choice, and their view on the importance of the role and function of painting in the lives of individuals, in society and culture and in art education.

Dedication

To my Dad, relentless in his quest to educate all his children, my mom who did all she could to make sure I lacked nothing, and my sister, Lydia my coach. Thank you all I would never have reached this point without your support. Above all, I thank God for bringing you in my life. I am truly blessed.

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Chapter 1: Introduction

When it comes to art, the old is thought by some to be of better value than the new (Beckert & Rössel, 2013). Paintings by old masters such as Leonardo da Vinci (1452 – 1519), Vincent van Gogh (1853 – 1890), Henri Matisse (1869 – 1954), and Rembrandt van Rijn (1606 – 1669), just to mention a few, are considered priceless, and famous throughout the world (Houpt, 2006). Famous paintings like the Mona Lisa by da Vinci are stolen and forged because of the rarity of old painting and the high market demand (Haight, 2011; Helstosky, 2009). Research shows that the works of the old masters were not always seen as being more valuable than contemporary artworks (Callen, 2000; Hurt, 2006; Gardner & Kleiner, 2013; Willette, 2010). As new types of art are unacceptable to some in society today, so were the works of the old masters during their emergent period (Gardner & Kleiner, 2013; Hurt, 2006).

Art history has repeatedly shown that ardent traditional art lovers normally do not consider the digital age art forms to be beneficial to the present day art world (Benjamin, 2012). Lorenzi and Francaviglia, (2008) believe art created with digital tools cannot be considered true art. Alexenberg (2006) suggests that digital media and styles in art are always rejected because people find it hard to accept innovations. She further notes that people are often habituated to what they know and as such are incapable of welcoming new ideas. She argues that it takes time for people welcome to them.

While the existing literature suggests a trend of non-acceptance of current forms of art, it is still not clear why this phenomenon persists especially in this present day, over the use of digital media sometimes referred to as digital media. What remains baffling is

that it appears that in the 21st Century digital media is the art media of choice. Digital media plays a significant role in our daily lives in the 21st Century to the point that its use is encouraged by all and even more so in the educational field. It is essential, therefore, when it comes to the use of digital media in art and more especially in painting and art education, that we gain a deeper understanding of why some do not appreciate the use digital media use in art.

This study examined the perception of artists towards the use of digital media in painting. The literature examined factors that led to the rejection of digital painting by some critics and acceptance by others through the lens of the history of the development of art with a particular attention to painting. Further attention was given to the evolution of painting tools and materials as well as the development of new styles and art forms and how these styles transcended all the negative criticism and established themselves in the field of art.

Other aspects this research addressed are art criticism and aesthetic theory. Painting has evolved over the centuries, so have painting theories and philosophies. Theories applicable to one form of art cannot be applied to another, as they are different in terms of tools and styles (Tolstoy, 1995). Due to this fact, the true meaning of painting has become difficult to determine. What is true about painting is that, it requires a surface, some kind of pigment, and an application tool in order to achieve a result (Bolton, 2013; Janson & Janson, 2004). So, what makes a painting a true art form? Is it just the artists' style of rendition or is it the technical skill the artist possesses? Or does the application tool used to produce the painting play a role in the determination of its

true meaning? Efland (2002) noted that these unresolved questions have been the source of debate between different schools of thought for a long period. To help address this issue, this research draws from the progress of different art movements and styles starting from ancient cave paintings of the prehistoric period to modern art. It discusses the possibility of digital painting being fully accepted as an art form.

Two factors should be clarified about the use of terms in this research. Firstly, because art is a broad discipline, the research concentrated on painting. Art is made up of combined unit of a wide variation of disciplines including fine arts, visual arts, decorative art, applied art and performing arts (Antliff, 2011). These subdivisions of art are further broken down and classified into specific categories. These include sculpture, music, painting, and photography (Antliff, 2011). The research examined art as a whole to help provide a detailed look into the background of art, and the influence of technology in art. In doing so, the full extent of the impact of technology on art can be grasped. Secondly, while digital painting and computer art have been defined separately in this research, they have been used interchangeably. Digital painting is a broad concept under which computer art falls (Oates, 2006).

Another important aspect that needs clarifying is the term technology. According Allen and Wircenski (1998), technology involves the use of "theory, processes, information, and materials to improve the knowledge, skills, and attitude of a society" (p.36). Thereby, technology includes tools created to help a people improve their way of life. The term is often used to identify tools invented to help solve problems, improve tasks and help carry out tasks. The spectrum of technology is not so broad for this study.

For this study, the term technology is used to describe digital media and emergent technologies to create new art forms.

Background of the Study

What is art? Who is to say, what is, and what is not art? The definition of art has always been uncertain. This is because art has gone through numerous changes in style, media, and materials since the cave art period. The changes especially that of the renaissance revolutionary period, often led to criticism from traditional art lovers whose interpretation of art was framed within the definition set by the art academy, hence, the definition of art remained uncertain (Arnold, 2004). Moreover, the development of varying styles, media and tools and with varying theories emerging from different schools of thought left the definition of art in a pendulum state (Arnold, 2004).

New styles in art have been questioned regarding their aesthetic value. A creative artwork is demonstrative of its aesthetic value and beauty (Hutter & Shusterman, 2006). Aesthetic value plays an important role in helping artists reach a much broader audience. Tolstoy (as cited in Dutton, 2010) noted traditional art value adds to the process of how art forms are visually perceived both physically and psychologically. As such, art created with computers can be well received if the valued substances of aesthetics are included in the creative process. Tolstoy (1995) explained that the definition of art remains uncertain because the evolution of art is constant; digital media and ideas of representation evolve over time.

In the 1960s, computers emerged as the new tool of expression. As a form of technology, the computer has created easy access to information and faster ways to obtain

results, an advantageous feature that would not have been easily conceptualized a couple

of years back (Noll, 1994). It has changed views on the traditional disciplines of art (Noll,

1994). Digital painting involved the use of the computer as a form of media to generate

artistic images. It is imperative to note that digital painting is largely different from the

traditional form of painting, which requires one sitting in front of easels, and other forms

of support, and painting with brush, oils and other art media and materials (Wood, 2007).

As an art form, digital painting has however, generated controversies regarding the value,

creativity, and originality of art. Those who prefer traditional painting have refused to

acknowledge digital painting as an art form because of the use of digital media tools

instead of the use of widely accepted and traditional materials in the creation of the art

piece. According to Lin (2004), the use of the computer and other digital media

eliminates the essence of art from such works.

Piene and Russett (2008) argued that technology is not new to the field of art. As

stated by the authors, technology played a vital role in the practice of art in ancient

cultures. In a 2008 interview, Otto Piene pointed out that the Stonehenge in England and

the pyramids in Egypt are some of the best examples of works using technology. Asked

about his thoughts on people's negative attitude towards digital media use in visual art,

he blamed art critics and theorists who saw to it that traditional art and new art forms

were categorized into separate disciplines. According to him, the constant need to

categorize art forms has been a continual issue since the Renaissance period. He noted

that this approach of dealing with new and complex art forms still exists because people

still see art as an independent field (Piene & Russett 2008). During the interview, Otto

Piene discussed two points he felt are advantageous to using technology in the art field. First, technology brings a kinetic element to art. Advancement in digital technology always provides the artist with ways to develop new art forms (Piene & Russett 2008). Second, technology has the ability to generate more results in a short period (Piene & Russett, 2008).

Statement of the Problem

Digital media innovations have offered new creative horizons to the field of art and art education since the introduction in the 1960s (Graham & Cook, 2010). It has made significant contributions to the art field; yet it is not always recognized by the conventions of traditional art culture (Miller, 2007). It has changed views on the traditional art disciplines including painting, sculpture, printmaking and graphic design. As technology became more accessible and accepted, its application in art became significant in contemporary art (Shanken, 2009).

As stated earlier, technology existed a long period before the emergence of digital media. For instance, the works of Leonardo da Vinci showed he was interested in mechanics. da Vinci was not only an artist; he was an engineer who was enthralled with designing and creating machines like the Ornithopter (a flying machine), of which he made several designs between 1486 and 1490. In the late 1490s, da Vinci designed a giant catapult, which was then seen as an advanced and improved weapon. Then in 1499, he created a design of the shell of war tank. Critiques saw this design as exceptional as its design made it easy to operate the tank. He designed the scythed car in 1499, which was

intended to be used during war times. In 1503, da Vinci designed the water wheel with cups, and the excavating machine (Doeser, 2002).

It appears that while some artists are open to advances in technology and new forms of art it helps create, others are skeptical about the benefits of technology to art. There are three major factors that those who favor traditional art over digital painting find unsettling. These include the issues of originality, aesthetic value, and artist satisfaction (Candy & Edmonds, 2002a; Lin, 2004; Shepherd, 2011).

When originality is considered in the evaluation of art, works by graphic designers are heavily criticized because they use digital media as their tools and their works are mostly achieved by making multiple copies (Miller, 2007). For instance, in an introduction to the book, *A Brief History of Painting*, Bolton (2013) noted that paintings created during the modern era have no link to painting created in the past because their definitions differ. He argued that though modern painting borrows from photography and film, they are merely paintings created for convenience, engendering a lackluster and lifeless effect.

The second issue pertains to the supposed absence of aesthetic value in digital painting. Some artists refuse to acknowledge technology as a beneficial tool for art because they believe digital painting possesses little value to the field. Negative perception of integration of digital media developed because its nature and form are different from the standard artist tool. What is more, the use of digital media does not necessarily fall under the known cultural and social norm of the concept of art (Candy & Edmonds, 2002a). Digital painting emerged at a period when the art practice needed

innovative ways to create art. Faced with the demand of creating new and exciting works, some artists eagerly welcomed the change (Lovejoy, 2004).

The third issue is concerned with the supposed inability of digital painting to inspire or produce satisfaction in artist as traditional art has been able to achieve for over thousands of years. Aesthetic satisfaction refers to the unique sense of achievement an artwork provides (Levi & Smith, 1991). Bolton (2013) stated that for thousands of years, the Chinese used paintings as part of their meditation as they believed that they are symbols of nature. In this view, landscape artists like Xu Xi, a renowned painter and a member of the Sung Dynasty's of Imperial Academy (960 - 1179) were revered and seen as spiritual and inspirational guides. According to Bolton (2013), Xu Xi's philosophy on landscaping painting pointed to the belief that paintings provide a spiritual satisfaction because they sustain unity between man and nature.

Purpose of Study

Literature reviewed on digital media and traditional media tend to concentrate more on the impact of technology on art, its immense contributions to the advancement of art and on how artists have made positive strides towards extending their skills in traditional painting. Little insight has been given regarding the perception of artists towards the value of digital media to painting (Shanken, 2002). This study explored artists' perception about the use of digital media as art tools and their benefit to the artists, society, culture, and art education. Other factors believed to influence artists' perception of digital media were examined. These included artists' sense of satisfaction and

gratification from using either traditional or digital media as well as influences leading to their preferred tool of choice.

Richardson (2009) mentioned that unlike their students, teachers have little or no background experiences with digital media. Research indicates that this has an overall effect on teachers' attitudes toward the application of digital media in art instruction and digital painting (Lin, 2004; Phelps & Maddison, 2008) and the perception that digital painting lacks aesthetic value (Candy & Edmonds (2002a).

The study adopted grounded theory method of research to explore artists' perceptions to identify other factors that are not highlighted in the literature review (Glaser & Strauss, 1967; Glesne, 2006).

Research questions that guided this study include:

1. What are the views of art instructors regarding the role and use of digital media in the production of art?

2. How might these views influence the meaning of art from the perspective of art instructors in the area of painting?

3. Finally, how might the descriptions or views of the art instructors help define or refine the aesthetic value placed on art pieces produced using digital media?

As previously indicated, while many forms of art exist, for the purposes of this current study, the discussion of the use of digital media will be centered on painting. While art instruction occurs at various levels of education, it is vital to note that the artist who participated in this study only include faculty members from 4-year higher education

art colleges located in Ohio and Illinois. These individuals are considered artists, and experts in their field (Szekely & Bucknam, 2013).

Significance of Study

Research on technology and art mostly focuses on the positive impact of digital media on art and its influence and achievements as an art form. Little insight has been given regarding thoughts on the importance of painting after the introduction of digital media in painting. Most insights on the issue are provided on online discussion boards and blogs (Bluespitfyre, 2008; Tallamy, n.d) but have never been considered with the use of empirical data gathered from artists in the field. This study explored the perception of artists in the educational field regarding digital media in painting by examining factors such as technical skills like hand drawing, and creativity, which are necessary for the execution of quality work of art (Bloom, 2006).

Scope of Study

This research examined artists' thoughts about the use of digital media in the area of painting, influences leading to artist's choice of media, style of painting, theme, and subject and how these choices interrelate to the definition of painting. Participants for this study were recruited based on experience and expertise in both traditional and digital painting. Participants were art instructors from 4-year higher education art colleges located in Ohio and Illinois. Participants were interviewed and data was triangulated with evidence presented in the literature review. Sampling in the study cut across gender. Using grounded theory as methodological guide, participants were recruited using

purposeful sampling. Grounded theory informed data collection, data analysis and the emergent theory.

Limitations of Study

The proposed limitations of the research included:

1. The natural setting of the research,

2. The researcher's background and sensitivity to the study and the effect it might have on the findings of the research.

Because researchers are motivated by the underlying need to gain understanding to their study, they cannot be totally objective about their own work (Glaser & Strauss, 1967), as such, care was taken to avoid bias during the course of data collection, data analysis, and the interpretation of the findings.

Delimitations of Study

Participants for this study were drawn from art instructors teaching in 4-year higher education art colleges located in Ohio and Illinois. Selection was based on their knowledge of media that students and teachers employ in their works as well as the reasoning behind artist's choice of media.

Definition of Terms

The aim of the definition of terms is to clarify the meaning of some words or phrases used in this research.

Age of Enlightenment: The Age of Enlightenment referred to the cultural movement that emerged in the 18th century in Europe in support of the establishment of a new system that allowed people the freedom to reason for themselves. They believed that

reason could free humanity from the imposition of claims of superstition and religious authoritarianism (Hibben, 1910).

Art: Art is the aesthetic outcome achieved through the combination of creativity and imagination (Tolstoy, 1995). Art is reflective of diversity in society and structure of the society and meaning changes according to cultural development and social context during a particular period (Danto, 1997; Danto, 1998; Dissanayake, 1990).

Artifact: The Stanford encyclopedia of Philosophy ("Artifact," 2011) defined artifact as an object purposely created to perform a particular function.

Camera Lucida: The camera lucida is an optical device created in 1806 for artists mainly as a measuring device for drawing (Davidson, 2013).

Citizen Journal: Citizen Journal is an online journal where users can read, write, and discuss news that matter to them.

Computer Art: Refers to images that are electronically produced using digital computers (Noll, 1994).

Digital Media: Refers to mainly new technological tools and applications that are related to the Internet and are used to create and store, audio, video and image files (Coffey, 2001).

Feudalism: Feudalism existed in the Dark Ages. It was the socio-economic system where classicism based on positions prevailed in an agrarian economy. It was made up of feudal lords and their loyal servants who relentlessly fought over land for their lords (Kern, 1968).

Fresco: Fresco is a painting done rapidly in watercolor on wet plaster on a wall or ceiling. The wet plaster allows the colors to sip through so the painting fixed as it dries (Cameron, Jones, & Philippakis, 1977).

Fresco Secco: Fresco secco is a technique of painting on dry plaster with watercolor (Cameron, Jones, & Philippakis, 1977).

Humanism: Humanism was the central component of the Renaissance. The underlying framework for this philosophy was the need for individual achievement. According to this philosophy, all individuals are rational beings capable of knowing what is true and good. Using this philosophy as the basis for transformation from the Dark Ages, artists, writers and other renaissance scholars borrowed the ideology and artistic styles of Greek and Roman period to help transform Italy and other parts of Europe (McClinton, 2006).

Impressionism: Impressionism was a movement that originated in France in the 1860s. It was concerned with portraying emotions or experience using light and color (Callen, 2000).

Mastaba: A mastaba is an ancient Egyptian pyramid, with a rectangular shape, a flat roof and tilted sides. It usually stands at a height of 17–20 feet and contains a compartment where burial rights are performed. Above this are rooms where offerings are stored (Gardner & Kleiner, 2013).

Media Sharing: Media Sharing usually take place when online community members, transfer, and share audiovisuals materials, text, pictures, acoustic media, programs, and games, (Kamath, Ramamritham, & Towsley, 1995).

Microscopy: Microscopy is a field of investigation that uses microscopes and other devices that magnify small objects (Zaluzec, 1996)

Neoclassicism: Neoclassicism was the revival of the classical of Greece and Rome in mid-18th century Europe (Gardner & Kleiner, 2013).

New Media: This term was developed to define all types of media relating to technology including the Internet, computer, tablets, software and relating files such as images, videos and sound. Because technology is changing at a fast pace, the definition of digital media changes to encompass the new ones. (Socha & Eber-Schmid, 2014)

Optics: Optics in art deals with the use of optical instruments such as lenses and mirrors to render realistic images of figures and environments (Hockney, 2006)

Performing arts: Performing arts are art forms that are concerned with creative of activities that are performed in front of an audience. Examples of performing art include music, drama, and dance (Bennett, 2007).

Perspective: Perspective refers to the art of drawing objects on a two-dimensional surface to give the impression of height, width, and depth. Perspective is mostly created to give an appearance of distance (Gardner & Kleiner, 2013).

Pictorialism: Pictorialism was a school of photography that sought to have photography recognized as an art form by manipulating their work to achieve effects that mimicked canvas painting. The style developed in the late 19th century and early part of the 20th century. It however declined in the first 10 years of the 20th century (Gardner & Kleiner, 2013).

Prehistoric Period: Prehistoric period (53,000 B.C - 15000 B.C) is timeline between man's first appearance on the earth and the earliest historical records on man (Parkyn, 1915).

Socio-technical system: A socio-technical system is a system comprised of social and technical subsystems. The Tavistock Institute of Human Relations, a non-profit agency based in London developed the concept of the socio-technical system around the late fifties. It was founded to help investigate the significance of the mutual relationship between humans and machines and to examine ways to help make the program efficient (Cummings, 1978).

Stucco: Stucco is fine plaster used for coating wall surfaces or molding into architectural decorations (Gardner & Kleiner, 2013).

Technology: Technology is a tool designed purposely to achieve an aim (Arthur, 2009).

Traditional Art: Traditional art is used in the context of this research to refer art forms such as painting, architecture, sculptor or other forms that existed prior to the emergence and establishment of a new or modern style or technique that eventually took over.

Wiki: Wiki refers to websites where users gather to participate and collaborate on a project of common interest.

Summary

Chapter one provided an insight into the background and the purpose of the research. Digital painting has been in existence since the 1960's. After over fifty years,

reaction against this form of art is still present, though advances have been recorded.

Critique of digital painting is based on the belief that the art forms lack aesthetic value,

originality, creativity and the ability to invoke artist satisfaction. In the next chapter, the

issue of technology and the use of digital tools will be revisited in much detail.

Chapter 2: Literature Review

Introduction

This chapter provides reviewed literature relevant to the study of the perception of artists' towards the application of digital media in the field of art. The literature review is on related to this study is sectioned into six main parts. The first of these addresses the definition of art and its implications on different art forms particularly, painting and digital painting. The second part defined technology and examined its influence and place in the lives of individuals, society, and education. The third part examines the role of technology in education, as well as the integration and perception of technology in art. The fourth examines the integration of technology into the art field. It examines some digital media used in creating art and employment of digital media in the art classroom. The fifth part of the reviewed literature is on aesthetic value, art criticism, the art critic, and on how these have influenced the evolution of painting techniques. Selected periods on the history will be explored leading up to the period of digital painting. The last part of the literature review examined comparison between traditional art and digital painting. To gain a clear understanding of the two different art forms, it is important to examine how art has been defined.

What is Art?

What is art? What makes an artwork 'art'? For years, these fundamental questions have provoked heated debate amongst different schools of thought. Art encompasses the entire history of man, culture, and movement dating from caveman paintings of prehistoric period to modern art of the twenty-first century. Throughout history, different

interpretations have been presented on the definition of art and yet none of these definitions seems to encompass all forms of art (Tait, 1998). Tait provided a general definition that might be applicable to all forms of art. He defined art as the outcome of an artist's expression and vision. According to Tait, because artists' vision and form of expression could differ, especially with the frequent emergence of new art forms that fall under varied categories, general definitions may not be enough description for all art forms (Levinson, 1979). An artist may be free to express his or her opinion on the meaning of art. When more than one art form is involved then more than one definition needs to be taken into consideration. Levinson (1979) noted that because definitions of art given by philosophers such as Plato (429 BC – 347 BC), were not flexible or broad enough to include all forms of art, George Dickie came up with a new theory in 1969, known as the *Institutional Art Theory* to help solve the problem. This theory is somewhat based on Danto's (1964) theory of art, which reasoned that judging an artwork requires "To see something as art requires something the eye cannot descry—an atmosphere of artistic theory, a knowledge of the history of art: an artworld " (p. 580). Dickie's theory stated that every type of artwork could be described as art because they all fall under a particular institutional framework. One commonality between Dickie's *Institutional Art Theory* and the concept of traditional art is the agreement that all art forms are artifacts (Dickie, 1969).

Kennick (1993, p. 134.) argued that the problem with defining art lies within the attempt to define a subject of philosophical nature. According to him the question, "what is art?" could not be easily answered as one could ask the question, "what is helium?"

Given that the latter question is a straightforward question about a chemical element, he

pointed out that the search for the meaning of art could not be found by definition.

Kennick questioned the bases for traditional philosophical subdivision concluding that

the meaning of art could be summed up in definitions like "Art is expression" (Benedetto

Croce, 1860-1952) and "Art is significant form" (Clive Bell, 1881-1964). Kennick (1993)

argued that if these given definitions were the needed answers sought to the question then

they should suffice. Since the debate is still ongoing, the general definitions to the

question are obviously not sufficient. Kennick (1993) discussed why he believed

definitions given by the traditional philosophical discipline to the meaning of art are a

'mistake'. The first mistake was the assumption that all art forms should still possess some

commonality that serves to separate art from others despite the fact that they have distinct

differences. He argued that it was natural to come to this conclusion because the word

'art' has been used as an umbrella term to refer to different art forms such as music,

sculpture, poetry, and photography. As such, it can be deduced that to some extent, all art

form possess some common characteristics. Kennick asserted that merely looking at art

forms would not reveal why they are thought to be art hence it is essential to examine

their aesthetic value. Defining art is difficult because different art forms have different

functions and is composed of diverse theories generated over centuries. For one, the word

art is used to refer to different art types like picture painting, bookbinding, sewing, etc.

Secondly, it is used in reference to art forms including liberal art and industrial art. This

means types of art are distinct, save the concept behind them. This makes it difficult to

produce one definition that addresses the concept behind every art form. The second is

the assumption that art criticism is not possible without a standard guide that applies to all art forms (Kennick, 1993). He implied that since there are distinctions between the different art forms, the individual art forms could be used as fundamental theory for art criticism. What is more, art changes with time as such their aesthetic value changes in accordance with the demands and interests of the particular period of change (Kennick, 1993).

Definition as perception.

While the definition of art is undetermined, its main purpose is perceptible. According to Tolstoy (1962), the aim of art is to generate feelings in their audience and to express the thoughts of the artist. Dissanayake (1990) noted that while the term art was originally used to refer to art forms such as painting, music, architecture, and sculpture, the meaning of the term has now been expanded to include other categories of art including digital painting. In an interview with Robert Russet, Otto Piene, an artist, and an ardent user of technology gave his thoughts on the history of technology and art (Piene & Russett, 2008). In Piene's opinion, the perception that art only embodies art forms such as painting, sculpture, performing arts, visual arts, and fine art stemmed from people's elitist mentality. He asserted that the theory of the hierarchy of media (where the merits of one art form is pitched against another) reflects the view of Plato and the Renaissance. Pointing to an earlier period when Plato's theory would be appreciated and understood because it spoke to the art practiced during that period. Piene defined art simply as the product of a practiced art form. He indicated that any attempt to demean the role of technology in the field of art is simply a failure to acknowledge another physical feature

of art. He asserted that the fact that technology brings ease and flexibility to creativity does not necessarily make digital painting inferior. He stated that the outcome of any art form regardless of the media used depends on the artist.

Role of media in the definition of art.

Piene and Russett (2008) noted that the emergence of digital media should not eliminate the existence of the old way of making art especially since the old way of creating art forms offer artists an immediate and effective way to compose their ideas. They advised against comparing the old media and the digital media because both media contribute to the expansion of artistic expression. They noted that the belief that technology is new in the field of art is not a valid claim. Piene and Russett (2008) pointed out that technology played an important role in the practice of art in ancient cultures. They noted, Stonehenge in England and the pyramids in Egypt are examples of some of the best work that came to existence because of the application of technology in art. According to them, the problem on the division of new and complex art forms into separate disciplines is a result people's negative attitude towards technology in the arts. They believed this method of categorizing art forms started during the Renaissance period. They argued that this approach of dealing with complex issues still exists because people still see art as an independent field. Piene and Russett (2008) discussed two points he felt are advantageous in using technology in the art field. Firstly, technology brings a kinetic element to art. Secondly, technology has the ability to generate more results in a short period (Piene and Russett, 2008).

What is painting?

Painting falls under fine art; an umbrella that includes other art forms including architecture, and sculpture. Fine art is used to indicate the relationships between these art forms and connections to the traditional art movement from ancient art. In his writings, *Treatise on the Art of Painting (1584)* Gian Paolo Lomazzo (1538-1600), the Milanese painter, argued that paintings only come alive when a painter visualizes and brings into being abstract ideas instead of physical objects (as cited in Ackerman, 1967). Lomazzo argued that the activity involved with painting is merely the technical execution of the mental idea (as cited in Ackerman, 1967).

Other descriptions of painting.

Various artists have described painting in a number of ways. In her article, *What Makes a Painting a Painting*, Yablonsky (2005) discussed the difficulties associated with defining painting. Examining the definitions given by some artists, and a curator during an interview, Yablonsky explored the progress of painting and the difficulty of defining painting. Her participants ranged from artists who work with only paint to those who incorporated subjects in their work. The participants' definitions stemmed from personal experiences with the types of materials they use and the style they employ. According to the first interviewee, Pat Steir's definition, a painting is anything that has to do with paint. She contradicted this definition by going on to say that pencil can be used to paint as well. She went further to imply that Andy Warhol's (1928-1987) works done with urine are painting. Clearly, the definition the participant, Pat Steir provided was inclusive of works done with pencil and other contemporary color types like urine. Another

interviewee, Robert Storr, a curator and a professor at the New York University Institute

of Fine Art, gave a definition that excluded some forms of art he later incorporated. In the

first place, he defined painting as anything that is created from paint or materials that

resemble paint. He later mentioned that photographs by Jeff Wall (1946 - present) are

paintings because they resemble historic paintings. He spoke of Sigmar Polke's (1941 -

2010) use of chemicals to create works that look like paintings. The participant

concluded, "It's both the pictorial conventions and the material qualities of an object that

make it a painting. For an increasing number of artists the very game of stretching

definitions is the substance of the work" (Yablonsky (2005, p. 1). He names Robert

Rauschenberg (1925 - 2008) as one artist who has managed to stretch the meaning of

painting by incorporating objects like photographs and electric lights in his painting. A

good example of his work is *West Rooster* (2004). In this painting, Rauschenberg "placed

a stuffed rooster atop a paint-slathered wooden box covered in dried grass, photographs,

newspaper, and electric lights, and stuck the whole thing to a pillow on a low, rolling

platform" (Yablonsky, 2005, p. 2). Another participant, Joe Amrhein, who is an author,

artist, and founder of Brooklyn's Pierogi Gallery, explained that the fact that paintings of

this era "borrows from all sources" makes the art form exciting (Yablonsky, 2005, p. 2).

He saw the incorporation of objects as an innovative way to generate ideas because

unlike other media, the ideas are developed from the hand to the canvas and it allows

artists to be spontaneous. This suggests that though he supports the integration of other

objects to paintings, he still preferred the traditional method of painting to digital

painting. Unlike the other participants, Joe Amrhein believed that paintings possess

certain characteristics that allow viewers to re-experience the painter's views. He argued that this aspect of painting gives it an advantage over other media and art forms. As a result, the process involved in creating a painting today is connected with paintings created thousands of years ago. Other artists (Michael Bevilacqua, Jeremy Blake, and Joan Wallace) utilize tools that are more modern, including the computer and flat screen monitors in their works. One participant, Joan Wallace, altered 2-D paintings into 3-D surroundings. An example of this is shown in her work *Piece of Cake* (2004). In this painting, she embedded a blue-and yellow video into a flat blue-and-yellow design. Contrarily, another participant, Jeremy Blake used digital media such as flat screen monitors to play highly concentrated colored videos he created.

Significance of painting.

According to Pincus-Witten (1984), the presence of aesthetic, spiritual, and philosophical distinguishes fine art from other forms of art. The author noted that fine art is the communication of an artist's expression, emotions and experiences to an audience who can understand the art form the artist shares (Iseminger, 2004; Tolstoy 1995). As such, art is not limited to any particular society. This hammers on the importance of integrating the traditional art skills into computer so the intelligent and comprehensible nature of fine art is not lost. Tolstoy (1995) argued that good art communicates its meaning to most people, because it expresses its meaning in a way, which can be understood by everyone.

Painting has existed as an artistic tradition for thousands of years. As stated by Bolton (2013), the history of painting is comparable to religion, science, and, philosophy

because its history recounts man's progress during difficult periods. He argued that great art is not only about beauty, it is about man's experiences and how these beneficial experiences are part of history irrespective of differences in culture or time. He went on to state that of all the art forms, changes in painting gives voice to individual experiences and to humankind's endless complexities. Furthermore, painting is a well-known art form that dates back to more than 20,000 years ago. It was first discovered in the caves of Lascaux France and in Spain. From the cave painting of Lascaux up to the early years of Renaissance and until now, painting has gone through changes that reflect the history of economic and cultural transformation (Ayres, 1985; Bolton, 2013; Gardner & Kleiner, 2013).

In his *Notebooks*, da Vinci (1478-1518) argued that compared to other art forms, painting is better. He asserted that paintings are the truthful representation of the splendor and essence of nature. According to da Vinci, painting trumps other works because it possesses distinctive characteristics that allow a painter to present his thoughts satisfactorily. He stated that the eye is the main channel through which the mind can totally comprehend immense operations of nature. He stated the ear is secondary to the eye because it can only hear what the eye allows it to see. Comparing painting to poetry, da Vinci (1478-1518) argued that poetry deals with moral philosophy because it describes how the mind works and inscribes the structure of things. On the other hand, painting deals with natural philosophy and as such deals with how movement affects the mind. It denotes actions that bear resemblance to reality livened up with lights and shadows, qualities that are necessary for creating expressions that can easily be recognizable.

While da Vinci's claim that the brush is mightier than the pen was based on the fact that visuals are more powerful (Gardner, 2006), it is necessary to point out that good writers have the ability to conjure the images in the minds of their readers with words. What is more, some audiences have experienced painting that they were unable to relate to or understand (Sutton, 1957). It should be noted that Leonardo Da Vinci's *Notebooks* was written during a time when rivalry existed between poets and painters (Wettlaufer, 2001).

The next section of this chapter examines the definition of digital painting, its emergence and function.

Digital painting.

Digital painting is comprised of various art forms that use digital technologies as a tool for creating artworks (Smith, 1995). The use of digital media as a tool involves a process where works can be created, stored and displayed in digital form, in an interactive installation or on the Internet (Manovich, 2001). Digital painting is interactive and as such, allows the artist to collaborate with others as well as contribute to a flexible and adaptive system that easily allows changes to be made simultaneously. The digital tool can be customized to multiple or single user requirement (Teichert et al., 2010). These characteristics of digital painting challenge the traditional notions of art and symbolize the need for change from the old mode of making art to a new pattern of artistic production that allows for interactions between different artists and the emergence of different ideas (Paul, 2002)

Wands (2007) defined digital painting as an interactive type of art, which has the ability to communicate through sensory, emotions, mental psyche, and the spirit. He argued that exhibition of digital painting involves the participation of the audience, unlike the situation in traditional museums and galleries where viewers are warned against touch. According to Miller (2007), art is art regardless of the tool employed to create the artwork. He argued that the digital tool only makes the process easier. He pointed out that the artist creates the artwork and not the tool. The imagination, concept, technical skills, and composition of the artist are the outcome of the process of working with a tool.

Early stages of digital painting.

Miller (2007) defined digital painting as "anything of a visual nature" created by an artist with the aid of a computer (p. 12). According to him, the term digital originated from the word digit. The computer uses digits to decode and record information. Engineers started experimenting with computer art before artists discovered it. Their work imitated the movement of traditional drawings and paintings. Since computers were not portable and were expensive, they were not readily available until the 1970s. Artists and scientist later collaborated to create art forms through the manipulation of color, scale, and texture.

Goodman (1987) noted that artists were more concerned with the process of creating images with computers than the outcome of the process. The fact that it was plausible to produce an image using a digital device was in itself a big achievement.

In his article, *The Beginnings of Computer Art in the United States: A Memoir,* Noll (1994) highlights some of the his early works in the 1960s with digital computer to

produce still images, stereographic images, three-dimensional and four-dimensional animation, holography, and interactive art as a researcher at Bell Labs. He described contradictory issues that emerged in using the computer to create artist images. Noll noted that their experiments were encouraging for the digital painting community because they made available ways to validate the advantages of using digital computers in the art. The negative aspect of this was Noll and other researchers' concern that researchers could interpret their new project as pointless and insignificant. They feared it might lead to the rejection of proposed grants for the Laboratory (Noll, 1994). Coupled with reactions against computer integration by ardent supporters of traditional art, the uncertainty and lack of conviction on the part of advocates of digital painting, the establishment of the new art form seemed improbable during that period. Noll (1994) noted that thirty years after emergence of digital painting, terms for digital media art such as computer art, computer animation and virtual reality were not part of their daily vocabulary of the art world. What is more, only a few museums took special interest in computer art. Indeed, museums that had introduced virtual exhibitions of traditional art to the public still refused to display digital painting. Noll (1994) argued that the experimentations with the digital computer during that period set the pace for the successful establishment of computer art and animation industry today.

Bijvoet (1997) indicated that the sudden surge in artistic expressions in the second half of the 1960's was due to the need for innovative ways for artists to express themselves. Technology emerged at an opportune time when artists were reaching out for inventive ways to express their ideas. Before the emergence of technology, artists were

experimenting with natural materials such as dirt, plants and other materials that had the tendency to decompose. Fluxus, Process Art, and Arte Povera were some of the innovative art methods in use. The surge of these new art techniques paved the way for technology to be accepted by some artists as a medium. Bijvoet (1997) named video, laser, holography, and computers as some of the technology tools employed by artists in the 1960s. The rise of computer-aided art led to collaborations between artists and other experts in other fields such as engineers and mathematicians. While the emergence of technology created excitement and gained some acceptance, the value of artworks was thought to have reduced because of the ease of digital works of art (Bijvoet, 1997).

In 1967, Robert Rauschenberg and Billy Klüver established the Experiments in Art and Technology (E.A.T). Their main aim was to facilitate collaborations between artists and scientists. Artists who contributed to E.A.T included renowned avant-garde artists like Jasper John, Robert Rauschenberg, Andy Warhol, and John Cage, a music composer (Miller, 2007).

Shanken (2002) asserted that predictions by the Canadian philosopher, Marshall McLuhan, on the global impact of technology influenced Pontus Hulten to organize a "nostalgic and futuristic exhibition" in 1968 on art and mechanical technology at the Museum of Modern Art in New York (MOMA) (Shanken, 2002, p. 433). The exhibition titled *The Machine: as Seen at the End of the Mechanical Age* exhibited the drawings of famous artists like Leonardo da Vinci. The author found no relationship between the excitement generated by the emergence of computer art and the perception of traditional

artists and society in the late 1970s. According to Shanken (2002), little has been written on the relationship between art and technology.

Computer art.

Computer art normally refers to art forms created with the aid of computers. As stated by Reith, Carr, and Gunsch (2002), the digital age represents the use of computer as a tool to improve traditional methods. According to Ettinger (1988), computers are used as tools to create art forms including painting, drawing, and photography. They provide the artists with various innovative applications that are not available in traditional art (Bijvoet, 1997; Ettinger, 1988). It allows the artist to use numerous software programs including Adobe Photoshop and Adobe Flash.

Lovejoy (2004) asserted the application of computers as digital media originated from traditional art movements such as neo-Constructivism, and Minimalism that existed in the 1970's. Many rejected digital painting because they saw the computer as a mechanical device that was incapable of creating true art. She noted, "The computer is not capable of initiating concepts, it cannot be truly creative, it has no access to imagination, intuition and emotion" (p. 174). Jasia Reichardt observed:

> Seen with all the prejudices of tradition and time, one cannot deny that the computer demonstrates a radical extension in art media and techniques. The possibilities inherent in the computer as a creative tool will do little to change those idioms of art, which rely primarily on the dialogue between the artist, his ideas, and the canvas. They will, however, increase the scope of art and contribute to its diversity (Reichardt, 1971, p. 174).

Leavitt (1976) saw computers as important tools for the artist and society as a whole. The author referred to the computer as an "idea machine" that provided artists with ideas that were not thought of before its emergence (p. 120). According to Leavitt, the first computer art forms came out in the 1940's. By the 1970's, computers were used by printmakers, and sculptors, architects, filmmakers, and choreographers.

King (2002) focused on the relation between the pioneers of digital painting from the year 1956 to 1986 and the modernist fine art movements during the 20th Century. His research was part of the Digital Art Museum (DAM) project. DAM is made up of independent electronic galleries situated in London and Wiesbaden, Germany. These galleries focus on the computer application in art. While many of the pioneers of computer art were not artists, DAM places emphasis on artistic excellence, which refers to an artist ability to manipulate art materials to create art forms. King (2002) argued that digital media in art actually dates back to 1956 though authors such as Miller (2007), Noll (1994), Candy (2007), and Dietrich (1986) specified that it emerged in the 1960's. King's (2002) argument was based on the date provided by experts in the field including the Special Interest Group on Graphics and Interactive Techniques (SIGGRAPH) panel and Jasia Reichardt, the director of the Institute of Contemporary Arts in London. He indicated that artists used the analogue system in their explorations in art and technology during that period. Pioneers of the analogue form of computer art included Ben Laposky (1914 – 2000), John Whitney Sr. (1917 – 1995) and Herbert Franke (1927 –). According to King (2002), 1986 marked the end of the revolutionary age in computer art and the beginning of the introduction of the paint systems such as the Quantel Paintbox; a

pioneering graphics computer unit used for commercial editing and allowed for the arrangement of several layers of video and special effects (Manovich 2007). During this stage, the British Broadcasting Corporation (BBC) TV aired the Paint and Light series. The program was focused on a group of famous painters who used the Quantel Paintbox. Another paint system of significance during this period was the Amiga computer, which was used by Andy Warhol to create serial works, including portraits of famous stars including, the singer, Deborah Harry. Photoshop was written in this year though it was yet to be released to the market. Between 1986 and 1994, the World Wide Web, (WWW) became a popular network system (Manovich 2007).

Goodman (1987) described the impact of computers in the art field as "unprecedented artistic experiences" (p. 10). She noted that no other tool was applied so effectively at every aspect of art-making process soon after its emergence. She argued that presently, artists in every field irrespective of their style of work are incorporating computer application in their work because it provides a broad array of new possibilities in art making and art exhibition. According to the author, computers provide a flexible and faster method of art composition, light and color application with the option of over sixteen million already prepared colors made available 'with a mere touch of a light sensitive cursor" (Goodman (1987, p. 10). It provides the artist with easier methods to manipulate scale and format of compositions, a process that was impossible with the traditional method of art composition.

Evolution of Painting Tools and Materials

Art is ever changing. Along with it, the tools and materials of the trade as well as themes and subject matter artists use. The history of art shows artists have used different tools to create art. Some tools used by artist include twigs, fingers, brushes, hair, and bone. Over time, painting tools evolved and expanded to include more refined tools such as brushes of varied sizes, and forms, palette knives, and airbrush tools (Ayres, 1985; Gardner & Kleiner, 2013). Today the artist's choice of tools includes digital media including interactive digital tablets and pens, computers, Photoshop®, Gimp®, and Corel Draw® (Hoddinott & Combs, 2011). Today's artists have many to choose from and the options of combining more than one form to create contemporary art (Carroll, 2002).

The shape size and the material used for manufacturing brushes produces varying effects including texture, shapes, light and shade, perspective, depth and blending of different pigments (US Patent No. 20070061992 A1, 2006).

The next sections will discuss a history of painting tools and material from prehistoric period to the impressionism movement (see Appendix A for more information on the evolution of painting tools and materials)

Prehistoric period (53,000 B.C – 15000 B.C.)

The prehistoric period included Paleolithic, Mesolithic, and Neolithic, which refers to stone technology that prevailed through thousands of years of early human life. Prehistoric art was first discovered over a century ago in caves in parts of central Europe, Africa and Asia, Lascaux in France and Altamira in Spain (Gardner & Kleiner, 2013).

Tools and materials.

During the prehistoric period the artist were more hunters than painters and sculptors. There are speculations regarding the painting tools and materials used during that period especially as there were no existing documents on their existence before they were discovered. They used their fingers to paint on walls of rock caves and charcoal to draw (Valladas et al., 2001). They probably used twigs, feathers, and every other appropriate tool available to them. It is possible they could have used pigments prepared by mixing animal fat with natural materials such as red, yellow or brown clay. Other materials they used might have included bone and charcoal (Finlay, 2014). Their works depicted religious and hunting themes. The technique used in the painting at Lascaux involved depicting their animals of different sizes using colored silhouettes or outlines. The paintings showed the prehistoric painters were not concerned with perspective; rather they were interested in descriptive rendering of images (Ayers, 1985; Gardner & Kleiner, 2013).

Ancient Egyptian painting (3500 B.C - 30 B.C).

This period focused on symbolic illustrations to glorify their deity and the monarchy (Ayers, 1985; Gardner & Kleiner, 2013).

Tools and materials.

They employed very bright colors derived from minerals. Some of the colors they used included green, yellow, and blue. Reds and yellows were derived from iron oxides, whilst bright yellow was obtained from orpiment. On the order hand, greens and blues were extracted from malachite (green copper mineral) and azurite (Blue copper mineral)

(Gardner & Kleiner, 2013; Lucas & Harris, 1999). They processed the minerals by crushing them into a powdery form and mixing it with a plant or animal-based glue, water gums, lime, hemp and wheat paste to form paste. Brushes had not been discovered yet during this period and it was believed that the Egyptians used Reeds with crushed ends (Davies, 2001; Gardner & Kleiner, 2013; Lucas & Harris, 1999).

Ancient Greek painting (1200 - 31 B.C).

Ancient Greece is famous for ceramic paintings. Painters of that era mainly painted their images side by side on the same vase. Themes of Greek paintings can be compared to prehistoric cave paintings and Egyptian painting as they were created to function as narrative or descriptive art forms that were reflective of the life and culture of Greeks. They employed geometric styles in the painting of their vases (Gardner & Kleiner, 2013). The painting of figures and furnishings on the vases were rendered in 2-D silhouettes. The figures were illustrated with triangular torsos and the legs, arms and head in profile. They incorporated motifs and patterns in their painting (Gardner & Kleiner, 2013). The painters usually used black in rendering their silhouettes, red, and white to show highlights. Around 530 B.C the black figure silhouettes were switched to the red silhouettes (Gardner & Kleiner, 2013; Pastoureau, 2013).

Ancient Roman painting (753 B.C – A.D 400).

Ancient Roman art style was similar to Greek art. Some of the panel and mural paintings depicted famous Greek heroes and mythical anecdotes (Gardner & Kleiner, 2013; Rostovtzev, 1963).

Tools and materials.

The artists of this period borrowed pigment recipes from the ancient Greek painters. They prepared encaustic and fresco paint by mixing ingredients including animal fat, clay, charcoal, egg yolk, hot wax and gum obtained from plants to create tempera. These materials were particularly necessary if the paint was to be applied on top of a dry surface rather than being applied through the more durable techniques of fresco (Gardner & Kleiner, 2013).

Paintings in the Middle Ages (400 – 1400).

During this period artist used water based paint and oil paint. Egg white and castor oil, nut oil and linseed oil applied as finishes. Some colors available to painters during that epoch included yellow, green, black and burnt sienna (Gardner & Kleiner, 2013).

Renaissance era (Late14th Century - early 16th Century).

Workshops and schools were established to educate apprentices on the subjects pertaining to anatomy, geometry, and optics (D'Elia, 2009). Apprentices prepared their materials and tools in their workshops. They ground their own pigments and used egg yolks as binding agent. Artists used minerals and other elements to create different pigment of different hue. The artist prepared each color following specific recipes (Gardner & Kleiner, 2013). In addition, the renaissance artists prepared their own supports including wooden panels. Another material artists of that period used was charcoal, which they obtained from burnt twigs. This era saw the birth of perspective and the discovery of graphite, which is used to make pencils. In addition, the first easel

painting, the first landscape painted from real life was produced (D'Elia, 2009). The color wheel was invented during this period. Artists tried different ways of preparing paint and developing better tools. For instance, Leonardo da Vinci (1452 - 1519) experimented with different paints that had never been explored. Examples of some of the products he tested include nut oil and crude oil. Albrecht Durer (1471-1528), once made brushes from hairs pulled from his hand hairs and used egg tempera to paint. By the High Renaissance era, different hues including transparent colors had been discovered (D'Elia, 2009).

Hockney (2006) examined the near perfect realistic renderings of figure painting and perspective during the renaissance and concluded that the old masters used technological tools such as the camera lucida.

Hockney's theory.

Using extracts from collected documents and a collection of notes, and essays, David Hockney (July 9, 1937 - present) presented visual evidence that proved that the old masters used optical lenses as aid in their paintings (Falco, 2003; Falco, 2009; Hockney, 2006; Hockney & Falco, 2003). Other evidence he used were letters of clarification of ideas and dialogues with Martin Kemp, Charles Falco, John Walsh, and other experts, Hockney's evidence consisted of a comparison of paintings from different periods and geographic locations.

Weschler (2002) described Hockney's presentation of his thesis to him at Hockney's studio at his Hollywood hills home in Los Angeles. According to Weschler (2002), Hockney explained to him that during an art show of Pollock in New York, and that of Monet and Ingres in London, he spent hours looking at each work which left him

"more exhilarated than the one before" particularly the works of Ingres (p. 1). Weschler

(2002), stated that Hockney mentioned to him that he went back to further examine

Ingres works, especially the drawings and discovered that the pencil portraits lacked the

characteristics that could be found in the works of any artist trained in the traditional

principles of art design. He expressed he was surprised when he noticed that all the

drawing were usually less than "twelve by eight inches, incredibly detailed and incredibly

assured" (p. 2). He found this to be "very rare and not at all easy" (p. 2). Hockney (2006)

examined Ingres's portrait of Madame Louis Francois Godinot (1829). According to

Hockney, the high level of accuracy and precision of Ingres' lines was an indication that

the artist used the camera lucida. The fineness of the portrait suggested that it took more

than an hour for the Ingres to draw only the subject's face. He mentioned that Madame

Louis Francois Godinot's head is large in proportion to the rest of the body. He implied

that Ingres must have moved the camera lucida to capture the clothes causing the head to

be drawn 8% larger. According to him, the size of the head seemed normal in proportion

to the rest of the body when reduced by 8%. After comparing the portrait to previous

drawings of Ingres, Hockney suggested that the strokes used in the portrait of Madame

Louis Francois Godinot showed hesitation and lacked confidence unlike the previous

drawing that exhibited speed and smooth lines from one end to the other. He argued that

the evidence of hesitation in the pencil strokes used for the portrait is normally identified

in traced works. Hockney examined Ingres' portrait of Madame Jacques-Louis Leblanc

(1853) as well. He compared the painted curtain in the portrait to Cezanne's *Still life with

a Curtain* done in 1895. Hockney compared the painting of the curtain fabrics in both

paintings. He noted that unlike Cezanne's, Ingres' portrayal of the curtain showed grace and looked real. He defined the patterns in the fabric as "flawless" (p. 33).

As stated by Hockney (2006), his research and the study of the gathered visual evidence indicated that the shift towards better portrayal of naturalism from the 15th century to the 19th century in art history was a sudden development. He added that the sudden development in itself proved that painters used optical devices to assist them achieve a more naturalistic look to their works. He asserted that it further proves the presence of modern technology and knowledge of its existence during that period. Other visual evidence the author examined in his book included Raphael's *Portrait of Leo X* (1518-19), Caravaggio's *The Lute Player* (1595), Hans Holbein's (1497 – 1543) *The Ambassadors* (1595), and Vermeer's *The Milkmaid* (1658-60). He examined at Lorenzo Lotto's (1940 – 1556) *Husband and Wife* (1543) as well. According to Hockney, Albrecht Dûrer's (1471 – 1528) woodcut *The Draughtsman of the Lute* (1525) (See Appendix B) is an illustration of how artists used technological aids to achieve perspective in their works. The woodcut showed two men and the end of a string to a lute with the other end tied to a point in a wall at an angle. The position of the string was recorded by using two other strings, which are extended across a structure made of wood. The point where the two strings met on a hinged screen is marked. Hockney stated the recording of the marks continued until sufficient marks were made on the screen to achieve the required shape. Hockney argued that it was a known fact that Vermeer knew of the existence of optical aids and used them. He pointed out that Vermeer lived in the same locality as Antony Van Leeuwenhoek (1632 – 1723) a microscopist and lens maker.

He asserted that Vermeer experimented with optical effects by painting objects in soft focus, out of focus and on large supports. An example can be seen in his painting of *The Milkmaid*, in which a basket in the work is painted out of focus in comparison to another basket in the same painting. Hockney argued that the effect would have been impossible to achieve with the naked eye (p. 58). In March 2000, David Hockney and Charles Falco experimented with two different objects using the theory of optical devices to help further prove their theory that the advancement in naturalism from15th century to the 19th century in art history was mainly due to the emergence of the optical lenses. For the experiment, they cut a hole in a piece of board to create a small window to make images clearer. Hockney placed the box in a darkroom next to an open doorway. He then stuck a small paper next to the hole and placed a shiny mirror, to help project images on a wall opposite the paper at an angle. They had a friend sit outside in the sun where he was seen through the hole. Hockney noted that he saw his friend's image on the piece of paper in an upside down position. He marked out the corners of his friend's eyes, nose and mouth. He confirmed that he used this same approach when he used the camera lucida (p. 74). In his analysis of Han van Eyck's portrait of Cardinal Niccolò Albergati (1431), Hockney pointed out, "Look at the pupils: Little pinpricks. Quite unusual, but exactly the contracted effect you'd get if you'd sat your subject outside in the bright sun" (Weschler, 2002, p. 2). Referring to the mirror lens experiment Hockney concluded that van Eyck must have used a type of mirror lens for "natural projection" (p. 78). His conclusion was because the lines in the drawing lined up perfectly with the painting, the finished product of the drawing. He argued that when the drawing is made larger by 41% and laid over the

painting, the cardinal's mouth, forehead, eyes, the right cheek, the nose, nostrils, lips and even the laugh line in the drawing line up with the same features in the painting. Furthermore, when the drawing is shifted by 2 millimeters (mm), the reflection of light on the cardinal's neck aligns perfectly with the structures in the painting. The ear and the shoulders match up as well when the drawing is shifted by 4 mm on the painting. He asserted that the correspondence between the two works is too precise to be a coincidence (p. 78). As such, optics must have been used to attain such high accuracy.

When the artist's ability to create images accurately reached a new height, other artists were forced to imitate their technique due to the demand by customers to be portrayed "accurately and vividly" (p. 81). Hockney (2006) showed images that demonstrated the similarities in styles used in portraiture between the 15th and 16th century. He mentioned that the same scale, composition and lightening were used. According to him, all the portraits looked like they were observed through a window. Moreover, most of them had ledges and window shelves framed around the images. Hockney (2006) stated that the similarities between the portraits do not imply that all the artists used mirror lens, Rather it showed that other artists imitated the technique of those who used the lens.

Another aspect Hockney (2006) discussed was how emotions were portrayed in portraits during that period. He argued that as smiles and fleeting emotions do not last, artist who used eyeballing technique required extra time to paint the features on the face unlike those who used the mirror lens. As evidence, he pointed to the portraits by Giotti of 1305, Piero in 1452, Antonello in 1470, Caroto in 1500, Carracci in 1580 and the 1624

portrait painting by van Honthorst. He indicated that while artists who use optic lens need more time to work on "fleeting emotions," the use of optical aid would have helped a skillful artist to create the emotion faster (p. 178). Image distortions were another characteristic Hockney pointed to as evidence of the use of optics. A painting by Roger van der Weyden in 1440, showed a portrait of a man with a head disproportional to his shoulders. In contrast to Weyden's portrait was Chaden's *Return From The Market*. In this painting, the woman's head is smaller in proportion to the rest of her body. Furthermore, she is abnormally tall in contrast to her head. Hockney added the use of optical devices did not lessen the creativity and skills of the old masters.

Photography.

The camera was invented by Daguerre and Fox Talbot in 1839 to satisfy the popular desire for portraiture and create representation of nature that were more realistic (Wells, 2004) In the quest to prove critics wrong and improve photography to the level of art forms, photographers made sure subjects were well composed. Furthermore, they limited the appearance of technological presence in photographs by making pictures look out of focus, blurry and fuzzy. Some concentrated on religious subjects, while others scratched their work to create roughness associated with paintings on canvases (Wells, 2004).

Impressionism.

Between 1800 and 1870, new pigments including yellow, red, blue, green, and orange were created. The new pigments played a significant part in the impressionist movement. Another invention that facilitated the technique of impressionist artists was

the collapsible mental paint tube by John Rand in 1841. This tool allowed the artists to step outside the studio to paint in a different way (Abbott, 2013; Gardner & Kleiner, 2013).

Technology

The term technology is derived from the Greek word techné. Techné refers to art as the process of creating art and improving artistic skills (Heidegger, 1977). There are different definitions of technology (Kline, 2003; Naughton, 1994), making its definition uncertain and debatable. Naughton (1994) defined technology as the application of research-based knowledge to feasible ideas, which involve people and machines. By definition, Naughton characterizes technology in three ways. Firstly, he described technology as a tool. Secondly, he defined it as a theoretical knowledge that aids in technological innovation. Lastly, he interpreted technology as a practical activity, which can be explained as the skills and methods people employ to achieve a solution to a problem. Naughton's definition implied that aside from science, technology is involved in other areas, which according to the author includes craft. The Merriam Webster (2015) online dictionary defined craft as an artistic skill. As such, technology could improve artistic skills and contribute to the theoretical analysis of art.

As stated by Kline (2003), technology includes socio-technical system of manufacture and socio-technical system of use. Meaning, technology is involved in the production of artifacts or objects that are used by people in combination with other objects, resources, and processes to complete a task. Both definitions point to the

significance of technology in the lives of humans and its implications for innovations in improving social systems.

As indicated previously in the introduction, this study is especially interested in the use of new technology specifically new digital technology to produce paintings. Digital media relied on by the artist in the present day include Photoshop®, the sketch tablet for sketching and painting and projectors for video installations.

Role of technology in lives of individuals, group, and society.

According to Sabieh (2002), technology makes information accessible to all. As a creativity support tool, technology advances individuals, groups, and society (Shneiderman, 2007). It facilitates collaboration between people from different parts of the world regardless of time and cultural differences. Technology makes it possible for artists to explore their individual expressions and ideology concerning the aesthetic and value of art. Digital media provides artists and audiences with the ability to explore, interpret and understand art in their own way. Aside from its contributions in the lives of individuals and society, digital media has become an integral part of education (Sabieh, 2002).

Digital media offers individuals new ways to express themselves. It supports collaboration between groups and social creativity (Fischer & Giaccardi, 2007; Shneiderman, 2007). The need for discovery and innovation inspired the development of creativity support tool. Creativity support tools have made possible collaboration between groups regardless of time and space. The tools inherently provide support to users as tools for data collection, the generation of hypothesis, production startup, product

modifications and the validation, and distribution of production. These allow for the

exchange and distribution of ideas and speeds up development of software projects.

Social creativity tools such as wiki, citizen journal, and media sharing tools such as

YouTube® facilitate cooperation, social networking, sharing, and the creating of new

content using technological tools.

Individual creativity and social creativity need to complement each other. Each

individual brings broad diverse knowledge, expertise, and perspective. When individual

knowledge is brought together, it could produce an original idea and sustainable results.

This indicates that different ideas come together to enhance creativity instead of acting as

obstacles to creative talent and development. Collaboration can improve and help manage

heterogeneity and specialization at technological and social levels because it provides a

link between individuals and ideas that stimulate imagination and inspires innovation

(Candy & Edmonds, 2000; Fischer & Giaccardi, 2007).

Role of technology in education.

Educational reform is focusing on developing technological assessment tools to

assess students' cognition (Bechard et al., 2010), because research studies show that there

is a link between critical thinking skills and cognition (Garrison, 2003; West, Toplak, &

Stanovich, 2008). Spector (2001) noted that technology and theory must be integrated

into educational programs to achieve considerable progress in education on a global

scale. Technology fosters creativity when integrated into the curriculum (Biswas, 2008).

According to Lewis and Zuga (2005), technology was originally used only as tools for

basic application and artifact making. Advancements in technology have altered its

purpose from using technological media as just ordinary classroom tools to using them as a tools for enhancing creative thinking and improving the cognition of learners. As such, technology is necessary in preparing students to survive in the real world. While educators understand the significance of integrating digital media into classrooms, research shows that some teachers lack the confidence to work with technology. Prensky (2001) mentioned that unlike most students, some teachers have little or no background experiences with computer technology. Research shows that this situation has an overall effect on teachers' attitudes toward the application of computer technology in art instruction and computer-aided art (Sontag, 1987; Spalter 1999). Other teachers fear that technology can erase students' creativity (Sabieh, 2002). Sabieh argued that it is the duty of art educators to educate students on the benefit of technology. He stressed that the aim of technology integration in education is to aid learners in the acquisition of knowledge. Technology allows them to explore and think outside the box (Sabieh, 2002).

Technology helps improve students' ability to understand and interpret meaning in visual patterning. When applied effectively, technology facilitates effective learning. As such, students are more productive and creative (Dana, 1993). Technological tools allow students to develop their cognitive and technical skills. Effective use of technology can help students acquire knowledge through existing resources, tools, and technical skills required for their field. According to Coppola (2004), technology can help students develop critical perspective on tasks to determine the best form of resources, equipment, and technique needed to complete the task.

Technology Integration and Art

In a report on the U.S. Department of Education's National Educational Technology Trends Study (NETTS), Bakia, Mitchell, and Yang (2007) note that technology integration refers to technology used by administrators to improve curriculum. It can be used to analyze data related to student academic achievement as well as to communicate with educational stakeholders. Bakia, Mitchell, and Yang (2007) noted that the term embodies the multifaceted nature of technology and the different ways technological media can be used to aid teaching and learning goals, objectives and classroom activities. They stated that the integration of technology into classroom instruction involves the application of computers by either educators or learners. The report pointed out that integration of technology is concerned with the encouragement of effective integration of technology resources and systems. While definitions of technology integration may be different in diverse situations, the description of the term usually pertained to accessibility to technology in the classroom. In giving examples of the many definition of technology integration, the report referred to the George Lucas Foundation (2004) definition, which stated:

> Technology integration is the use of technology resources -- computers, digital cameras, CD-ROMs, software applications, the Internet, etc. -- in daily classroom practices, and in the management of a school. Technology integration is achieved when the use of technology is routine and transparent. Technology integration is achieved when a student or a teacher doesn't stop to think that he or she is using a

computer or researching via the Internet. (George Lucas Foundation, 2004, para. 1)

Technology integration is mainly concerned with content and effective instructional practices and not technology with focus on the curriculum and learning. As such technology integration is about how and why the technology is used and not the type and quantity of technology that is employed. Focusing on improving student-centered learning activities and goals leads to the success of technology integration Earle (2002). Earle (2002) noted that successful integration of technology into classroom curriculum could be attributed to teacher planning and expertise. He indicated that focus should be placed on the improvement of student achievement and not on the alluring quality of technology. Earle (2002) pointed out that technology could not be a substitute for important human attributes such as perception, imagination, creativity, and judgment.

Technology is fast becoming a significant element in the field of art. Gregory (1996) stated that success could be attained with the effective incorporation of technology into educational programs because teachers are instinctively creative thinkers and problem solvers. Hence, they have the capability to adapt to digital media. Conversely, Sabieh (2002) indicated that unlike their students, teachers are not digital natives and as a result find the integration of technology tedious.

Hubbard (1991) reported that technology helps teachers and students alike collaborate to generate innovative artistic form. In addition, it facilitates the publishing of class or school activities. The creative differences between computer art and traditional art created tension between the two different schools of thought. The drive to promote the

integration of technology in art is seen in various aspects of art. These include music, visual arts, performing arts, and film (Candy & Edmonds, 2002b).

Perception of technology and art.

The drive to promote the integration of technology in art is seen in various fields of art. These include music, visual arts, performing arts, and film (Candy & Edmonds, 2002). The creative differences between computer art and traditional art created tension between different schools of thought. Some believe computer art is not a valid art form. Many differences and similarities regarding techniques have been observed between these two forms (Martinez, Cupitt, Saunders, & Pillay, 2002).

Art taught in the academia is often based on set foundation namely the principles and elements of art, which include, shape, balance, color, form, movement, line, emphasis, rhythm, proportion, variety, etcetera. Other foundations that are usually required in painting include perspective, composition, values, the ability to draw, creativity, light, and a good coordination between the eye and the hand (Zhao et al., 2014). These fundamental requirements are necessary to produce masterpieces, and aesthetics in art is judged based on them. It is believed that when one uses the computer or applications like Photoshop®, the results cannot be considered as art and it is seen as cheating (The Cultural Council of Cortland, 2011). This is because it makes it easy for one to adjust images, add and remove filters and undo mistakes, something that is not easily doable when using the traditional methods. What cannot be ignored though is the fact that more and more artists are taking up the digital method of creating art. What is more, digital painting though new in this field, as compared to traditional painting, which

has existed as an artistic tradition for thousands of years from the cave painting of Lascaux at Geneva (Davis, 1993) to the great, masterpieces of da Vinci.

According to Lopes (2004), the excitement over the evolution of digital painting can lead to hasty research, and misunderstanding of the complex nature of technology. This is because people often focus on excitement obtaining innovative tools. This leads to the development of negative perceptions towards technology. He blamed this on marketing strategies that involve the use of seductive advertisement to sell technological tools instead of selling its benefits to improving different and individual projects. He noted that an accurate definition of technology and its uses could help change negative perceptions about digital painting. Lopes (2004) argued that unfounded pronouncements about technological advancement in art give room for skepticism and negative mentality about digital painting. Lopes (2004) explained that while most digital painting cannot be quantified as good art, it does not necessarily mean the art lacks aesthetic values. Technology has created new possibilities for the field of art granting ease for doing some tasks, which was previously difficult to tackle. Lopes argued that the notion that technology helps achieve faster results when creating art is not accurate. Instead, technology makes it easier for a novice to use it as an art medium. He explained that, "if art always involves some craft then the practice of that craft may incorporate the use of computers" (Lopes, 2004, p. 107). He asserted that the use of technology provides new ways for creating art.

Art teachers perceive computer technology as lacking the ability to give personal satisfaction to artists (Edmonds & Candy, 2002a; Keifer-Boyd, 2006). In addition, some

art teachers often lack confidence in working with technology (Keifer-Boyd, 1996). Their students seem to have more knowledge on the functions of technology than they do. Some teachers tend to think that the main purpose of technology is as a storage system and a device for presentations instead of being used as a creative tool. Negative attitude towards the integration of technology in schools is often associated with insufficient time and lack of knowledge of technology application. Technology keeps on changing and teachers do not have enough time to keep abreast with the digital media (Keifer-Boyd, 1996).

A study on *Integrating Technology in Schools (ITS) Program* showed that technology plays a significant role in learners' attitude towards technology use. In the research, participants responded to 35 items on a pre questionnaire and a post questionnaire (Norton 1994). The findings of the report indicated a change in attitudes, which showed in their frequent use of technology as an integrate part of instruction and learning activities. The results of the research showed a positive relationship between changes in attitudes and technology use. While the results showed positive change, the change was not that much of a difference. This indicates that there are still obstacles that hinder the progress of technology in the field of education. For change to occur in attitude, educators need to actively, and publicly support integrating technology in schools (Norton 1994).

Sarukkai (2004) suggested artists take it upon themselves to change negative perception of people towards technology and help broaden their understanding through inspiring and educational methods. He noted that concentrating on aesthetics and its place

within technology could help erase negativity toward technology. Meaning, technology can be linked to beauty to play down the mechanic and functional nature of technology. Sarukkai argued that a distinctive feature of art is beauty. Beauty has been linked to morality since ancient culture. When beauty is linked to technology, a sense of morality could be established (Beckley, 1998).

Technology in Art Education

Between 1984 and 1985, Sontag (1987) conducted a survey in 60 departments in 4-year college universities with 60 departments to determine the extent of computer application in art departments. The results of the survey showed that while computer application was limited in the art department of the 4 universities, the development of computer application was the major concern for most of the teachers and administrators. The main purpose of the computers in the department during these times was for basic applications such as word processing, data storage, students' schedule, sending electronic mails and slide cataloging. Of the 60 departments surveyed, only 18 in those days applied the use of computer in one to 4 courses. Songtag (1987) identifies faculty, cost, curriculum, and policies as the main factors that influenced computer application. The author asserted that computer application would increase in art education.

Spalter's (1999) examination of computers in art proved Sontag's argument correct. The author observed an increase of computer and other technologies use in different areas in fine art. She identified the profound impact computers have had on art since its emergence. Spalter attributed the increase in computer application to technical advancement in hardware and software. The decrease in the cost of computers made it

possible for artists to own personal computers, like Personal Computers (PC) and

Macintosh computers, which have adequate memory to store artistic works. The author

identified 3-D graphic, multimedia interactivity and the Internet as the current

applications that made an impact in the art field. She pointed out that with the advent of

CD-ROM; artists were at liberty to create multimedia works.

Franke (1987) argued that computer use in art allowed artists to integrate different

art forms. He argued that computers motivated artists to think and create new forms of art

which had once been a set back because of the difficulty of using perspective in the

works. Because of the use of computer and three-dimensional (3-D) software programs in

art, achieving perspective in art projects is easier for the artist. He asserted that painters

who use the computers have the advantage of creating good perspectives in their works as

compared to painters who use traditional method to paint and draw. He noted that 3-D

representation on computers allowed artists to draw objects such as landscapes, and

animals from different angles. 3-D can be employed in the drawing of movement

reducing the difficulty in drawing motion patterns, muscle movement and facial

expressions.

Recognition of Computers and Other Forms of Technology

The recognition of computers and other forms of technology as tools in art have

increased since the 1940's. Roland (1990) examined the excitement computers generated

in the 1980's. He stated that approximately one million computers were introduced into

classrooms in various subject areas, which included the painting and other fields of arts.

According to the author, software applications on the computers made it easy for students

to learn courses in art and design. Computer applications encouraged students who were not confident in using traditional methods in art to use the computer, which does not require that much artistic skill (Roland (1990).

Rush (2005) wrote that digital media has permeated through every sector of art that even some traditional artists have taken to using the computer as a tool for sketching ideas and compositions before moving on to using their easels. Rush argued that the notion that technology based art cannot be classified as art is illogical for the reason that technology in art has come a long way and has boundless possibilities to offer art and artists. Nowadays, artists have the opportunity in interact with their digital tools which enables them to further interact with their audiences who are able to intently view the work of art and participate in different ways anywhere in the world. Rush made mention of artists like, Keith Cottingham (1955 – present), Chip Lord (1944 – present), Jeff Wall (1946 – present) and Andreas Gurksy (1955 – present) who made use of digital tools to manipulate photographs. He argued that the tool that artists use must be able to capture the vision of the artist. According to Rush (2005), critics, who were not in support of digital media use in art, view it as fake and tedious.

Candy and Edmonds (2002a) looked at some technologies that have been developed specifically for artists. Questions they examined included "how digital technologies are made available to artist?" "How are creative ideas transmitted through technology?" "Where exactly is the artistic end-product located?" (p. 250) and what is the relationship to the audience and to the market?" Similar to the research by Leavitt, Candy and Edmonds (2002), emphasize on the various opportunities that technology makes

available to artists. They pointed out that some artists employ the use of ready-made hardware and software while others prefer ones that are custom made.

Technology has played a major role in the development of interactive artworks. Artists have engaged in technology and interactive artworks since the 1960s. Interactive artworks enable the viewer to become a participant. Now the opportunities for viewers to participate in interactive artwork have improved because digital media is now accessible to all (Candy & Edmonds, 2002a).

Hubbard and Greh (1991) identified studio arts and aesthetics as the two main subject areas in fine art that computer and other forms of technology could be introduced to help develop traditional art. They emphasized the importance of computers in helping artists visualize their works before they put them into practice on physical support. The authors noted that with the help of computers, students can make sketches of their works as well create 3-D representations, record ideas, control line drawing and color and to choose the right color scheme. They recommended the use of computers for work composition before the execution of artworks. Hubbard and Greh (1991) highlighted the impact computers have on the results of students' artworks and deemed them as necessary tools for the improvement of artworks. They called on art teachers to use computers in the creation of artworks as well as in their teachings. Hubbard and Greh (1991) outlined some basic computer applications students need to learn while in college. One such application is desktop publishing from which students can learn lettering layout and production. They stressed the importance of learning these applications that can help ease workloads and improve quality of finished pieces.

Wood (2004) examined the effect of technology on art. She sampled two hundred computer experts in the United Kingdom (UK) over a period of 4 years. She studied the use of Information and Communication Technology (ICT) in twelve separate curriculum subjects. The finding of the report demonstrated that art teachers showed interest in integrating technology into their curricula. One problem that appeared was the issue of cost. According to the author, the teachers complained about having limited resources. Some tools used in the research were scanners, and computers. Wood (2004) noted that the teachers were worried that students will lose the importance and essence the element and principle of art if they became wrapped up in wonders of the computer.

Computer applications.

The integration of computers into art is more profound in the graphic arts field. Influenced by Piet Modrian (1872 – 1944), Michael Noll used patterns to create art works. Another artist who influenced him is Bridget Riley. On April 6, 1965, Noll exhibited some of his artworks generated by computer, which he called Computer-Generated Pictures. He moved further with his discovery of computer-generated artworks by generating 3-D animations. While he did not start the 3-D Movies movement, Noll contributed to the movement by developing the 4-dimensional (4-D) hypercube and the computer holography with the help of his colleagues, Michael King and Daniel Berry (Noll, 1994).

Adobe Photoshop®, MetaCreations Painter®, Broderbund Kid Pix® and Microsoft Image Composer® are examples of software programs that are being used by artist to assist them in creating, drawing, painting and photography. The development of

programs for painting and photography editing are based on the traditional drawing,

graphic design, painting, and photography. Some invaluable features of the software

include the ability to rotate, resize, wrap works, and touch on areas that would have

proved impossible or difficult to perform using traditional technique (Spalter, 1999).

Won (2001) argued that the traditional ways of sketching artworks limits artists as

compared to using the computer, which provides visual feedback and improves the

artist's visual thinking. The testing of his hypothesis involved two industrial artists, one

skilled in creating ideas using the traditional technique and media such as pencil, pens

and rulers, and the other skilled in creating ideas with the computer as the medium. The

result of the research showed a significant difference between the use of digital media

and the use of traditional media to sketch concepts. In addition, it illustrates the artist who

used the computer developed their visual thinking.

The value of using computers.

Hubbard and Greh (1991) argued that teaching students the underlying value of

the use of computers is important, as images produced from computers are different from

those made by hand. Undoubtedly, the emergence of computer software such as

Paintshop® and Photoshop® has provided diverse ways to produce art forms. In the

excitement to embrace the innovative approaches technology has to offer, the importance

of traditional art should not be forgotten.

Ettinger (1988) stressed the importance of examining the basic values of

computer use. He examined ways the computer affects upon art education. He identified

computers as media, as a tool for research and instruction and finally as an instrument for

organizing the classroom. According to the author, it is the duties of art educators to examine the different aspect computers have to offer in the art education. Ettinger asserted that while computers aid artists in art forms like painting and drawing, only few artists go further to explore the other benefits of the computer to their advantage. Some artists failed to examine the possibility of adding other qualities like sound that can help draw audience to their work. He encouraged both artists and curators to make use of these benefits in order to expand on their artistic knowledge. He argued that computers could help artists expand their knowledge to programming and physics. Ettinger (1988) argument is unsubstantiated as there are only few similarities between physics and art. In addition, the author failed to support this argument with evidence. In addition, Ettinger asserted that art students must be allowed to partake in the construction of computers and software to help them understand its functions. He gave an example of how art students from the University of Oregon gained the needed skills, perception, and vocabulary to critique, and study images when they were given the opportunity to participate in the building of computers. They had the sense of awareness of the influence of computers on society. Ettinger recommended that teachers design curriculum that support the use of computers to encourage the development of the skills of students in fine arts. In doing so, students would be encouraged to look beyond the popularity attached to computer use and rather concentrate on their knowledge on the traditional values of art.

Ettinger (1988) argued that using Computer Graphic Systems does not automatically make the average person an artist. On the other hand, he cautioned artists to be cautious of the tendency for humans to become too dependent on computers. He stated

that art educators must make it a point to teach students to develop critical thinking, which will help prevent this problem.

Aesthetic Value and Art Criticism

Iseminger (2004) argued that the fundamental criteria for evaluating a work of art are the aesthetic values of that artwork. According to Gardner (1932), aesthetic value allows one to see the purpose of art. It carries out the deepest desire of the artist, and guides the artists how they see the world. Through the years, the aesthetic value of art forms in fine art has been defined to suit time and context. According to Hegel (1975), appreciation of art usually goes beyond sensory discrimination of art appreciators. Quoting Korsmeyer to support his theory, Hegel noted that aesthetic value was generated from "new approaches to pleasure and to the receptivity and appreciation that were summed up in the idea of taste" (Hegel, 1975, p. 28). The value given to art forms by the artist represents their passion.

Art criticism refers to the evaluation and assessment of the quality and shortcomings of an artist's work. Criticism of an artwork is mainly based on well-developed aesthetic theory since the meaning and value of art is embedded in aesthetics (Elliott, 1967). Anderson (1993) stated a critic's assessment of an art piece depends on his or her perception on aesthetics and the bases of the value of the work. He indicated that while theories are developed to provide critics with a framework to make judgments about artworks, it is the judgment of individual works that provide data to develop aesthetic theory. He proposed three major questions that should be considered through three procedures by a critic in the analysis and judgment of an artwork. The questions

included; What is this? What does it mean? What is its significance? The three proposed procedures are help in the description, interpretation, and evaluation of an art piece. Without it, the assessment of the work falls short. Anderson (1993) opposed Weitz's (1964) view that criticism of an artwork through one of any of the above-mentioned processes of judgment could suffice as art criticism.

The implication of Weitz's argument meant that one could discuss any creativity without making any value judgment. He argued that the idea of value judgment is independent of the standard aesthetic theory system originated from scientific bases, which originated from the emergence of modernism between the 19th and 20th Century. The author asserted that while individual personal biases; namely emotion and intellect are unavoidable in analyzes of artworks, the underlying framework is necessary in art criticism. Aesthetic theory evolves as artistic style changes. A review on an artwork by a modernist critic would differ from the evaluation by a postmodernist critic. For instance, a critique by Hilton Kramer, a modernist critic, might show an artwork as "powerful, meaningful, and universally significant" while one by Lucy Lippard, a postmodern critic on the same work, might read as "a reflection of the mistaken notion of so-called universal form perpetuated by mostly dead European white males" (Hamblen, 1990, p. 203).

In art appreciation, art criticism is a necessity. Art criticism provides the meaning and value man looks for in art. According to Anderson (1993), the main purpose of most critics is the definition and classification of works based on a framework and chronological order of the field of art. Other critics use artwork to psychoanalyze artists,

themselves, and society. Anthropologists such as Franz Boas (1927 – 1955) and Claude Lévi-Strauss (1908 – 2009) relied on art criticism as a basis for the restoration of values, myths, and common lineage systems within a society. Anderson (1993) proposed an integration of art criticism in education. He gave three important reasons why art criticism should be integrated into education. These three reasons included; (1) the importance of art as a source of knowledge, spiritual, and intellectual development, (2) It may help infer cultural structures and (3) a model built on art criticism is valuable for the learner's academic progress and development as well as the development of their critical thinking skills (Anderson 1993, p. 204).

Though aesthetics is an integral part of art, its significance was not realized until the eighteenth century. According to Munro (1967), during the ancient times, aesthetics was taught in academies with concentrated on teaching about "the meaning of beauty" (p. 97). Modern aesthetics has expanded to include all art forms and the information on them, such as locality, culture, and history, have been compiled to generate a complete data. This data is now used as a theoretical order by critics to judge art or artists (Munro 1967). Consequently, while aesthetics is concerned with general knowledge and the standardized value used to analyze and judge art, art criticism deals with the analysis and evaluation of a particular art form, and artists or a group of artists. Theoretical analyses were developed to either oppose or support styles or techniques in art making (Barone, 2006). Critical analyses in art vary depending of the kind of art being analyzed. Aesthetics values on the other hand deals with all types of art, such as painting, sculpture, literature, architecture, and carpentry (Barone, 2006; Munro, 1967).

Noy (2013) supported Anderson's (1993) theory on the importance of art to the education system. He asserted that the artist has always had an instinctive ability to appeal to man's psyche through his or her work, hence providing aesthetic satisfaction since the beginning of man. To support this hypothesis he referred to Freud's letter to Arthur Schnitzler in which he acknowledged the artist's inherent ability to give insights to issues, emotions and conflicts that affect man. He stated that other schools of thought have arrived at the same conclusion based on this premise.

The concept of originality in art.

The Merriam Webster online dictionary (2013) describes originality as one's ability to think independently and creatively. This implies that when a work of art is referred to as original they should not be copies of some other work. A work of art is usually thought to be original only if it is made with ones hands (Wands, 2007).

According to Wands (2007), the notion of originality in artwork is one factor that critics point to as lacking in digital painting. Because digital paintings are stored digitally, it gives the artist the advantage to reproduce his or her work as many times as they want. He argued that the worth of a work of art is based on the number of prints in circulation, and the strength of market for which the art the intended.

Creativity.

Creativity may be used as the solution to a problem or show the quality of technical skills. It can be exploratory in nature and involves the discovery of new and significant ideas, techniques, patterns, and noteworthy instruments (Lewis & Zuga, 2005). While it is difficult to define creativity, it can be easily distinguished from regular

ideas. It has the ability to leave an effective impression through innovation (Lewis & Zuga, 2005).

Bailin (2005), outlined five characteristics of creativity. He stated that:

1. creativity is linked to originality

2. it is difficult to assess the value of creativity and as such has no standards by which it can be evaluated

3. creativity can be manifested in new and innovational ways.

4. existing theories tend to minimize innovative ideas.

5. creativity cannot be simplified (p. 67).

Fostering creativity through learning.

For an artist to perceive the knowledge required to understand aesthetics, they usually attend school to learn on the basics of art (Cary, 1998). They study courses like sculpture, painting, drawing ceramics, textiles and printing, and photography, and printmaking (Hume, 2010). Through the study of such courses artists are able to develop strong knowledge on aestheticism, and construct their own ideology on the meaning of art (Runco, 2014) and are able to develop their work to a professional standard over time as creative potential needs time to develop (Hume, 2010).

While acquiring basic knowledge in art helps to build one's understanding of aesthetic perception, insight and inspiration cannot be fully obtained from just basic courses (Bain, 2005). Art students need hands-on experience through explorations with tools and materials in the studio. According to Bain (2005) this would help them perceive aesthetics, develop new visual ideas and discover the missing ingredient in that completes

creativity and brings a sense of satisfaction from their work (Bain, 2005). Through their explorations, artists often end up with the tools and materials that evoke satisfaction in the work they do (Bain, 2005; Clegg, Nettle, & Miell, 2011).

Explorations of new materials in art often stem from exhausted ideas from old materials. When artists become anesthetized from using old traditional materials turn new ones that help eliminate feelings of numbness they get from always trying out over used materials and ideas that fails to trigger the aesthetic response they desire (Shneiderman, 2007).

New technology and creativity.

The support of new technology enabled artists to express their ideas through animation, music, and videos. Technology is used as an editing tool in these instances (Shneiderman, 2007).

Individual, group and social creativity support tools include YouTube® and Flickr® for media sharing, Wikipedia® for wiki development, Blogger for citizen journalism, Garageband® for creating music, and Google Maps® used for visualization. Others include Flash® and FLEX® for creating animation and interactivity, IMovie®, Windows Moviemaker®, and Final cut Pro® for making movies. SPICE® is used for simulation and inspiration is used for concept mapping (Shneiderman, 2007). Second Life® is an example of a creative supportive tool used in virtual worlds (Molka-Danielsen & Deutschmann, 2009).

The art critic.

An art critic is a connoisseur, someone who is expected to be knowledgeable

about art history (Kharbe, 2009). Kharbe argued that a critic should not only be skilled in

art appreciation, they should be able to make judgments. He noted that critics are often

confronted with the difficult task of choosing between supporting traditional or new

principles and values. For instance, avant-garde critics, who were advocates for art of the

modern era had to support the art, form because their values and principles were in line

with that of the avant-garde movement. Given that art criticism is based on developed

aesthetic theory, the greatest challenge of a critic must be radical artists who lean towards

creating innovative works of art that break from the norm. According to Kharbe (2009),

the radical artist's work either urges the critic to go beyond the level of their knowledge

and skills or work within the established theories. He recommended the critic be always

open to new ideas and challenged the standard principles and values since conformity to

established and unquestionable theories tend to stifle artistic development. The ability of

the critic to accept or reject a work of art gives him or her major influence over the

history of art. For example Roger Fry, a British critic, coined the term "Post-

Impressionism" and wrote a successful book on the development of Paul Cezanne as an

artist (Kharbe 2009, p. 171). The history of art criticism, which begun in ancient Greece,

was well developed in the 18th and 19th centuries. Plato and Aristotle's theory on art

identified art as an imitation of reality. Unlike Plato, Aristotle's theory was more flexible.

While he saw art an imitation, he thought it romanticized nature by covering up its flaws.

Their theory influenced the Renaissance artists who saw painting as false representation of nature.

Kultermann (1977) called for a new attitude by letting go of the mentality that the traditional art analysis theory is unquestionable. He believed that individual artist should be able to make their own value judgments and gain an intimate relationship with their own work.

In his essay, *Le Salon de 1846*, Baudelaire, an influential art critic, explained, "to justify its existence, criticism should be partisan, passionate, and political, that is to say, written from an exclusive point of view, but a point of view that opens up the widest horizons" (Kharbe, 2009, p. 171). By way of introducing the essay, he outlined his perspective on what the job description that a critic should include. In his opinion, critics have to be impartial by considering artists as neither friends nor foes. He ended the prelude to the essay by stating, "We shall speak about anything that attracts the eye of the crowd, and of the artists; our professional conscience obliges us to do so. Everything that pleases has a reason for pleasing, and to scorn the throngs of those that have gone astray is no way to bring them back to where they ought to be" (Willette, 2010, sec. 1.1).

Criticism of Digital Art

While some artists were eager to accept and explore the possibilities the computer has to offer art, others were unwilling to accept the computer as an art medium. The emergence of technology in the traditional arts called into question the artistic value of digital art forms (Spalter, 1999). Software applications features such as raster graphic, a type of graphics that stores images as a collection of pixels, provide the artists in graphic

design, photography, and painting with the ability to create digital images, as a form of art that has had a deep impact in art. This form of art has not been wholly accepted. In photography, artists manually alter captured images by using application software. Critics argued that when original works are altered using computer application the artistic value is lost (Spalter, 1999).

Digital painting emerged centuries after the Renaissance era, invoking diverse opinions from artists and the public. Some art enthusiasts see digital tools as mechanical devices that have little tendency to invoke emotion in artists as compared to traditional art tools The satisfaction and the passion generated from creating works of art with ones hands is believed to be nonexistent with the emergence of technology. The results of such collaboration are no longer viewed as works of art produced solely by the humans. They become works of art partially produced by the computer because digital computers usually come with preinstalled programs that make it easier to create forms (Edmond & Candy 2002; Piene & Russett, 2008).

Bell (1916) provided an insight into the benefits of painting to the artist. He wrote, "Art is almost purely emotive both in its expression and its reaction" (p. 7), and painting provides "an emotional outlet which is appreciably self-creative possibly by the subconscious suggestion…" (p. 8). He maintained that the major objective of art is to provide gratification to one's emotions and the development of the inner being. Bell connected his argument to the function of art in ancient Greece, which he noted was the presence of beauty in art.

The introduction of the computer prompted questions about its authenticity. Johnson (1996) identified four assumptions that affected how digital painting was perceived. Firstly, it is presumed that computer artists possess the talent required to create art. Secondly, art created by hand is believed to be more authentic and as such, it is more related to the man. Thirdly, art by hand are viewed as a dignified work. Lastly, art made by hand uses tools and materials that are valued in the art field unlike machines and software used in digital painting.

Demand for digital media.

Garvey (1997) noted that while there are arguments against the validity of digital painting as a true art form, increasing evidence show there is demand for candidates with digital media skills by industries.

Artists who turn to new styles and methods and tools of creating always face with the need to struggle in order to be identified and accepted (Bell, 1916). New discoveries in material and tools since the discovery of mixed powdered rocks and egg yolk has allowed artists be self-expression increase, however, they put them in the position where they constantly find themselves struggling to be accepted in society and even within their own circle. The emergence of computer art proved no different. The introduction of the computer brought up questions and concerns regarding its validity, definition, importance, and originality (Lin, 2004).

Regardless of the tools or style employed by an artist, traditional tools or digital tools, both types of tools should reflect the artist's creative effort and talent and communicate his ideas. During the industrial revolutionary period, critics found new art

movements distasteful because they did not reflect the standards of the academy. Today, artists of that period are recognized as the best with their painting going to the highest bidders. Again, when photography was first introduced, it was rejected because of the camera, a mechanical tool that the photographer used. Photography by the artistically gifted is now accepted as art, not because of the tool but because of the artist's creative effort. Though digital painting has not been fully accepted yet, some internationally recognized artists, including Fay Sirkis, Dylan Cole, Bobby Chiu, Teodoru Badlu, and Phillip Straub, who are already creative in using traditional tools, are using digital tools to create impressive art works (Bloom, 2006; Snoswell, Wade & Hellard, 2005). This goes to support the fact that judgment of artworks should be based on the creativity and talent of the artist and not the tool they employ. With new digital media, anyone can easily create and find an available space to exhibit their work to an audience. Because software like Photoshop®, has already-made and installed presets that make it easy and flexible to use tools, color, and shapes to create art, just about anyone, even those who do not possess the necessary creativeness, talent and knowledge of the craft, can call themselves 'artists.'

Software programs such as Adobe Photoshop®, Corel Draw®, and Adobe Flash®, which were created specifically for drawing, painting and designing, do more than offer new ways for artists to come up with innovative ideas, thereby making the process of creating artworks easier. These software programs are flexible to use since they allow the artist to easily undo or correct mistakes. Copies of works can be digitally stored, making works more portable, and the work can be easily printed many times over

(Christodoulou & Styliaras, 2008). Unfortunately, this advantage corroborates the theory that digital painting is not true art because the aspect of originality is lost when works are mass-produced.

While the purpose of art works is to provoke one to analyze issues presented in the work, the most important aspect is its representation and reflection of the sentiments of the artist (Beuys, 2004). It brings to question whether computer art has the ability to communicate the ideas of artists like traditional art. According to Lin (2004), some schools of thought do not believe that it does. The product of computer art is seen as sterile art that lack aesthetic value. To these critics computer art loses its meaning when the computer is the tool.

Artists choose tools and materials that provide them with the freedom to communicate their ideas, and inner expressions to their audience (Christodoulou & Styliaras, 2008). According to Gere (2006), artists do not generally explore the potential of computers and other forms of technology. He noted that computer art has in general been disregarded by traditional artists and museums. Gere argued that while most artists do not employ the computer as a medium in creating artworks, history shows artists embraced the surge and advancement of technology.

King (2002) wrote that computer art remains an unappreciated art form by some because the computer was introduced as an application tool for the artists at the wrong time. He argued that it emerged at a period when significant accomplishments had already been attained. For instance, it missed the mathematical explorations of Constructivism and Supermatism by decades, and Optical art by a couple of years. In

addition, it arrived at a time when Postmodernism had made its mark in the field, and

because of similarity in content; the benefit of computer became redundant and

inessential. King (2002) suggested that computer art was rejected because the software

designed for creating art works makes it easy for anyone without an artistic talent to

partake in the traditions of art. He agreed with experts in digital art including John

Whitney Sr. (April 8, 1917 – September 22, 1995) and Harold Cohen (May 1, 1928 –

present) who have strongly criticized the ease of creating digital art with computers.

Computer/Digital Artists

Wands (2007) suggested that it is necessary to examine the artists who are

devoted to digital painting in order for one to understand the art form. Digital painting

can be categorized several ways. Some developed programs that help create artworks.

Others collaborate with computer programmers and technicians to create artworks.

Digital artists have interests in innovative tools that offer new ways to attain fresh ideas

and methods for creating art. They believe this aspect is missing in the traditional ways of

rendering art. Wands asserted that digital tools offer the artists ways to have more control

over the outcome of their work. For instance, the computer can generate multiple

variations of an image allowing the artist to choose the ones they like best because of the

flexibility of digital tools. While this feature of digital painting is advantageous to digital

painting, it is seen as one of the negative factors that compel critics to reject it. The new

age artist is not faced with the complexities of the early digital painting phase. The

laptop, Internet, mobile phones, and the electronic mail inform the arts of the innovations

and diverse method for creating digital painting. Wands (2007) argued that the term

'digital', which modifies technological generated art forms, is dwindling and soon digital painting will be only seen as contemporary art.

As noted earlier, King (2002) argued that computer art started earlier than suggested by other authors. It started in 1956 with artists including Benn Laposky, and John Whitney Sr. in the United States and Herbert Franke in Germany. Of the three artists, John Whitney Sr. possessed stronger background in modern art. Whitney's research focus was on the correlation between visual arts, music and the possibility of the generation of new abstract forms with qualities of motion pictures. Laposky was both mathematician and an artist. His first works titled 'oscillions' were created with an oscilloscope in 1959 and displayed in over 216 exhibitions from 1952 to 1975. Franke was a scientists and an artist. He was primarily a scientist and a mathematician with interests in art. According to Franke, his background in mathematics and technology provided a different advantage from that of the regular artist. It enabled them to create a lot of shapes, forms, and structures that had never been achieved before. Franke noted:

> Many of these forms have considerable aesthetic charm. According to the usual criteria, we cannot call them original works of art. But they can be considered elements available for new creations and can be used to develop artworks, forms, and structure (as cited in King, 2002, p. 89).

King (2002) stated that focus on mathematics and technology was characteristic of early computer art. Ben Laposky, Whitney, and Franke were interested in using mathematical elements to create artistic forms. While "laws of harmony" inspire his work, Whitney noted that he became interested in computer art once he realized the

results of using an oscilloscope (p. 90). Other computer artists King (2002) discussed

included Charles Csuri (Artist and Algorist), Mark Wilson (Artist and Algorist), Frieder

Nake (Mathematician), Edward Zajec (Artist and Animator), Michael Noll (Computer

Scientist), Ruth Leavitt (Artist), Vera Molnar (Artist), and Manfred Mohr (Artist and

Algorist). Others discussed included are Harold Cohen (Expressionist British painter),

Laurence Gartel (Artist), Jean-Pierre Hébert (Artist and Algorist) and Roman Verotsko

(Artist and Algorist). Harold Cohen entered into the field of computer art in 1972 after he

left his career in painting. He developed the AARON program, cybernetic artist designed

to create artistic images (King (2002).

Exploring the Artists' Choice of Media

In her study on the use of digital painting in art practice, Berkenwald (2002),

examined reasons behind artists' choice of media and tools. She outlined two main

reasons why artists turn to digital media. The first is that artists are not fulfilled with their

existing work and the medium they utilize. The second is artists' curiosity to explore

digital media and materials. According to the author reasons behind artists' change of

medium and how they identify with their tools and materials cannot be easily understood

because only the end product of their works are exhibited and not their process, changes

and progress. She asserted that the definitive accomplishment of any artwork is due to

artists' success with being able to relate creative and conceptual ideas effectively to their

choice of media, tools, materials and the stages of process of the work.

Garvey (1997) pointed out that artists used to look forward to devoting their time

to developing their own style and the mastery over their selected medium. He argued that

this is not the case today. Today's artists are faced with mastering a variety of skills, styles, art forms and media including both traditional and digital media. Garvey (1997) argued, "We must revisit the question of what is the core set of skills and knowledge" (p. 31).

Comparing Traditional Painting and Digital Art

Artists' perception of digital painting was found mostly on discussion boards and blogs. A study of some forums and blogs revealed that there is a division between artists and people with interest in art on the issue of digital painting being perceived as an art form.

Bloggers' perception of digital painting.

Tallamy (n.d.) argued that comparing traditional to digital methods in painting generates a problem. In her opinion, the two art forms should not be compared. According to her, people's assertion that digital painting cannot be true art because of the ease of use is misguided. She argued that after experimenting with both traditional and digital tools and methods she has come to realize that the digital way of painting is much more difficult than critics assume. She pointed out that while the tools are different technique is the same. Tallamy (n.d.) stated that she preferred the digital method to the traditional because there are no messes, dangerous inhalation with oil paint cleaners, and no damages to canvases and papers. Furthermore, digital paintings are easy to save, store, backup, and leave anytime to work on later. In her opinion, digital paintings look better, clearer and allow the littlest detail to be added. Moreover, mass printing of a single painting is possible with a click of a button. In addition, unlike traditional painting where

an artist constantly stores up on expensive supplies, an artist only needs to make a onetime purchase of programs and tools such as the tablet. According to Tallamy (n.d.), she agreed with critics who thought photo manipulation and 3-D graphic not art. She challenged critics to try the digital methods of painting before making any assumptions on its value.

Samsel (2011) addressed the issue about giving digital painting space in gallery exhibitions. She acknowledged that she was once opposed the idea of defining digital works as art until she challenged herself to examine the problem objectively. She pointed out that art critics once rejected the technique and subject matter of impressionists. She argued that critics saw them as unaccomplished during that period and "looked down" on their works because they saw it as imitations of nature and not 'original' She pointed to the fact that prior to 1800, only 15 oil colors were used until technology advancement made it possible to add additional colors. Due to this, the introduction of digital means in modern times cannot be 'cheating' (para.3). Samsel (2011) argued, "Art is a reflection of the culture it's born into" as such, it evolves to reflect the period. She added that it is the reason why ancient society etched images into stones and some painted onto vessels (para. 5). She asserted that the 21st Century society is "highly mobile" and encouraged artists to create images through digital means (para. 5).

Relying on his experiences in both digital and traditional art, Elmansy (2011) discussed his views on their similarities, differences and uniqueness. He argued that though different techniques are required, both methods use the same concept, such as balance harmony, color theory and contrast. He argued that oil and watercolor is unique

to traditional painting as is digital media is to digital painting. He implied that digital

painting is an extension of traditional art; an occurrence made possible by the evolution

of 'human civilization' (p. 1). He noted that the underlying knowledge of fine art is the

requirement for anyone who wants to become a digital painting. Elmansy pointed out that

history shows that art forms change and as society evolves and art changes to

accommodate the preferences of each era. As the Renaissance preferred to work in oil to

record changes in that period so is the need to use digital tools and methods to meet the

demands for "advertising, films and videos and photo manipulation" (p. 1).

Shepherd (2011) noted that satisfaction in creating art does not come through

messiness or "the awful smell of turpentine in the air, the splatter of paint" on the artist

(p. 1). In his opinion, digital painting is an extension of traditional techniques; as such, a

skillful painter can create a masterpiece using either the traditional or the digital method.

He added that an accomplished digital painter should have knowledge about the elements

and principles of art. He added that without these necessary fundamentals "any type of art

will suffer" (para. 2). Shepherd mentioned that art should be 'sensual' 'absorbing' and

"draws you into its form, colour, and texture" (para. 3). He welcomed options provided

by the digital method because it equips the artists with alternative approach to painting.

He made it known that he believed that the old masters would be in 'awe' of digital

painting. He referred to digital painting as an "evolution of art" and a "valid art form"

(para. 2). Shepherd stated that while digital painting cannot replace traditional art it

should not be derided as a lesser form of art in view of the fact that it demands a lot of

expertise, perseverance and zeal. He mentioned that originality is one characteristic in

traditional painting that makes the art form "unique and authentic." He explained, "I appreciate the effort that goes into it and the very delight of the experience that goes into it" (para. 2). He added noted "But this does not mean I consider the digital alternative any less brilliant" (para. 3). He claimed that some digital painting look like traditional painting (para. 3).

An article posted on the webpage of Cheap Oil Painting (2011) by the staff editor examined the evolution of digital painting and the imminent extinction of traditional art. He noted that it is sometimes hard to tell that the foundation of the artist's work is a photo because of the fine quality of the finish work. While the author did not make a case against or for any of the methods he constantly referred to traditional painters as 'humans' and digital painting as 'robotic', and 'terminator'. He argued that though digital painting is not fully accepted yet, it would take over traditional art in 10 years. He stated that traditional art is still at the forefront particularly at international auction houses.

A posting on the webpage of the Cultural Council of Cortland (2011) under the title *Digital Painting Vs. Traditional Painting* compared the digital method and traditional method. According to the post, the use of digital tools by skilled artists makes their work lose its potency as real art. It stated that digital paintings as unauthentic works do not reflect the talents of an artist because digital tools only mimic software that prevents the artist from using their own capabilities to actually create their own color. Moreover, digital tools take away the sense of achievement characteristic with finishing a work of art by hand through hard work and mistakes. Furthermore, traditional artists prefer to work with their hands, feet, and other physical parts to create desired textures. In

addition, artists like to mix their own colors and learn through mistakes until their work is completed. It was noted that artists feel they have accomplished a lot when they go through this process. The post stated that working with technology tool might be enticing to others because they make it easy to achieve one's means (The Cultural Council of Cortland, 2011).

Discussions forums on digital painting.

Soulja (2007) started a discussion on the GFX artist forum that sought people's opinion about digital painting. Soulja implied that people who know little about digital painting appreciate it more and traditional art less. In a reply to the posting WYSIWYG (2007) stated that he is trained in both areas and believe the two art forms should not be compared as each have their own unique quality. In another reply, SandraS (2007) shared an experience that occurred during an exhibition of her digital painting. She noted that her audience admired her digital painting works until she revealed the she used digital tools. She noted, "suddenly their amazement seemed to sink." According to her, one woman said to her in a "disappointed voice", "Digital? Ahh... but those people can do whatever they want" (p. 1). SandraS mentioned that it was frustrating when people preferred her traditional works to her digital works as her puts in the same effort for both. Wildlifehoodoo (2007, p. 1) stated that he is uses both methods and the digital method is difficult method as well. He claimed he spends more time creating a digital painting than he does creating a traditional painting. Liliga (2007) argued for both methods. She noted that while it is more difficult to undo mistakes when it comes to the traditional method, the digital methods requires an artist to put in more effort to imitate the natural feel of

textures on physical supports. She noted that the digital method does not give an artist the satisfaction of developing a physically relationship with their work and tools. Liliga expressed that she was astounded when she discovered during an interview with a traditional oriented magazine that the interviewer displayed no knowledge about digital painting. She stated, "I was shocked when the journalist, who, I think, should have a clue, asked if the computer provided me with outlines to fill in when I was drawing" (p. 1). It was Liliga's hope that digital painting will one day be accepted 'as art for art sake" (p. 1). Mariamism (2007) argued that the artist's skill and techniques create 'great art' not the tool. As such, digital painting should be valued as much as traditional art. On the other hand, the traditional method is time consuming and demands patience and hard work as it is not as flexible as the digital method (p. 1). Mariamism asserted that the process involved in traditional painting is of great significance as it affects value of art. She pointed out that because digital painting allows for 'paint over' it is 'maybe not worth the effort" (p. 1).

Similarly, Venomsblood (2007) noted that while methods entail a lot skill, commitment, persistence and creativity, traditional painting is more demanding. Moreover, the artist's skill plays the bigger role in the end. In a responds to Emarts (2007) post, which read, "If you can create great art with a paintbrush or with a digitizing pen what difference does it make? Do what you are good at and let the fools argue over it" (p.1). WYSIWYG (2007) asserted that the 'fools' who pay for the art make the 'difference' because their impression has a direct impact on the artist's income. Soulja (2007) who responded to Emarts as well argued that digital painting is a reflection of

today's world, a world that moves at a fast pace and takes little time to study what is around it. He compared the issue to the process of making vanilla pudding. He pointed out that one has the option to either make it quick way by using cheap instant powder with artificial flavoring or buy real vanilla beans to the make it the authentic way. Soulja made it known that he preferred the traditional painting because he learns more through it. He revealed that he is a novice when it comes to drawing with the computer.

Raphael (2007) indicated that the matter in question stems from the people's attitude towards technology. People trying to compare the two methods worsen this, he claimed. Elitha (2007) who has experimented with digital painting for a couple of months learned that "digital painting is a 100 times more tedious…despite the perks that come with it" (p. 1). She argued that the two media should be valued for their distinct qualities. Zazill's (2007) response summed up the responses from all the respondents. He made the argument that while using the digital method may present some advantages it does not lessen the challenges it brings. He argued that an artist must be skillful in either method in order to apply it. He pointed out that it is time consuming and one needs patience and time to learn and develop the needed skills to work both the traditional and digital methods. Zazill believed that people argue for the traditional painting method because it cannot be easily repeated while technology makes it easy for someone on the other side of the globe to "copy and print and parade offline [digital works] that it is his without breaking a sweat, and who would know - who would care cause its digital anyway" (p. 1).

On the DeviantArt discussion forum, Bluespitfyre (2008) posted a question as to whether digital work can be considered as art. According to her, the issue ensued into a debate between her, her painting instructor and another student. While most respondents to the post viewed that both traditional and digital painting to be real art they were of the belief that skill, originality and perception were important elements critical to the creation of art. In a reply, Naskaradock (2010) stated that s/he has worked with both media. He indicated that an artist should to be educated on the elements and principles of art to create art worthy works. PhoenixGr (2010) argued that people assume digital painting is easy because the computer was initially designed to help solve equations. To him drawing on a computer is as hard as drawing on paper. He made the argument that an artist who makes use of every available tool further develops their skill. PhoenixGr (2010) asserted that the computer is a tool; as such, it is the artist and not the tool that brings the "style, craftsmanship, attention to detail, use of color, design, form, shape, mood, and all the elements of design" (p. 7) . He added, "Computers aren't cognitive thinkers yet" (p. 7). He maintained that anyone who discounts digital painting as an art form should be given a Wacom® tablet (a digital drawing tablet) so they can find out for themselves that it take the same skill to create a digital work as it does when creating traditional art works. Zingam (2009, p. 4) agreed that digital painting is art. According to him, he has seen extraordinary art works done with Photoshop. He argued that like traditional paintings, digital paintings necessitate skill, imagination and dedication. He added "But! There is one big difference!" This he noted is how digital media makes it possible for one to make copies of an original of a digital painting by just a click. He

believed this feature places more value on traditional paintings. Citing the *Mona Lisa* (1905 - 1906), a famous oil painting painted by Leonardo da Vinci (Kontsevich & Tyler, 2004; Strickland & Boswell, 2007), Zingam (2009) argued that traditional painting unlike digital paintings are classic and cannot be easily copied. In a reply to Zingam's post as well, =DoubleKrossed (2009) argued that originality can make a painting valuable though not unique as she possesses a several printed copies of painting and as such they can no longer be unique paintings. To this Zingam replied that, as the printed copies are not the same quality as the original they could be easily discarded. In a reply to this post =Doublekrossed pointed to recent technological developments that allow valuable paintings to be forged and sold as the originals without any detection by scientists, dealers, connoisseurs and historians. She asserted that while he agreed that originals have more value, traditional art could be copied as well.

In response to Bluespitfyre's (2008) posting, Lunarsparks (2009) expressed her disappointment with teachers who are not willing to try out the digital medium. According to her, while her teachers were willing to discuss digital painting, they were unwilling to accept it as an art form. She conveyed her frustrations towards people who assume digital painting is simply creating works by "pressing a button and your painting appears" (p. 5).

In his feedback to Bluespitfyre's (2008) question, !Zoekozoeko (2008) argued traditional painting provides "more freedom" (p. 8). Digital painting on the other hand permits a skillful artist to create bigger works and work at a faster rate. In contrast, Lerain (2009) thought digital painting provides more freedom because it provides more color.

One does not have to mix colors and it is easy to undo mistakes. Furthermore, cleaning

up ones workspace after working with digital media is easy unlike the traditional method,

which is messy and requires more time to cleanup. Lerain noted that the ability to correct

mistakes easily, which lends a lot of freedom especially for the beginner. He argued that

this causes the learning curve in digital painting to increase at faster unlike that of

traditional art (p. 8).

Chastain (About.com Guide, n.d) shared the reason why she preferred digital

painting to traditional art and invited people to share their opinions. According to

Chastain, when she was studying Interior Design in school most of her drawings were

done using the traditional method. She stated that her drawing were always smudged and

smeared because she had sweaty palms. According to her, this was a constant source of

embarrassment to her because it affected her grade in class and her instructor made her an

example to others in her class. Of the 17 responses given to the post 5 people, believed

digital art is 'better' while another 5 respondent thought traditional art is 'better'. Five

other responds saw digital media as a different method. One such respondent, Shockley

(n.d) believed digital painting "has nothing to do with creativity" (p. 16). Another

respondent of the same group, Russell (n.d.), stated that the digital method is best for

graphic design. Seffen (n.d.) who belonged to the same group as well claimed that as

traditional art is more difficult to produce it is unique and should be more valued. The

fifth respondent, Bart (n.d.) indicated that he works with both media and saw traditional

art as the 'better' art form. He argued that traditional art is a "pure artistic expression." (p.

16). He pointed out to Chastain (n.d.) that smudging is only one of the many hurdles an

artist must overcome to be an expert. Based on her experiences as a chemist for messy darkrooms, print rooms and tank rooms for photography, and lithography, Bzbwoman (n.d.) concluded that she preferred non-toxic means of printmaking to the old way. Digitgal (n.d.) preferred the flexible nature of digital painting as it proves easy means of making changes. S/he liked that digital painting could be printed in any size and on any support be it paper or canvas. Another feature s/he that contributed to his/her preference to digital painting is that it allows artists to work collaboratively on projects via the Internet. The flexible nature of digital painting was a key factor in Annall and Digiartist's (n.d.) partiality towards digital painting. In addition, digital media enables ease and flexibility for artists to produce high standard prints as well as share and sell their work to a bigger audience at an affordable rate. 2writenride's (n.d.) response to the question encompassed the opinions of the other respondents who saw digital media as tools. He argued poor composition, self-indulgence and lack of skill define bad art and not the tool an artist uses. Corfugitive (n.d.) pointed out that there are benefits and drawbacks to both art forms. S/he thought the digital method provides artists with a less difficult way of correcting mistakes especially in photography. On the other hand, it makes it easy to produce "the most awful rubbish" posted to the World Wide Web (p. 16). S/he believed that the traditional method is "humanities greatest achievements" which is more often than not created painstakingly (p. 16).

Categorizing Traditional Art and Digital Art

Wands (2007) pointed out that while digital may still be seen as the new revolutionary change in the field of art, its roots could be traced to traditional art.

According to Lopes (2004), art is part of a class that embodies all artworks as long as it is deemed a work of art. Art can be categorized art into two different types. The first of these is evaluative characterization. The evaluative characterization implies that artworks can be classified as good regardless of the media used to create the artwork. The second category, which is the descriptive characterization, accepts that though some artworks lack the aesthetic value that makes them art, they should still be recognized as art. Lopes described computer art as a type of art, which falls under the descriptive characterization. He argued that artwork should not be judged as art instead it should be seen as belonging to a category of art, which is the art medium. As such, digital painting can be judged based on the type of art medium used to create that type of art. Like any new form of art movement in the history of art, digital painting is criticized for being different from usual traditional type of art (Lopes 2004).

Borrowing from Kendal Waltons' theory on *Categories of Art* (1970), Lopes (2004) noted that categorizing art forms provides a framework within which artworks can be interpreted and evaluated. When artworks are categorized, people can compare that work to aesthetic qualities of an artwork that is similar or different. Example, as jazz is different from opera. Example, John Scofield's Green Tea, an acid jazz, is different from Rigoletto an opera piece. The author pointed out properties of any type of art form could change. An example is the changes in the photography. The author noted that the standard property of photography was recording images. The standard property has since expanded to include software for editing.

Types of categories.

Art can be classified into different categories. These categories include art media, genres of art, and style of art. Art media categories include media such as painting, literature, theater, and music. Genres of art include tragedy and melodrama. The types of work that fall under genres of art category could fall under art media as well. Example, tragedy could fall under theater (DiMaggio, 1987). Styles include postmodernist parodies and postmodernist comedies. Styles could fall under art media and genres of art. Lopes (2004) argued that computer art should be characterized as art media. He stated that the standard for categorizing any artwork should be based on how they are produced, the materials used, and the practices employed in producing them. According to him, the materials and practices used in managing art media are known as palette. The process of determining what technology is used for and how it can be used clarifies the properties of digital painting work. Because the computer can be programmed to serve different purposes, the function of the digital palette is boundless. The standard property of digital painting has expanded to include virtual reality, and interactivity (Lopes 2004).

Virtual reality is a new type of digital painting discussed by theorist in recent years. Virtual reality is defined as "a synthetic technology combining three-dimensional video, audio, and other sensory components to achieve a sense of immersion in an interactive computer-generated environment" (Lopes, 2004, p. 110). Interactivity allows the computer to employ a "complex control structure and algorithms that allow output to be fine-tuned in response to different histories of input" (p. 110). In other words, interactivity is an outcome of unique abilities of the computer to perform complex tasks.

Interactive artworks invite users to participate through a variety of ways such as gestures, sound, writing, physical presence, movement, and drawing. To achieve physical presence avatar technology is utilized.

According to Lopes (2004), the ontology of any artworks, which is the categories that exist within, is what makes it unique. Some artworks like painting have unitary ontology while others like music possess dual ontology. An example of this is musical performance. In this sense, musical performance consists of more than one artwork and as such, two intertwined properties. This explains why it is possible for one artwork to have independent properties, share properties and aesthetic properties.

Aesthetic values.

Aesthetic values and not its performance theory, is usually the basis for art evaluation (Lopes, 2004). The physical substance of an artwork is the part that is judged for its aesthetic authenticity. According to Lopes, this is disadvantageous to digital painting works, which are not physical objects like traditional artworks. Digital painting works are the result of a combination of abstract numbers and algorithms. While some physical aspect is present in the production of digital painting work, the structure and data that is applied do not have physical forms. Meaning, digital paintings do not have physical forms that are relevant for aesthetic evaluation. Lopes (2004) disagreed with Timothy Binkley's (1997) theory that media are physical in nature and the computer is not a medium as digital arts are but abstract pieces. He asserted that judging art based on its physical content alone is a wrong notion. He countered Binkley's assertion by using music and literature as examples of artworks that possess a certain degree of abstract

attributes. These features can be heard when listened to during performances and yet

literature and music qualify as art. Aesthetic interest in the two art forms is not based on

physical aspect.

Interactivity serves as a tangible representation of the abstract nature of digital

painting. Unlike traditional art, the audience is allowed to participate in the interpreting,

experiencing and creation of digital painting. Like any artwork, digital painting uses its

tools to represent its medium (Lopes, 2004).

The history of art shows that the invention of every new artwork often associates

itself to an already established artwork until that artwork becomes well established itself.

An example of such an art medium is photography. Lopes (2004) argued that digital

painting would gain its own characteristics independent of other art medium.

Lotito (2001) asserted that though the computer and other digital electronics are

not necessarily animate, they are "by far the most prolific participants involved in the

production of art today" (p. 1). He argued that the fact that modern machines can

contribute to art today indicates they have some influence in the field of art. He indicated

that as tools, digital machines help users manipulate software to produce and enhance art.

For instance, computers could be used to edit and enhance photographs. The process

usually requires two major steps. In the first step, the computer is given the image to be

processed and a command. In the next step, the computer carries out the command input

settings by the designer or pre-programmed instructions by the programmer. The author

compared photo-editing software to the paintbrush as a technological tool. He stated that

the computer is technology that takes photographs to modify its attributes and create a

new work of art, while the paintbrush is technology that takes a blank canvas to create a new image or add to an existing image. He argued that though both technologies are different, they were manufactured to function as tools that are used to create art. Lotito discussed reasons why neither the computer nor photo editing software can be acknowledged as artists. According to Lotito (2001), both computers and photo editing software function as tools. Moreover, they only carry out given commands. Given these facts, neither the photo editing software nor the computer can be seen as the artists (Lotito, 2001).

Summary

When it comes to creativity, artist satisfaction, and originality in art, digital tools usually receive poor ratings because they are known to make creation of art too easy. Digital paintings are usually created with already prepared materials and performances. This makes their process of course easier, more efficient, faster and more flexible than the traditional method of painting on canvas. Those who support the digital painting see digital tools as another art tool that provides innovative and exciting ideas to the artists. Literature reviewed showed that change is usually not well accepted in art.

In a culture where the influence of technology is widespread, technology in the arts cannot be ignored. The literature reviewed shows that digital media have a lot to offer to the art world. Technology brings ease and flexibility to creativity in art and the outcome, regardless of the media employed, depends on the creator. The emergence of digital media should not eliminate the existence of traditional art because both traditional and digital media contribute immensely to the expansion of artistic expression

The next chapter provides a description of the method, which includes recruitment, data collection, data analysis and the pilot study.

Chapter 3: Methodology

Introduction

This study is exploratory and descriptive in nature, seeking to understand artists' perception of the use of digital media in painting. In this chapter, the inquiry processes involved in participant sampling, data collection and analysis are described. The qualitative method of grounded theory was employed in examining artists' perception of digital media and its role and function in art education and in the production of art. For the purpose of this study, painting will be the art form of interest. Questions and categories that emerge during the process of collecting data, coding, and data analysis were used to redefine how data was collected, and where data was collected. They were used to refine the research questions of the study.

The researcher's lack of knowledge regarding the specific constructs and variable relationships required that the researcher utilize grounded theory method to investigate the research questions (Glaser, 1978). Further categories and questions emerged as data collection, coding, and analysis continued. The grounded theory method is well established in qualitative method for data collection and analysis (Glaser, 1978).

Grounded Theory

Barney Glaser and Anselm Strauss introduced grounded theory as a qualitative research method in 1967. The theory is grounded in communications and actions that express meaning of the experiences of participants used in the research. Essentially, grounded theory becomes theory obtained from data collected and analyzed by the researcher in simultaneous order. It is an approach to addressing all the interrelated

aspects of theory required of research in sociology. Glaser and Strauss (1967) indicated

that aspects of the theory in sociology should:

1. facilitate the hypothesis and interpretation of a behavior;

2. be beneficial in theoretical progress in sociology;

3. be useful in real-world experiences; meaning the researcher should understand

    and have some expertise in order to investigate the phenomena;

4. offer an outlook on a behavior; and lastly

5. provide direction and methods for research particularly in areas of behavior

    (Glaser and Strauss, 1967, p. 3).

When theory is clear and has adequate hypothesis, it can be used in research in the

present and future and applied to quantitative studies as well (Glaser & Strauss, 1967).

According to Glaser & Strauss (1967), the best approach to realizing such a theory is to

use a systemic method to discover the theory from the data of social research. Grounded

theory is closely linked to the data from which it was pulled from and as such is bound to

work regardless of any adjustments (Glaser & Strauss).

Grounded theory provides a researcher with strategies for conducting a well-

structured qualitative research and helps a researcher generate a logical analysis of the

situation. Charmaz (2004) defined grounded theory method as "a logical consistent set of

data collection and analytic procedures aimed to develop a theory" (p. 496). In the same

vein, Strauss and Corbin (1990) described the term as "a qualitative research method that

uses a systematic set of procedures to develop an inductively derived grounded theory

about a phenomenon" (p. 24). They noted that there is correlation between data

collection, analysis, and the grounded theory generated from the data. As such, the grounded theory reflects the authenticity of the data.

Grounded theory and qualitative study.

Grounded theory is usually applied in qualitative studies for a number of reasons. Qualitative research possesses essential aspects of sociological theory such as consequences, structural conditions, processes, systems and norms. Qualitative research is conducted in real life settings and is often the most acceptable and productive method one uses to obtain the type of information necessary to challenge the difficulties of practical situations (Glaser & Strauss, 1967). As a qualitative method, grounded theory method possesses some essential characteristics that are related to other qualitative methods.

While grounded theory reflects the essential characteristics of qualitative method, it possesses exclusive qualities. Grounded theory is a theory grounded in data, meaning it is theory developed from the research data. It involves the construction of analytical codes and categories, which are generated from the data collected rather than predetermined theory (Charmaz, 2004). In addition, it requires writing down memos and field notes and entails the use of a systemic method to discover the theory from the data of social research. Grounded theory is descriptive in nature, involves the construction of conceptualizations from data collected, and allows both novice and expert qualitative researchers to conduct qualitative research effectively (Charmaz, 2004; Glaser & Strauss, 1967; Strauss & Corbin, 1990).

According to Strauss and Corbin (1990), qualitative researchers work with data and not ideas in the abstract, and they can draw on their own experiences when analyzing data. They noted that grounded theory is useful for studies that fall under typical social research.

Generating grounded theory.

In grounded theory, the researcher's emerging analysis shapes the procedure used in collecting data. It helps the researcher to determine emerging themes and questions for interviewing, observation and other methods of data collection. intrinsically, participation in simultaneous collection of data, coding and analysis of data helps shape the research (Charmaz, 1990).

Right from the start of the data collection, the researcher will actively construct data based on the perception of the participants. According to Charmaz, the first question the researcher needs to ask himself/herself is "what is going on in the data?" (Glaser, 1978, p. 98) Grounded theory is based on the curiosity of researcher to understand a phenomenon and the emerging data (Glaser, 1978). In effect, the analysis of the collected data determines subsequent method of data collection.

The grounded theory data will consist of rich and detailed description of events observed. It will give an extensive account of experience from the participants and records on narratives of experience. It is important to provide vivid description of events leading up to the main event. These may include the participants and implicit concerns of participants. Other descriptions will include the location, interaction after the interviews and the perception of the interviewee. Rich and detailed data will unveil the thoughts and

feelings of participants as well as the context and structure of the data. Different

perspectives that will emerge from collected data will help refine the research questions.

Analysis of data makes the research more focused (Charmaz, 2004).

Procedures involved in generating theory.

In grounded theory, all resources can be termed as grounded theory data sources

as far as they yield information on the needed data on social interaction (Glaser &

Strauss, 1967). Data collection is usually conducted through examining related literature,

observations, focus study, interviews, and acquiring the perspectives of participants

involved.

Glaser and Strauss (1967) discussed two types of procedures used in collecting

data. These procedures are theoretical sampling and constant comparative method. They

described theoretical sampling as the process whereby analysts collect data, code the

data, and analyze it before deciding on other data to collect and where to collect the data

in order to generate the theory. Selection of group is used in theoretical sampling.

Selection of group refers to the selection of groups within the same dimension, such as

background, personal aspirations, and experience. The purpose of the selection of group

is to compare members in the group and to create categories.

Constant comparative method is used for generating theory. Characteristically,

constant comparative method is useful for any type of data be it small, large, gender

related, or setting. The method presents accurate data, and establishes empirical

generalizations used to specify the dimensions of a concept (Glaser & Strauss, 1967).

During coding and data analysis, the core variables, which are *Definitions of Painting* and *Artist Choice of Media* served as the basis for theory generation. The variable should recur frequently and correlate with the variety of data that is collected. In addition, this should apply to all dimensions. Coding helps build the theory and in analyzing the raw data. In addition, coding helps identify concepts, which can be developed and linked to other developed concepts (Strauss & Corbin, 1998).

Why grounded theory method is appropriate to the study.

Based on the research questions, it seems natural to understand how artists perceive the integration of technology in art education and how they arrived at that perception. Grounded theory allows for the investigation of the behavior of a people and the people who exhibit that behavior. It permits the researcher to describe the experiences of the participants from their viewpoint (Glaser & Strauss, 1967).

Grounded theory is used to unearth and explain the basis for the people's behavior and beliefs as well as to create an underlying theory for understanding the elements of investigated behavior. Using grounded theory to reveal and explain the behavior is appropriate as understanding the reason behind the adoption of the behavior is the focus of the study and as such, the behavior of the participants is explored (Glaser & Strauss, 1967).

The aim for using grounded theory as the method in this study was to generate a theory that offers reasons for the perception of artist towards technology integration.

Procedures used.

For this study, data collection was conducted via interviews and by acquiring the perspectives of participants. It involved examining related literature as well. Both theoretical sampling and the constant comparative method were utilized. Another procedure used was data coding

Theoretical sampling.

A pilot study was conducted to help identify any anomalies in the interview instrument and decipher where to collect the data in order to generate the theory. For the pilot study, data was collected, coded, and analyzed to help decide on what other data to collect. Selection of group was used to select faculty members with similar background and expertise. To allow for comparison of differences, participants recruited included artists who use either traditional media or digital media and participants who employ both. As stated earlier, the purpose of using selection of group was to compare members in the group and to create categories

Constant comparative method.

Constant comparative method is a procedure used by the researcher to generate theory that explains the phenomenon the researcher seeks to understand (Glaser & Strauss, 1967). Constant comparative method requires that the researcher simultaneously and systematically gather data, code data and analyze data with the purpose of generating theory that reflects the data (Glaser & Strauss, 1967). For this study, constant comparative method was applied to every category. It helped link categories to their

properties and set parameters for the theory and the development of the theory (Glaser *&* Strauss, 1967).

Data coding.

Another method used during data analysis was coding. As required, data was coded and data coding notes and memos were jotted down. While coding, incidents within the same group and categories, in different groups and categories was constantly compared, and contrasted (Glaser & Strauss, 1967). Coding helped build the theory and in analyzing the raw data. In addition, coding helped identify concepts, which was developed and linked to other developed concepts (Strauss & Corbin, 1998).

The Researcher

Background.

With a bachelor's degree in Fine Arts, I have had the opportunity to paint and draw using mostly traditional tools and materials. I majored in Painting from The Kwame Nkrumah University of Science and Technology (KNUST) in Ghana. I experimented with some traditional painting tools and materials such as watercolor paint and acrylic paint, pen and ink, charcoal, palette knives, canvases and brushes. Some core requirements for degree program included taking classes in art history, studio work, the principles and elements of art and design, which are the fundamental guide to composing a good work of art. In addition to the use of traditional tools, I have experience using computer programs such as Adobe Photoshop®, Adobe After Effects®, Adobe Illustrator®, Adobe Flash®, and Adobe InDesign® to create digital images, animations and videos. I did not have the opportunity to use digital tools to create art until years after

completing college. As a new field, working with the computer and graphic software proved exciting. As a beginner, I found it more difficult than working with traditional tools. As I developed my skills, the digital method became more easy to use. It is more flexible for me to use as compared to the traditional method as it is easy to correct mistakes.

Researching the topic.

During my graduate course work, the integration of technology in the classroom and its effective use was often the topic for discussion in the classroom. This got me thinking about technology use in the art classroom. For centuries, the mind, eye, hand, and an artist support has been the combined process for creating fine art (Ayres, 1985). How effective is the use of digital media in fine art? How do artists feel about the integration of digital media in painting? These questions plagued my thoughts for a long time and led to my interest in researching the topic of artist perception of digital media in art. The desire to delve more into the topic increased when my search using the Alden library databases yielded few research articles on the subject. I used keywords such as "painting and technology," "art and digital technology and painting" "art and technology and painting." The search resulted in about 83 books and article titles. Most of these books and articles examined technology relating to other topics. Some of the topics were related to the topic though they examined only the benefits of technology in art and painting. Other articles and books discussed technology and painting but was examined in different chapters such as "Great War, total war," "Australian Aboriginal art and culture," "state-of-the-art" innovations. Another search using Google Web search engine

produced many more on the subject by bloggers and online discussion forums. The language used by some other contributors suggested their frustrations with the way critics are responding to digital painting. Others stood their ground on the basis that digital painting limits an artist's creativity. Furthermore, some functions in digital devices make creating art so easy that anyone can create a piece and call it art. Further discussions with instructors of digital painting revealed that the topic is a sensitive subject for individuals who support the art form and see it as a catalyst to the extinction of the traditional form.

Researcher reflexivity and trustworthiness.

Findlay (2003), defined reflexivity as a process whereby the researcher critically examines themselves, and how their assumptions affect the study. Findlay sees reflexivity as an important part of qualitative study. She argued that the researcher's interest in the topic and the need to understand sociocultural phenomena forms the research question. She asserted that reflecting on experiences and the research process could produce better insights. My background in traditional painting and digital imaging sparked an interest in the subject of digital media in arts and the need to understand artists' perception in that area

Reflexivity ensures trustworthiness (Lietz & Langer, 2006) and helps identify any biases and emotional connection relating to the research. To foster reflexivity, a pilot study was conducted to help identity unanticipated complexities in the research, such as biases and assumptions as well as questions that needed to be reframed. Another method that helped foster reflexivity is memo writing (Findlay 2003). I reflected on the interview by reading transcripts of each interview and writing memos. McGhee and Marland

(2007) wrote, "Memo-writing helps make researchers aware of their own potential effects on the data" (p. 335). In addition, possible participants were initially contacted through emails. Feldman, Bell, and Berger (2003) recommended the researcher approach this initial interview in a manner that will show the researcher to be "reliable, trustworthy and open minded about the policies of the site" (p. 6). Through networking, a list of contacts was developed.

The Study

Given that the research is based on the need to acquire in-depth understanding of the artist's perception of technology integration into art today, the grounded theory method was adopted to generate a theory that presents details regarding the major interest of the research.

Using the grounded theory guidelines and strategies, this study looked at the use of digital media and its significance in painting. The research was conducted at various 4-year higher education art colleges located in Ohio and Illinois with the purpose of learning from instructors about their experiences in the use of digital media/digital media or lack thereof and their perception towards the use of digital media in painting. According to Sampson (2004), evaluation of data reveals the inefficiencies in a research design.

In all, 11 faculty members were interviewed. Gathered data was transcribed, coded, and analyzed simultaneously and recursively. The participants included art instructors with experience in either traditional media or digital media and instructors who have used both media forms.

Participant recruitment.

For this study, I used purposeful and the snowballing technique to recruit qualified participants. As the purpose of the project was to interview participants about their perceptions on the use of digital media to paint, it was important to recruit participants who are experts in painting and have knowledge or have utilized digital media in their work and in their classrooms.

Inclusive criteria.

Participants for this study must

1. art faculty teaching at 4-year higher education art colleges

2. experienced with traditional painting tools and or digital media for painting

Exclusive criteria.

Participants should not include

1. students

2. artists who are not faculty

3. art teachers who are not faculty members of painting departments

It was important to draw data that representative of art teachers in painting departments of art colleges with expertise in both traditional and digital painting, To ascertain this, I first visited websites of schools, read the profile of faculty members in the painting department. I selected faculty members who created only 2D, 3D or both 2D and 3D works. To ensure that data lacked bias, it was important to include participants with interest in traditional painting, or digital painting or both forms of art.

I initiated participant contact by obtaining email addresses of all the selected possible participants from their various schools (Higher Education) websites, after which I sent out initial emails to 51 participants informing them about the study, the purpose of the study and my intention to recruit them as experts in the field to participate in the study. After the initial email, several reminders were sent out before final decision was made to end the recruitment process. The snowball technique was utilized as interested participants recommended 2 possible participants who were contacted. Email with information about the research was sent to the possible recommended participants. The email provided more information about the research; including the purpose of the research study and the interview, and the reason the participant was being recruited. Other information provided was the method of data collection, expected duration of the interview, as well as information on how any information provided by participants will be kept confidential.

All selected participants were recruited because they possess expertise in the field of fine art. Information on background of each possible participant and the courses they teach was obtained from their various schools (Higher Education) websites to ensure they meet the study criteria. During the interview, I asked the interviewees about their educational background and form of art they practice as well as the types of tools they employ.

Participant sampling.

This study used two types of purposeful sampling, specifically; snowballing was employed for participant selection. Snowball sampling is method appropriate for

sociological research that allows for sampling a population that is difficult to reach and as such uses the social network of members in the targeted population (Goodman, 1961). This method requires that the researcher asks participants already interviewed to point out other possible participants in the targeted population.

Another type of sampling used in this study is theoretical sampling. Glaser and Strauss (1967) describe theoretical sampling as the procedure whereby analysts collect data, code the data, analyze it before deciding on what data to collect and where to collect the data in so as to generate theory. Meaning, the researcher simultaneously uses data collection, coding and data analysis to generate theory.

Participants.

Analysis of participant data revealed some similarities and differences in their profile. 11 people agreed to participate in the research. All 11 participants were interviewed. Out of the 11, 3 were female and 8 male. The educational, professional, and personal experiences of the participants in this study make them viable participants to this research. Each participant has experience working with either traditional or digital media or both forms of media.

Participants were provided pseudonym names such as Interviewee 1, Interviewee 2, Interviewee 3 etc. The letters M (for Male) or F (for Female) is added to each pseudonym name depending on the gender of the participant. For instance, Interviewee 1 became Interviewee 1M and Interviewee 4 became Interviewee 4F.

Participant profile.

As earlier indicated, all participants possessed different, yet slight similarities in background training in art and painting. These differences and similarities stem from their education, how they came to be influenced by art and painting and their choice in tools.

This section examined *Participant Expertise*. It was important to examine the participants' background as it is relevant and reveals the key to explore the credibility of the participants and help explain why those particular participants were selected.

Participant expertise.

Patton (2002, p. 278) described interviews as an opportunity to examine what is in "someone else's mind.' His opinion on an issue mostly based on his experiences in the field being researched. In a qualitative research a participant's experiences are "lived, felt, undergone, made sense of" (Schwandt, 2001, p. 84). This points to the importance of the contributions of expertise of the participants engaged in this study. Scott (1991) stated that there is nothing "truer" than a participant's account of his or her own experiences because it is a first-person narration (p. 777). She further explained that original accounts serve as the mainstay of the research analysis and support for highlighting key points in the results. The professional and personal experiences of the participants made them viable participants to this research (see Table 1). Conducting interviews provides the researcher the benefit of describing the meaning and importance of the experiences (Polkinghorne, 2005). As such, a participant's experiences bring meaning and valuable

understanding to an issue being studied. In *Art as Experience,* Dewey (2005) defined 'an

experience' as when a course of action is successfully completed.

Table 1

Participant Profile

	No.	Participants
Male	8	
Female	3	
Participants who use both media	7	Interviewees1M, 2M, 3M, 4F, 5M, 6F & 7M
Participants who use digital media	2	Interviewees 10F & 11M
Participants who use traditional media	2	Interviewees 8M & 9M
Total Participants	11	

Note: All participants are faculty members

As indicated in Table 1 of participant profiles, Interviewee 1M, Interviewee 2M,

Interviewee 3M, Interviewee 4F, and Interviewee 5M possess expertise in both digital

media and traditional media. All 4 participants focus on painting and drawing.

Interviewee 5M creates illustrations and photography. Interviewee 3M is into

printmaking and 2D digital illustration. In addition to painting and drawing, Interviewee

4F and Interviewee 1M, create video installations. Similar to Interviewee 1M,

Interviewee 2M, Interviewee 3M, Interviewee 4F, and Interviewee 5M, Interviewee 6F

possesses skills in both forms of media though she heavily prefers using digital media to

traditional media because digital media provides innovative ways of infusing virtual

space to physical environments. Interviewee 7M uses both forms of media as well. Unlike Interviewee 6F, he relies heavily on traditional media because unlike digital media, it provides aesthetic value and flexibility. On the other hand, Interviewee 8M and Interviewee 9M have always preferred traditional media to all forms of media. Interviewee 8M creates cotemporary abstract pieces. Interviewee 8M explained that he does not see himself ever using digital media, though he agrees his students create exceptional artworks.

Interviewee 10F and Interviewee 11M possess expertise in new digital media. They both started developing their skills using this media. According to Interviewee 10F, digital media inspires innovative ideas. However, she admits that it is necessary for artists to develop technical skills through traditional means to help develop skills in new digital media.

Data collection.

Data collection included in-depth interview with participants in a location chosen by each participant. Each interview took approximately 60 minutes (see Appendix B for semi-structured questions). The research question guided the interviewing. The research questions were unstructured to allow the emergence of new concepts, questions, and categories. During the interviews, field notes on the environment, attitude of the participants as well as other factors that affected the interview were noted. Field notes on conversations and environment after each interview were jotted down as well.

Interviews.

Conducting interviews provides the researcher the benefit of describing the meaning and importance of the experiences (Polkinghorne, 2005). As such, a participant's experiences bring meaning and valuable understanding to the phenomenon being studied. In *Art as Experience,* Dewey (2005) defined 'an experience' as the successfully completion of a course of action. Punch (2009) mentioned that there is an extensive literature on the different types of interviews. Patton (2002) identified three types including informal conversational interview, the interview guide approach, and the standardized open-ended interview as the types of qualitative interviewing. Fontana and Frey (1994) pinpointed three; structured, semi-structured and unstructured. While these approaches differ in how the interview questions are structured, they all allow the participant to provide unrestricted responses (Fontana & Frey, 1994; Patton, 2002). The above-mentioned types of interviews differ in terms of the type of structure employed and the depth of the interview. Standardized open-ended interviews or structured interviews consist of predetermined, open-ended questions that do not require follow-up questions for the interviewee. Informal conversational interviews or unstructured interviews require open structured questions that probe a participant to talk more about a particular topic. Interview guide approach or semi-structured interviews require open-ended questions structured to obtain particular information and get the participant to give rich and detailed information (Punch, 2009).

This research utilized semi-structured interviews (Appendix B). Because questions were open-ended instead of closed-ended questions, they permitted a rich

exploration of the experiences of each participant as they opened the floor for other

unidentified topics (Charmaz & Belgrave, 2003). The interview question were semi-

structured with open-ended questions, providing the participants the opportunity to

express themselves more openly and honestly and encouraging them to provide more

information and opinions in the research about the importance of digital tools in fine art.

The main form of recording used was videotape. Some of the interviews were audiotaped

when the participants declined being videotaped. In all, there were nine videotaped

interviews and two audiotaped interviews.

I had in hand a prepared consent form and interview guide with a list of semi-

structured predetermined questions to be asked at the interviews (See Appendix C). Each

interview started with questions such as "What media do you primarily prefer to work

with?" "What is your opinion about the importance of tradition art/painting in society?"

"How has digital media influenced your teaching method?" What is your opinion on the

importance of traditional painting in society?" and "How do you think digital tools

should be used in painting?" Because questions were open-ended instead of closed-

ended, they permitted a rich exploration of the experiences of each participant as they

opened the floor for other unidentified topics (Charmaz & Belgrave, 2003). All identified

and unidentified topics were explored in depth until all the topics had been exhausted.

All interviews took place at locations selected by the participants, which included

their offices and studios. The interview focused on their experiences with digital tools,

their students' experiences as well as how the use of digital tools and traditional art has

influenced their teaching, their own work, and the work of artists in general and painters, specifically.

Though the email previously explained the purpose of the research study, including the interview, the method of data collection, participant recruitment, expected duration of the interview, as well as how any information provided by participants would be kept confidential, these important aspects of the interview process and the study was reiterated at the start of each interview.

Gaining access and trustworthiness.

Gaining access into settings is one of the problems a researcher faces as it takes up a significant amount of the researcher's time (Patton, 2002; Shenton & Hayter 2004). They noted that research topics focused on sensitive issues makes it even more difficult to gain access. Feldman, Bell, and Berger (2003) stated that the difficulties researchers encounter with gaining access often tends to be an unexpected and unpleasant ordeal, which is a vital ingredient to the research because it is an important process and it influences the information. Okumus, Altiney and Ropay (2007) discussed the three types of access identified by Laurila (2007). These include formal, personal and fostering individual rapport. Formal access requires an official agreement between the researcher and the specific group from who they intend to collect the data. The terms of agreement mentions how the data will be collected, when it will be collected and what is to be collected as well as what they can gain from it. Personal access refers to developing a cordial relationship between the research and the researched. The last of the three, which is fostering individual rapport, is the development of understanding and collaborations

between the researcher and the individuals and groups. As stated earlier, participants were contacted by making appointments through emails.

Data management.

Some interviews were videotaped and the rest were audiotape per preference of participants. Data was transcribed, coded and analyzed. Field notes and the transcribed recordings were analyzed using memos and coding to create categories, concepts, and themes. As in any grounded theory, data collection, coding and data analysis occurred simultaneously.

Protection of the rights of participants.

The Ohio University Review Board (IRB) approved this study before data was collected. Each participant gave his or her consent by signing the necessary consent document. As indicated in the consent form, all information obtained from participants was kept confidential. The identity of all participants was not shared. Materials from the interviews were kept in a secure place. The identities of all participants were replaced with identifiers and pseudonyms were used in the place of names.

Data analysis.

In grounded theory, analysis of collected data corresponds with coding and data collection. Analysis of the data began after the first data is collected. Analysis of the data included transcriptions, memos, coding, and field notes (Glaser & Strauss, 1967).

During the coding stage, the researcher frequently compares and contrasts events within the same group and categories in different groups and categories. In qualitative inquiry, data analysis is achieved by detailed line-by-line analysis needed to construct

preliminary categories. Detailed analysis makes certain that all ideas and concepts are thoroughly analyzed (Glaser & Strauss, 1967). Coding during data analysis and data collection helps to develop the theory. It helps in analyzing raw data. Furthermore, it helps the researcher categorize concepts (Strauss & Corbin, 1998).

Given that this research is explorative in nature and the researcher's aim was to generate a theory grounded in the data, the analytical theory for grounded theory was applied. In accordance, the grounded theory method of coding was adopted in the analysis of all data including the transcribed interview, field notes and memo. As a novice researcher, I used the proposed steps in grounded theory research as previously stated. In my attempt to follow the recommended approaches, which included open coding, axial coding and selective coding, I discovered differences between the analytical approaches of Glaser (1992), and Corbin and Strauss (1998) that were not comprehensible to me in my previous readings. I went back to the literature to read more on grounded theory and the differences between the two types of data analytic methods.

According to Cooney (2010), researchers who adopt grounded theory always reach a stage where they have to start dealing with choosing between the Glaserian or Straussian methods. Cooney (2010) discussed the differences between Glaser and Strauss. According to her, Strauss stresses and Glaser asserts that grounded theory is induction methodology only. Another difference Cooney pointed out was the detailed structure laid down by Strauss as opposed to that of Glaser. In his analytical approach to data analysis, Glaser recommends two forms of coding, substantive and theoretical. On

the other hand, Strauss advocates for three types of coding including, open, axial and selective.

Grounded theory is recommended to the novice researcher because it allows for an effective qualitative research data collection as well as an effective qualitative research analysis (Charmaz, 2004; Glaser & Strauss, 1967; Strauss & Corbin, 1990). Despite this point, the different approaches to data collection and data analysis by Glaser and Strauss prove to be confusing (Adolph, Hall, & Kruchten, 2008; van Niekerk & Roode, 2009). Both Glaser and Strauss' methods recommend using coding, asking questions during the process of data analysis, theoretical sampling, constant comparison, and memo writing (Glaser, 1992; Strauss & Corbin, 1990). Walker and Myrick (2006) argued that these similarities make debates on the differences confusing, as the differences are unrecognizable in the general methodology rather, it is obvious in the manner they are executed. They further pointed out the importance of examining the differences to gain understanding in order to make the necessary choice between the two types.

Literature on grounded theory was updated after identifying the differences between the two approaches. After revisiting and reviewing more literature related to the grounded theory approach, the Glaserian approach was adopted as it is less structured and as such provided the researcher with the freedom to closely examine the data and allow categories known and unknown to emerge (Kelle, 2005).

Operating on Glaser's (1978) recommended analytical approach to data analysis, substantive and theoretical coding, memo writing, constant comparative method and

theoretical sampling were simultaneously applied during the process of data collection and analysis.

Approach to data analysis.

Glaser (1978), proposed that the analyst starts coding with a set of questions in mind as a guide. These guiding questions include:

1. What is this data a study of?

2. What category does this incident indicate?

3. What is actually happening in this data? (p. 57)

When the researcher uses these questions as a guide, s/he is forced to focus on patterns that stand out within incidents of the data. The patterns yield codes that lend to a rich description of the incidents.

Substantive coding.

With Glaser's proposed guiding questions of coding in mind, I commenced on coding using open (substantive) coding. I constantly questioned what category each incident of interest indicated, what it is referring to, and how it is linked to other similar or different categories identified data and the other three transcribed data.

While I proposed using the Atlasti®, I discovered I needed more knowledge to use the application and went on to manually code first on a print out of the transcribed data and field notes and later used Microsoft Word® software to code. I discovered this was less time-consuming. This is because the comments feature of Microsoft Word® has the ability to highlight texts you make comments about. It further allowed me to make comparison between codes.

According to Glaser (1978), there are different approaches to open coding. Open coding can be carried out by using the line-by-line analysis, sentence-by-sentence, phrase-by-phrase. Coding can be larger words or phrases or medium-sized sentences. Glaser and Strauss (1968) discussed the possibility of coding by analyzing a whole paragraph. In this case, a more detailed analysis can be carried out. Glaser (1978) suggested carrying out some line-by-line analysis at the start of coding, as the researcher can be overwhelmed after carrying out a lot of coding. In the latter scenario, the researcher can use line-by-line coding to force their attention on words that can generate new concepts.

Coding.

I started with some line-by-line coding before moving on to coding sentences and paragraphs. I examined the data by reading it one line at a time to identify new concepts. I stopped and moved on to phrase-by-phrase and sentence-by-sentence when I found myself repeating existing labels. While coding the transcribed data, I wrote memos on incidents that I found interesting. Some memos were theoretical in nature as such are ideas about codes and their relationships to similar incidents. Other memos were questions that came up during coding and analysis. *Figure 1* is an example of my coding process. The overarching category that emerged was *Definitions of Painting.* The categories that emerged under *Definitions of Painting* include *Choice of Tools, and Influences and Inspiration, Perception of the Importance of Traditional Media, Skills in the Production of Art, Art Education and, Perception of the Importance of Digital Media in Painting (This can be seen in Figure 2).* These would be further discussed in detail.

a luminosity, it has a slight movement to it, It's transportable it accesses people in other way. It's a big threat. But the question is, 'are you interested in preserving what you do in a face of something that people actually want?' That is better. And the truth of the matter is if its better you can cry in your spilt milk all that but it's going to take over eventually. So what happens is you know. There are still a lot of people who fear the digital because what they do is that they don't clarify for themselves where the digital has strength and potential, and therefore where painting has strength and potential. And when they don't clarify that that becomes muddled and people that are used to watching TV and that kinds of things and love the digital word; which is pretty much everyone in the western world under the age of 85. Then you are going to be completely threatened by that. Because it seems easier, and it seems faster, and it seems it doesn't require that much skill and it

Comment [pE152]: Digital Leapt from behind, transportable, slight movement
Comment [pE153]: Reasons for resistance
Comment [pE154]: Resistance to Digital art

Comment [n155]:
Comment [pE156]: Need for clarification strength on strengths and potential of two art forms

Comment [pE157]: no clarification leads to resistance

Figure 1: Sample of coding with Microsoft Word® comment feature.

Constant comparative method.

Categories started emerging while conducting open coding. After constructing codes by using the line-by-line and open coding techniques, all the initial codes were analyzed by making comparisons between incidents and categorizations. Categorization involved constantly comparing a set of data to another and subsequently labeling those similarities or differences with a code name. Codes of similar themes were then grouped together to revise codes and further bring into focus the developing categories. Some codes could be linked to more than one category. For instant, "artist choice of media" could be linked to "artist satisfaction." Glaser (1978) and Strauss (1987) both recommend this approach because it permits the researcher to gain a good understanding on the participant's perception on issues discussed during the interviews. This approach leads to

the generation of a well-grounded theory. Following Glaser's (1978) recommendation, memo writing was regularly used to record any observed relationships between theories, hypothesis and ideas during coding.

Use of software tools.

According to Suddaby (2006), there are some myths that give the impression that grounded theory relies heavily on technology. He debunked these myths noting that grounded theory does not consist of a sequence of stiff rules. He argued against the belief that "pouring textual data into a software package will yield results" (p. 638).

The function of the qualitative software ends with organizing and coding data. Interpretation of data and decisions as to which categories to focus on, the next location to collect the data and the meanings that should be ascribed to units of data all lies with the researcher (Bringer, Johnston & Brackenridge 2006; Suddaby, 2006).

Testing for validity and reliability of the study.

Lincoln and Guba (1985) provided strategies for improving confirmability, transferability, credibility, and dependability of qualitative study. Lincoln and Guba defined confirmability as the level of degree the researcher's findings reflect the data collected. Confirmability, known as neutrality, necessitates that the findings of a study is based on the participants' experiences and the data they provided rather than the researcher and the filters through which she or he is conducting the study. To ensure confirmability I kept a journal on field notes and memos on logistics, methodology and personal reflection and insights on the study. Based on this, the researcher could find out if the conclusions match the data (Lincoln & Guba, 1985).

Strauss and Corbin (1998) noted that when the researcher is trained to become a qualitative researcher, it ensures accurate, valid, and reliable data collection and analysis. A skilled researcher is careful to prevent any form of bias and tries to maintain sensitivity to the data. The researcher gains the necessary skills through formal education and hands on training. Through training, the researcher acquires a role as both the analyst and the instrument in qualitative inquiry (Creswell, 1998; Glesne, 2006; Strauss & Corbin, 1998).

Transferability is compared to external validity of the qualitative method. The process of transferability describes to the degree to which the theory developed from the experiences of the participants can be applied in other contexts (Lincoln & Guba, 1985). According to Lincoln and Guba (1985), transferability is attained when the sample used in the study is effectively and thoroughly described through the inclusion and exclusion criteria and sample characteristics. When rich and detailed descriptions of the environment and events are given, transferability increases. By using these two methods, transferability was attained in the study.

As internal validity is to quantitative study, credibility measures trustworthiness of a qualitative inquiry. The authors defined credibility as a way of figuring out if findings represent the theoretical interpretation of the data drawn from the experience and interpretations of the participants. To verify credibility, the researcher performs raw data verification, which is the process of comparing the raw data with the theory (Strauss & Corbin, 1998). After the emergent theory was defined, I revisited to the raw data obtained from the participants to compare and verify if the outcome reflects the raw data from interviews.

Dependability is compared to reliability in quantitative research. The term is described as the extent to which the research process is consistent over time. According to Lincoln and Guba (1985), dependability can partly be achieved through the reliability of the researcher who is responsible for careful and detailed documentations, data collection and data analysis process. By using the appropriate processes required in data collection, data analysis and coding, a credible theory that highlights reasons behind artists' perception toward digital media integration was produced.

Myers (2000) noted that qualitative research has been criticized by studies because of the absence of objectivity and generalizability. Myers stated that generalizability is described as the degree to which the population can be generalized to the results of a study from the study sample. The author indicated that while qualitative studies are not generalizable, they possess some essential aspects that are considered valuable in the field of education. She noted that partial generalizations might be possible in populations that show similarities. Citing Adelman, Jenkins, and Kemmis (1976), Myers (2000) noted, "Knowledge generated by qualitative research is significant in its own right" (p.3).

Myers (2000) cautioned researchers to allow goals of the study to guide them when assessing the quality of the findings. This is because issues relating to sampling and generalizations may have little bearing on the goals of the research. She asserted that small sample sizes might be of better use in many situations, where the researcher is investigating an event in detail and from different perspectives of participants. The situation is, however, different with large sample sizes where small sample sizes will go

against the research. In many circumstances, findings from small qualitative studies

reflect personal understanding of the situation and the theory could most likely contribute

valuable knowledge to the community.

Triangulation.

Triangulation in social research refers to the technique used to increase the

credibility, quality of the data collected. Flick (2007) described triangulation as a

procedure that "includes researchers taking different perspectives on an issue under a

study or more generally in answering research questions" (p. 41) As stated by Flick

(2007), triangulation is the key to conducting a good qualitative study because it extends

procedure of data collection to more than one method. Citing Glaser and Strauss (1965),

Flick (2007) stated that using multiple data methods provide the researcher with different

perspectives for understanding data pieces, and ways to develop their properties.

According to Patton (2002), Denzin (1978) discussed 4 categories of triangulation

methods in qualitative research. These include data, investigator, methodological, and

theory triangulation. Data triangulation utilizes multiple data sources in the research.

Investigator triangulation is used when there are other researcher is involved in the study.

Methodological triangulation uses different methods to examine one problem. In theory

triangulation, different perspectives are used to interpret a single data set.

Data sources triangulation.

According to Thurmond (2001) data resources triangulation include time, the

particular environment and person. She stated that differences in time, situations, settings,

times and persons reveal similarities in data, which increase the credibility of the data. In

this study, in-depth interview were used in combination with evidence presented in the literature review to gather relevant information from different perspectives and uncover new insights into the study. Each data source generated different information, which in turn provided different perceptions about the same problem. Moreover, using multiple data collection approach strengthens the emerging theory (Eisenhardt, 1989; Pandit, 1996). Glaser and Strauss (1967) explained, "Theoretical sampling allows multifaceted investigation, in which there are no limits to the techniques of data collection" (Glaser & Strauss, 1967, p. 65).

This study adopted the use of data resources triangulation (Thurmond, 2001). Thurmond (2001) explained that differences in situations, settings, times and persons that reveal similarities in data, increase the credibility of the data and help researchers gain a complete understanding of emerging concepts. In-depth interviews were used in combination with reviewed literature to gather relevant information from different perspectives and uncover new insights into the study. Each data source generated different information, which in turn provided different perceptions about the same problem.

Conclusion

This pilot study helped to identify problems with the approach grounded study approach and enabled me to address these problems. I realized some of the participants were uncomfortable with their idea though they had initially agreed and decided to go ahead with it. Additionally, responses from participants helped identify some interview questions, which needed to be reframed.

Chapter 4: Findings

Introduction

This chapter provides an summary of the method used, research questions, the findings from the data analysis and the emergent theory developed from the data. It presents the categories and related concepts that contribute to the aim of the study, which is to be au fait with artists' perception about the use of digital media in painting. Using the grounded theory guidelines and strategies, this study examined the use of both traditional and digital media in painting, as well as their significance in the history of painting and purpose as perceived by artists today.

The research was conducted at various 4-year higher education art colleges located in Ohio and Illinois with the purpose of learning from instructors about their experiences on the use of digital media or lack thereof and their perception towards the use of digital media in painting. Reviewed literature showed that research on digital painting or digital media arts in painting focused more on its importance to the field of art while discussions on virtual blogs and discussion forums revealed the existence of opposition to the integration of digital media into art forms (Samsel, 2011; Soulja, 2007; Tallamy, n.d.).

This research sought to examine the following research questions:

1. What are the views of art instructors regarding the role and use of digital media in the production of art?

2. How might these views influence the true meaning of art from the standpoint of art instructors and the art world in general?

3. Finally, how might the descriptions or views of the art instructors help define or refine the aesthetic value placed on art pieces produced using digital media?

Discussions on the findings in this chapter pertain to the analysis of interviews and literature review. The interviews include 11 art teachers from 4-year higher education art colleges located in Ohio and Illinois, of which 8 were male and 3 female. Nine of the participants voluntarily participated video interviews and two in an audio interviews. Selections of the participants were based on the set criteria; that they were art teachers teaching at 4-year higher education art colleges and have experienced with traditional painting tools and or digital media.

Short biographies for each of the 11 art teachers who participated in interviews have been provided to provide a look into their background.

Interviewee 1M is an associate professor at 4-year university in Ohio. He possesses a master's degree in fine art. He teaches in the painting and drawing at the department of art. As an artist, Interviewee 1M uses both traditional and digital media to create contemporary art forms. The two digital media applications he often uses are Photoshop® and Illustrator®. In addition, he does video installations and performative art

Interviewee 2M teaches at the college of fine art as an associate professor of painting at a 4-year university in Ohio. His painting mostly focuses on abstraction. Other areas of interest to him are sound art and video installation.

Interviewee 3M is a professor of painting at a school of art. He teaches at a 4-year university in Illinois. Other areas he explores are printmaking and 2D digital illustration.

Interviewee 4F is an associate professor of painting and drawing. She teaches art the school of art at a 4-year university in Ohio. His areas of expertise are painting and drawing. She teaches in workshop in different countries. She possesses a master's degree in fine arts and a bachelor's degree in graphic design. In addition, she is an illustrator. She does video installation as well.

Interviewee 5M is an assistant professor of drawing. He teaches mostly figure drawing. He teaches at a 4-year university in Illinois. His focus is murals and he likes to collaborate with digital artists. His practices range from painting, painting, sculpture, videos, installations and ceramics.

Interviewee 6F is an associate professor in drawing and painting at a 4-year university in Ohio. She possesses a degree in fine art with concentration in painting. She is at present mostly into digital image, animation and installations.

Interviewee 7M holds a master's degree in fine art and teaches painting at an art institution in Ohio. He works through painting, video installation. He holds a masters degree in painting and art history.

Interviewee 8M is an associate professor emeritus of painting and drawing in an art department at a at a 4-year university in Ohio. He teaches foundational drawing and figure painting. His works with rich color and is inspired by culture of diverse countries.

Interviewee 9M is a professor of painting and drawing at the school of art located in Ohio. He holds a master's degree in fine art. He uses traditional media that provide texture in his works.

Interviewee 10F is an assistant professor at the digital media department at 4-year university in Ohio. She holds a bachelors degree in fine arts and master's degree in media arts and digital arts.

Interviewee 11M is an associate professor at a 4-year university in Ohio. He holds a degree in fine art and he teaches game art and his works focus on variety of art forms including film, game art and digital image

The themes that emerged from the analysis of the data during and after data collection included Definitions of Painting; Artist Choice of Media, and Influences and Inspiration, Importance of Painting and Comparing Traditional and Digital Media. The findings of this study illustrate what artists mainly in the academic arena perceive of digital media being used in painting.

The next section of this chapter examines the main categories that shape the emergent theory. This begins with a look at *Definitions of Painting*. This category looks at how individual artists define painting and how their definitions shape their development as artists and how they use art. Factors influencing artist choice of medium are explored under *Artist Choice of Media,* and *Influences and Inspiration*. The variables affecting artists' choice of media and influences are examined under *Design Sensibility*, *Audience Appeal and Strategic Place of Exhibition* and *Artist Satisfaction.* Artist perception on the importance of traditional media and painting is discussed under *Perception of the Importance of Traditional Media, Skills in the Production of Art*.

Direct quotes are use in discussing each construct to help develop the emergent theory. Quotes used are coded under the pseudonym given each participant.

Definitions of Painting

Reviewed literature on the definition of painting pointed to the ineptness of defining painting (Tolstoy, 1962). Dissanayake (1990), Kennick (1993) and other authors reviewed under chapter two examined the definition of art and arrived at the same conclusion. In other words, painting cannot be defined. Arnold (2004) blamed this on the increase in the number of varying styles of media and tools.

Interviewee 1M.

Interviewee 1M defined painting as the pursuit of individual interests often influenced by the common ideology by other painters. According to him, painting is a complicated art form doused with issues of what is its function and value. He argued that there are diverse schools of thought on the definition of painting. He expressed:

Why is painting so complicated? It is because some believe it [painting] is a primitive technique yet it is still admired for its monetary and therapeutic value. It is a multi-million industry yet painters are known to be starving artists. It is primitive… it is contemporary. It is evolving….it is constant. It is so complex no one knows for sure what it means (personal communication, February 6, 2015).

Interviewee 3M.

Interviewee 3M defined painting as an obsession. He explained:

Painting … it is an obsession …. It is my obsession. With traditional painting, I love the rich color, the rich texture… the various techniques. I love the history. Digital painting keeps things fresh. It is innovative. It is comfortable because mistakes can be erased (personal communication, February 3, 2015).

Interviewee 5M.

Interviewee 5M believed that some artists are Stuckists because they still hold on to the standard way of defining art. Stuckism is a movement founded in 1999, against anti-conceptualism. In sharing some of his experiences in art school, Interviewee 5M revealed there was a constant need by instructors to have students prove their work was art. He stated that as he was not interested in participating in the debate about the definition of art, he always strung together a couple of terms often used to describe works that are much more in-line with the standard definition of art. According to Interviewee 5M, his work has always been different from the norm. He blended industrial materials, mixed with natural materials found in nature to create radical.

Interviewee 8M.

In his conversation, Interviewee 8M brought up what he called "a rumor" among young artists and some of his students that "painting is dead" because of the emergence of digital media. He argued "I don't do digital media type of image making… I am not that familiar about working with the computer." He continued, "I only wanted to paint. So, I kept on doing that until it dawned on me that painting can't be dead if you practice it."

Interviewee 2M.

Interviewee 2M argument was in the same line as that of Interviewee 8M. Interviewee 2M asserted that painting has been enduring theories that require artist, connoisseurs and viewers to obey set down requirements of the what and whys of tools, materials and their uses. He argued that this completely "kills the work before the last

paint dries on the canvas." He pointed out that when artists set their own standards, it brings mystery into work. As stated by him, paintings that show mystery have "the ability to gradually draw…, reveal itself… and grow on audiences".

Interviewee 7M.

Consistent with Interviewee 2M's argument was that of Interviewee 7M who satirically expressed; "A while back painting died, but only for people who tend to read and write about such things." He continued, "…artists still paint. They still own canvases, easels and brushes.

Interviewee 4F.

Interviewee 4F buttressed this argument with her own experience in school, where her education was literally based on the theory that "traditional painting is dead" because it is believed to be anarchic method of expression. She debunked this theory by alluding to the fact that painting is a multi-billion dollar industry that is still thriving with the oldest painting selling to the highest bidder. Interviewee 4F, who works with both traditional and digital media, defined painting as "what it has always been… An activity loosely clothed in set standards". She stated that it can be an individual or a collaborative task; whichever the artist wills. To some extent, Interviewee 4F's argument contradicts the assertion that there is a set theory that acts against the freedom of artists to work outside the box.

Interviewee 6F.

Contrary to Interviewee 4F definition of painting, Interviewee 6F explained that painting has evolved. It changed when the art form was confronted with the emergence of

technology and the technological evolution. This allowed artist to work outside their elements, experience more art and grow as artists. Her arguments fall in line with King (2002) and Gere's (2006) advice for artist to push forward with technology.

Interviewee 9M.

Interviewee 9M sees painting as a form of art defined by media, the artist's ideas and influenced by the history of art. According to him, painting requires patience and expertise. He sees process that records, "history, nature, and culture"… and the artists "thoughts, emotions, and movement." He expressed that color plays a significant role. He stated "pigment is the painter's language…it expresses the artist's feelings and make it a reality."

Interviewee 10F.

According to Interviewee 10F, the definition of painting used to be a clear-cut. Today it is the amalgamation of other forms of art. He explained; "It is anything the artist wishes it to be. It can be digital… it can include ceramics, photography, performance art ...or just some word … and sometimes it would have nothing, just an empty canvas."

Interviewee 1M.

One factor the participants agreed on is that painting transcends beyond being just a visual form. Interviewee 1M used a lot of verbs, nouns and adjectives to define what painting means to him. According to him, painting is "a necessity" "experimenting," "relaxing" "freedom" "managing stress," "isolation," "collaboration" "playing with color," " exciting," "narration," "dispatching news," critical thinking," "messy," "rewarding". He pointed out that like "the circle of life [painting] is a continuous process

[that] requires time and attention "but I hardly notice the time go by." He added that painting is therapeutic because it brings a sense of satisfaction making it personal" though "it can be collaborative and social." Interviewee 1M pointed out that through skewed reality giving the artist control over how to tell the story.

Interviewee 8M.

Interviewee 8M addressed this in his definition of painting. To him, artists communicate using paint and brush strokes and painting. He stated he enjoys going to the museum because when he pays audience to the paintings in the museums, he likes to look at unfinished work and see where artists like Rembrandt or any contemporary artist started off; as such the conversations between him and the artist, even the dead ones is current. He explained; "painting lives, breathes and speaks a universal language." From the artist's "studio to the world outside, everything is made of paint."

Interviewee 5M.

According to Interviewee 5M, art encompasses a diverse range of activities and it is a discipline he identifies with because it is part of his identity. He explained; "I'm a painter…It's something I'll always do." He expressed that paintings have the ability to tell stories that resonate with its audience across all cultures.

Interviewee 11M.

Interviewee 11M stated that painting is how an artist expresses himself when "they are unable to verbally… [as such] painters as individuals develop their own language that can be understood universally."

The next segment examines the artist's choice of media with in-depth look at influences that lead to that choice. Other concepts discussed are tools, materials and themes, factors that inspire artists and influence choice of tools and some other aspects.

Artist's Choice of Media

All the participants believed only the artist can dictate the type of a tool, genre or style they use. They discussed that artists engage in different forms of art, including sculpture, painting, ceramics, digital art and installations concurrently. Some artist train in one genre and move on to other forms sometimes abandoning the one they trained in for months. Interviewee 6F, who majored in painting, admitted she had not painted anything in months. She worked in digital painting, moved on to sculpture, then textiles and metalwork. She is now working on video installations. Interviewee 1M mentioned that there is no restriction on how people choose their tools. He discussed how painting gives artists the liberty to work on limitless ideas. He made mention of, Demar Marcaccio, an artist who creates huge works; approximately 10 feet tall, 50 feet long paintings on canvas that are based on collages of digital midgets. The artist paints the work on tiny surfaces and blows them into big sized, and that is how he wanted it done. Interviewee 3M pointed out that some artists project videos of the process of their paintings on walls and other surfaces during exhibition so their audience can experience the process and its outcome concurrently.

The participants acknowledged that the artist's ideas, design sensibility and influences such as artist satisfaction, audience appeal, education and place of exhibition and the art market are factors that mostly dictate what form the artwork will take. Aside

from those factors, artists are open to using any method for getting their point and

concepts across.

Other constructs discussed under this section include, *Tools, Materials and*

Themes, and *Influences and Inspirations*. These are discussed in detail in the next section.

Tools, materials and themes.

Unlike other forms of art, painting tools have not gone through much of a change.

Rather tools and materials of the trade have increased (Jeunesse, 1994). Interviewee 9M

out that" not digital media is rapidly evolving; there have been some changes in

traditional tools as well". He argued that artist during the cave period painted using

organic pigments. He expressed "they mixed their own colors from scratch…now they

are lots of already mixed colors in the market".

The more creative artists become, the more their innovative skills develop. During

the Renaissance period, a budding artist was usually taken under the wing of an artist and

trained to master media and develop styles and their creativity. They learned their craft in

the workshops of their masters (Cole, 1983). Giotto di Bondone, who is seen as one of

the pioneers of Italian Renaissance, studied the craft of painting under Cimabue (Vasari,

1998). Artist's tools and materials have evolved over centuries (Bolton, 2005). Today's

artist has several options available to them with the constant introduction of digital media

and styles. Discussions relating to artist choice of media revealed that artists of today do

not rely on only one type of media. They employ more than one type of media and gain

skills in other forms of art mostly through self-training. This type of art is known as

contemporary art. Smith (2006) and Smith (2009) defined contemporary art as art of the

twenty-first century that reflect and challenge today's socio-cultural issues that are relevant to humans and the world. Interviewees 5M, 3M, 8M and 10F had mentioned the present day artist work with more than one type of tool and mixes different materials to create contemporary pieces. Interviewee 8M stated that colleges and universities encourage students. He explained,

> …what is great about most of the contemporary programs at major colleges and universities, there is like a digital media kind of broad definition of working across disciplines in order to produce artwork. And so that is something that is encouraged in most of the major, say your top 50 institution or so. That kind of experimentations. Now of course you know that are particular programs where if I was looking to do like concentrate on figurative painting or something or something like that and with traditional techniques, I am trying to master Renaissance approach to image making, there are colleges and universities that have that kind of specialization and in many cases they are like art institute kind of organizations (personal communication, January 6, 2015).

Interviewee 9M expressed that some artists prefer to specialize in one particular tool and medium and others choose to work in various media. He stated that it is more common for artists today to experiment with more than one art disciplines. They are involved in photography, interior design, sculpture, though they are trained in painting. Additionally, they experiment with mixed media and 3D rendering so their works show variety. Artists are sometimes open to different methods of getting their points and concepts across. According to him, today's artists are more experimental and work across

disciplines and some of the more interesting pieces one sees in galleries and museums are the contemporary pieces because they really push the limit.

Interviewee 1M is a good example of artists who experiment with varying types of media. He uses, oil, acrylic, pencil, canvas, panel, and ink and pen on paper. In addition, he does installation work and creates digital art and animation using Wacom®, Painter X3®, and Sketchbook Pro®. Interviewee 1M believed that ideas, audience and exhibit area lend to the type of tool or materials an artist chooses. Ricksecker (2012) hammered on the importance of using these three concepts. Interviewee 1M identified them as guides to using the right tool for effective and successful exhibition. According to him, when an artist has an idea of an image to work on, preference should be given to tools and materials that would provide the type of results s/he wants. For instance Ricksecker chose oil pastels to paint her work "After the rain," because it was more effective to use oil pastels to paint rain drops on petals and stems (Ricksecker, 2012; para 2). In effect, this method guided the artist to choosing the right tool to create their idea.

Correspondingly, Interviewee 9M pointed out that the idea that sometimes the tool dictates what form the work will take. Using effective tools is relevant to audiences understanding the message of the artist. Accordingly, the artists must have experience using that tool. This requires training and a lot of explorations that focus on developing their creative process, thinking skills and studio skills with precedence to bringing meaning, substance to their work (Ames-Lewis, 2000; Graham & Zwirn, 2010).

Influences and inspirations.

This segment discusses influences and inspirations in detail. It provides an examination of how artists attain their inspirations and factors that influence the form artworks take, which are *Artist Satisfaction*, *Audience Appeal*, *and Education/Academia.*

Note that elements that inspire visualization of ideas, themes, and subject matters are different from elements that influence the outcome of those abstract ideas. Inspiration in this context refers to situations that stimulate one to come up with concepts on which they can base their works.

Inspiration.

As mentioned by most of the participants, to develop an idea, most artists go through rituals, engaging in customary practices such as listening to preferred music genre, visits to the museum and galleries (both physical and virtual), visiting the theatre, immersing in natural and quiet environment. Others cultivate ideas based on social, political, cultural, economic and environmental issues relevant in their immediate surroundings. Assessment of literature revealed that throughout the history of painting, artists have been inspired to depict what they see in their surroundings, imitating a scene that usually represents an event in history, a way of life in prehistoric, nature and mythology. For instance, painters from the prehistoric period, Ancient Egypt, Ancient Rome and the Middle Ages were mostly inspired by religion while painters of the Renaissance period were influenced by the philosophy of individualism and humanism (Gardner & Kleiner, 2013; Van Dyke, 1919).

Influences.

As already discussed, several factors influence the result of an artist's work. These include *Design Sensibility*, *Audience Appeal and Strategic Place of Exhibition* and *Artist Satisfaction*.

Design sensibility.

All participants expressed that it is important for artists to develop design sensibility in order to create good artwork outcomes. Design sensibility refers to the approach of using the appropriate media and techniques to achieve intended outcome. It requires the ability to tap into instinctive traits like happiness, and beauty (Suri & Hendrix, 2010). Artists with design sensibility have the skill to connect audiences to different cultures and societies.

Interviewee 1M explained that coupled with the appropriate media, artists can create works that appeal to their audience. Of course, the artists should know the specific audience to whom they would show and how they want to communicate their idea to their audience. According to Interviewee 9M, design sensibility ultimately comes into play when they experience the outcome of the work of an art product. If they make an emotional connection with the piece, then the artists are successful in their purpose.

Audience appeal and strategic place of exhibition.

All participants agreed that audience appeal dictates the type of tool an artist uses so communication would be more effective. If the right tool is used, it will appeal to an audience. Interviewee 1M put it this way, "it is always important to keep in mind as an artist that your audience is the key to your success. Every art piece has an audience …

they are the reason why art function." Similarly, Interviewee 6F, stated; "the audience are the important piece that completes your work… their feedback are as may not always be what we expect or had in mind when we are working on any piece, but they share a commonality that cannot be ignored for their faces and reactions tell us we succeeded in accomplishing our goals or not." Linza (1999) defined audience appeal as a concept where a display in the arts is designed to influence and draws on the thought process and emotions of viewers. In other words, audience appeal is how audiences relate to works of art.

Interviewee 9M discussed that it is a must or artists to look always for way to evoke interest their audience. He expressed "artist must constantly find different ways to impress their audience." Aristotle (2004) discussed audience appeal in his book. He explained that the means to appealing to audience is by engaging the three modes of persuasion, which are Ethos, Pathos and Logos. Ethos refers to an artist's ability as authors of ideas. As artists, they need to gain the trust of their audience by gaining reputation as an authority of the message or subject matter. Pathos refers to the emotional appeal. Aristotle pointed out that painters should invoke emotions of viewers as well as explain to them the emotions of the artists. Logos pertains to logic and the effectiveness of the artist's message. Likewise, Tolstoy (1995) theory of audience expressed that a good work of art possesses the capacity to elicit the emotions of its audience.

As explained by Schama and Beavan (2006), Jacques Luis David (1748 –1845) was a powerful painter because he possessed the ability to draw the attention of audiences from all walks of life by painting spellbinding, painting that would give the people of

France "the vision of a what a true citizen was" (5:47) in a pre-revolutionary France. Because he had developed a reputation as a radical for revolution, he was able to gain the trust of the ordinary person. His ideas coincided with the ideology of Georges Jacques Danton (1759 - 1794), a public speaker and radical leader. His art at that period in time was not meant for the gallery; it was meant for the whole public because it was an entire way of life. His paintings during the pre-revolutionary and the revolutionary period were in the service of radical revolutionaries (Schama & Beavan, 2006).

Interviewee 8M approves of all kinds of artwork that "show imagination and it is exciting work". He revealed when a piece shows that kind of imagination, he visits it more than once. He confessed, "I have founded myself attracted to those types of work too." In the same way, Interviewee 10F believed the outcome of an art work is far more compelling than the tools used."

According to Interviewee 5M, art is more relevant to the audience today because of social media and other web applications. This is because they have provided a doorway to audiences to take a deeper look into worlds of the artists. It reveals more about the process and stages of an artwork because the artists can put on display samples of their doodles, sketches, preparatory drawings, priming and the colors on their palette. He added that audience appeal is only successful when the artist has in mind the particular audience s/he plans to display their work.

Artist satisfaction.

Another related concept that emerged under influences was artist satisfaction. Artist satisfaction refers to the emotions that come with creating an art form mostly for

him/herself. The act of painting then becomes therapeutic and this corresponds to the tool they use. Most of the participants expressed that using traditional tools stimulates a sense of satisfaction, a feeling that is absent in the use of digital tools. They discussed that the process involved in traditional painting allows artists to transfer their emotions into tangible forms, providing a way for artists to merge a spiritual to a physical action. They discussed that unlike digital painting, the experience is ultimately a richer process because it is therapeutic. Some participants believed that artist satisfaction is fulfilling whether the painting sells or is exhibited. Interviewee 6F expressed:

When I work traditional, I let everything hang out. I show the chaos, I show harmony, my problems, my failures and success… I build them up so that people can see a lot of paint …and a little bit of my pencil may be left underneath showing. I leave everything up there. I have been trying to reveal that process in digital painting too. With digital, it feels forced. It definitely does because I think the viewer knows that you are… you could have hid things but you didn't (personal communication, January 12, 2015).

Interviewee 8M expressed:

There is something about comfortable of having carrying around a physical object. That kind of tactile experience turning the pages you know. The feel of the book, the cover you know. I think all of that could be… you could say that with the painting there is the same type of richness and the notion of the initial discovery. I got a feeling that even though at an early age, young children are exposed to the computer, I am sure there is still this feeling of enjoyment.

There is something truly rewarding at seeing the output that you have actually

constructed, you built from the brain to the paper to up on the wall and you're

getting like accolades from people on how wonderful it is. I think you would

never get rid of that.

According to Interviewee 2M, *Artist Satisfaction* sometimes conflicts with

Audience Appeal. On one side is the need to satisfy the inborn desire to create a piece that

gratifies a sense of perception. On the other is the requirement in art that calls on artist to

cater to the expectations of their audience. Cohen (1999) asserted when an artist creates a

work of art s/he always has in mind four groups. These include himself, everyone, an

audience with knowledge, or an audience with little to no knowledge about art. Cohen,

maintained that of all the four motives, the first is most important because artists

customarily create art for their own satisfaction and to fulfill the inherent fundamental

purpose of art, which is arts for art's sake. This was explained by Interviewee 1M when

he said; "It is an intimate communication with nature, a curative process that allows one

to take what burdens their mind and leave it on the canvas." Cohen (1999) explained

when an artist works, s/he makes choices, tools, color of representation, shapes, forms

and the like that make sense to them and "it works for them" (p. 138). However, artists

often seek audience for their work. He pointed out that though this requirement often

conflicts with artist satisfaction there is a guarantee that when a specific audience is

targeted, the audience can identify the purpose of the art.

Sometimes artists have to choose tools and materials and styles that they know

would be acceptable by galleries, museums and people who commission them for private

works. Noll (1994) stated that because digital art was still unknown thirty years after its emergence, only a few museums were willing to display their works. The post-impressionism period saw a number of artists who led impoverished lives due to rejection and negative criticism of their styles (Galenson & Jensen, 2002).

One famous artist who experienced such phenomena was Vincent van Gogh (1853–1890 (Kosinski, Fratello & Bruck; 2006). To avoid financial problems, artists do not focus solely on works that depict the artist interest in personal and spiritual form of self-expression. In the past, it was a common occurrence for artists to work on commissions from rulers, government, the church and members of the public. Pope Julius II commissioned Michelangelo to paint the famous Sistine Chapel's ceiling (D'Elia, 2009). Today artists earn money through exhibition at physical and virtual galleries and museums. Contracts between artists and the commissioner sometimes create conflicts because the contractor's idea of a good art conflicts with the artist's form of expression. For example, Michelangelo and the Pope Julius II disagreed on the execution of painting of the Sistine Chapel ceiling and as a result, Michelangelo stormed out, though he later returned to finish the work. Today, artists still earn a living by accepting commissions. In order to gain recognition and earn money, they do have to create works that would be accepted by museum and galleries.

Importance of Painting

The second category that emerged during analysis was the importance of traditional painting to individuals and in society and education. Conceptual elements that emerged under this category include *On Painting, The Role of Painting in the Lives of*

Individuals, *The Function of Painting in Society and Culture*, *The Function of Painting in*

Art Education.

The role of painting in the lives of individuals.

Though not all respondents agreed, some of the participants stated that painting

brings immediacy to individuals to tap into their creativity because it is direct and hands-

on. Painting is a discipline that allows the artist to get directly into the ideas and concepts

just through the kind of the manipulation of the brain and hand coordination. Interviewee

9M stated that painting provides artists the freedom to push the limits of color and shapes

and form.

According to Interviewee 2M, painting requires that artists adhere to certain

procedures and processes in order create a successful painting; however, the ideas and the

process involved in the production comes from the artist. Interviewee 7M argued that

painting is the most flexible discipline irrespective of the materials that artists use.

Interviewee 3M stated that painting will always be important especially in the art

programs because it's flexibility offers young potential artists an opportunity to get

involved with image making by manipulating of pigments and to capture for example the

play of light, shadow. According to Interviewee 5M, painting allows artists to push the

limits as artist today and combine it with other art forms like sculpture or painting and

photography. In this way, there is openness to it.

Though a digital artist, Interviewee 10F expressed that when she comes up with

an idea, her first impulse is to draw the idea out on paper "even if the final projection is

including ten (10) projectors and ten (10) Mac minis, and a huge space." She continued;

"it's completely resolved and the part that is most important to me and then I go to the computer because it's the easiest way of making art."

The function of painting in society and culture.

All the respondents aligned the importance of painting to history and culture of every society because for centuries it has been used as a method of documenting history and portray the lives of people and society. According to Interviewee 3M, painting holds a place in culture, especially today, because when people see a real physical painting they still feel that it has a story to tell, it has a story through the painters eyes.

The function of painting in art education.

Based on the participants' response to artist satisfaction, it is apparent painting has the ability to access an artist's emotions and control it by visual presentations. Hence, through painting, artists learn to control their emotions and develop their emotional ability. Another concept the participants attributed to painting was the knowledge of self-concept where students learn to understand themselves as beings and as artists, Interviewee 3M referred to this as physiological intelligence. Another type of quotient that artists develop in painting is intellectual intelligence. The participants expressed that painting in itself is a cognitive process that involves the impression of an idea incorporated with elements and principles and when used efficiently can produce a successful and powerful outcome.

According to Interviewee 3M, when these three intelligences (emotional, physiological and intellectual) are well developed and intertwined, creativity increases.

He stated that as the ability to negotiate for things in a new ways increase, so does the ability to be open to more ideas, and the ability to perceive and respond to things.

Interviewee 5M indicated that physically painting, moving around, using tools, using elements, and the other aspects of painting such as playing with color, helps students to understand perception in a much more complex way. He added,

Critically, we need to have our students doing physical things and painting is one of the quickest ways. And most people are terribly visual creatures, right? One third of our brain is given over in visual function, so at that age, they've seen a lot of things, they are processing a lot of things, they're trying to make sense of it, their brain is trying to figure out how they are going to be wired. So, if you give them that physiological connection, between visual, and physical, being able to do it, I think you would have people that can perform better throughout their lives (personal communication, February 10, 2015).

Uses of technology in the classroom.

Today, digital media is widely adopted in art schools and art institutions of higher education mostly by students to create artworks and by instructors who use them as instructional tools, curriculum development and assessment tools. They are used as tools for drawing, painting, designing, collaborating, communicating, presentation and marketing. Participants reported that the most common type of digital media used by art students include computers, Wacom®, and iPads®. Photoshop®, Illustrator®, Corel Painter ®, and CorelDraw® are the most frequently used software in the classrooms of the participants. Other software discussed included Inspire Pro®, ArtStudio® and

Sketchbook express. A common practice across board in the classrooms of all the participants is the use of digital portfolio or e-portfolio. Students are encouraged to submit their works and e-portfolios for critiquing, assessment and exhibitions.

As disclosed by Interviewee 8M, the e-portfolio is beneficial to students who need to put together a collection of their work over the years as resumes for future job application and applications to exhibit in galleries and museums. Another common practice in instruction is the use of digital media and Internet resources to enhance teaching and learning, promote communication among students and faculty, promote individual participation among students and encourage active collaboration between peers and amongst students and teachers.

Maria, Ilias and Efstathios (2011) noted that integrating current online resources and common internet tools in the art classroom such as Skype® and Google+®, enhance student learning, artistic techniques, their own voice and research skills. It promotes effective teaching. Other technology popular among the participants includes projectors, computers and Dropbox®.

According to Interviewee 1M, using digital media in the classroom helps advance student skills, promote critical thinking and speed up their work process. He argued that previously he had to walk to the library to carryout research on topics relating to curriculum. Now most information needed in the classroom is only a click away. He indicated that he does not believe that all information resides on the Internet. He explained, "In fact the best form of resource for painting students is nature…experiencing the real deal is still better"

Interviewee 10F teaches digital media course such as web design, digital imaging, using programs like Photoshop®, Illustrator®. Like Interviewee 10F, Interviewee 11M, teaches digital media courses. He uses animation, film production and editing, and installation using iMovie®, Final Cut Pro® and Windows Movie Maker®. Other courses offered in his department include; digital photography, mobile media, design principles, programming and gaming.

Importance of developing technical skills.

The participants all believed learning technical skills is important in the developmental process for every artist. They believed there is a true need to have that kind of basic knowledge of different processes of hand manipulating image before proceeding to use digital media.

According to Interviewee 8M, all his students, even those who prefer using digital media in the classroom, tend to admire works by artists who display advance technical skills in their works. Shepherd (2011) noted that an accomplished digital painter should have knowledge about the elements and principles of art. Lack of technical skills affects the artwork. Interviewee 10F said that having some technical efficiency helps especially when one wants to make more dense and thoughtful work. Referring to her own experiences, she explained, "having those really allowed me to get my roots down."

Comparing Traditional and Digital Media

Another category that emerged during analysis is *Comparing Traditional and Digital Media.* The call for this particular category was to support the need for comparing the two forms of art. Most of the participants thought they could be compared to some

extent; though, they believed they should not be compared at all, as they see it as two different art forms. Some of the participants pointed out that it could be compared in terms of the advantages and disadvantages of using the types of media as tools. This they believed was redundant and has no tangible value.

Contrary to the perception that the two art forms cannot be compared, Interviewee 8M pointed out that artists could benefit from comparing the two traditional and digital media by showing what is common with the process of image making and the intellectual creative process involved. He expressed that this would throw light on digital art and allow for broader appreciation for the technique, which requires a more physical manipulation of material.

The three constructs that emerge from this category include Differences between Traditional and Digital Media, The Role of Academia and Reactions to Digital Painting.

Differences between traditional and digital media.

The common response to the differences and similarities between the two media by participants was that the type of media is not of value, only the outcome and the kind of response the artist expects of that outcome. Shepherd (2011) argued that options provided by the digital method equip the artists with alternative approach to painting. He referred to digital art as an extension of traditional art and as such a true art form.

As Interviewee 10F put it, "Aesthetics is not tied to a medium. It depends completely on the project you are working with and what you are trying to communicate at the end of the day." She argued that there are very good examples of digital art that are as good as traditional painting. She argued that there has been great advancement in

digital art. An example she talked about was Processing®, which allows an artist to work in code in Java®, which translates code to images and animations. She notes the two are just different art forms as such people need to "have an open mind."

Though the participants implied that finished paintings are more important to artists than the media used in creating them, discussions with participants revealed some differences between the two art forms. This is examined in the next section.

Physicality of traditional painting.

Of all the participants, only Interviewee 11M believed the importance of traditional painting has diminished especially in this last century. He argued that in this information age, art itself is becoming a lot more democratic. According to him, admirers of art are no longer just art connoisseurs and or people who know about fine arts. Today, anyone can visit a gallery without leaving home. They only need to visit virtual galleries and provide their opinion about the artwork. He further explained, "It's totally outside academia and with that change going on I think the appeal of digital defines the future." Though he admitted, the physicality of painting is a significant characteristic that is not present in digital painting. Interviewee 11M characterized this physicality, as an attribute that allows painting "present and it's in front of you and the presence of the author is there as well. You can see the brush strokes, you could see the physical two dimensional objects and that sort of presence is hard to get rid of." Similarly, Interviewee 5M discussed the importance of physicality in art. He argues that it plays a significant role in how the work communicates with its audience. He expressed,

There is something just very rewarding and fulfilling about making a physical object, not even painting. If you build a chair, it feels great. If you make a pot on a wheel, it feels good. When you make a piece of art on a computer screen your eyes hurt. But you lose the feeling of creation because you create something abstract. It's like it only lives in computers. You print it out and put them… it's just not the same. It's not the same as something you can feel.

Characteristics of digital media.

Participants unveiled characteristics, peculiar to each art form that has an effect on how artists perceive them.

Advantages of digital media.

Some of the characteristics of digital art and the process in creating digital works included flexibility, ease, storage, and versatility. According to Interviewee 6F, digital media makes the process of painting easier because artists can easily undo mistakes. She explained:

I make one stroke in Photoshop® and if I don't like it, I can press one button and it's gone. If I do that on a real canvas, I would have to get whites and wait for that one to dry, paint over it, and wait for that to dry.

Another advantage of digital media some participants discussed was how easily digital painting can be reproduced. According to Interviewee 10F, "You get that unique watercolor kind of look you want in Photoshop® and easily get multiple copies. Some participant thought this to be a negative characteristic of new media [digital media]".

Interviewee 9M admitted artists have always embraced technology. He acknowledged that technology breeds new ideas. He explained that a student once broke down stages involved in the process of digital painting, which he found fascinating, even though, a lot of that information had been covered with color and the work looked flat.

Some participants argued that they preferred digital media to the traditional. Interviewee 6F expounded; "I started out with traditional media at the time because back then I had no access to digital media but when I did I liked it and enjoyed using it because I found it useful, different,… less expensive, flexible and valuable." Similarly, Interviewee 6F pointed out that artists transitioning from digital to traditional need to realize the two art forms are not the same thing. They would have to unlearn everything they know and start again. However, they can transfer their skills in traditional painting to digital because "once you are a good draftsman you are a good draftsman. That stays."

Likewise, Interviewee 9M encourages all his students to learn the fundamental skills like color theory and acquire hands-on experiences like actually mixing paint of art because it is part of the creative processes. He argued that basic hands-on skills are important because it provide a richness to artworks

Interviewee 10F argued that as opposed to traditional media, digital media provides depth of information. For instance, the painting could be any size the artist wants and still fit the screen tool being used. She explained; "it could be 80 feet long, 80 feet tall once it's printed. And you could keep zooming in essentially into these abstract pixels and adding more details and things like that." She argued it is one of the characteristics of digital media that the artist has power of control over. She added "But

then again that is trapped forever in the digital realm." She argued that with traditional medium "there is definitely a physical stopping point" for most artists as only little work on large-sized surfaces will still be able to attach details in paintings.

Interviewee 11M argued that, to be successful, digital painting would have to be considered in its environment, which is the Internet. He clarified that, as the physicality of traditional painting dictates, they should be hanged in physical environments like museums and galleries, whereas digital painting should be setup in virtual spaces and shared through social media and other types of virtual communication tools.

Most of the participants agreed that traditional painting is a difficult technique that requires a lot of experience to acquire the needed expertise. According to Interviewee 1M, "It [Traditional] is a lot of work. It wasn't easy to go through. And it takes time as it is a specialization." He argued that unlike traditional tools, digital media is flexible. He expressed:

> It's a great tool, fantastic…it's changed what I have done because, I can simplify methods and get painting students and other art students to a place where they can be making their work with better decisions upfront much faster…and that allows them to produce a lot more finished work….So I am actually grateful to be living in this age.

Disadvantages discussed.

Other participants discussed the negative aspects of digital painting in terms of the final product and in connection with the benefits of the significance of technical skills.

Interviewee 8M and Interviewee 9M both disclosed what they find lacking in digital

painting is how they come off as somewhat slick and cold. Interviewee 9M said:

> I think that has a lot to do with the fact that I am so into textures in my work and I
>
> am always looking for textures in any type of painting. You should be able to see
>
> the thickness of the paint and the layers of information on that canvas,… from the
>
> initial wash to kind of blocking in thin layers of paint in order to create depth in
>
> an image, to going back to certain areas and building up the glazes in certain
>
> areas… and looking at other finished areas that I would consider finished in the
>
> work and see what the end product is, you know. So that gives me kind of a
>
> connection with the hand of the artist and in creation of the work that I don't think
>
> you can get… unless is the intention of the artist using digital media to reveal that
>
> (personal communication, February 20, 2015).

Most of the participants implied a preference for traditional media, mostly

because the practice of traditional painting favors a connection between the artists'

emotions and the actualization of that emotion.

Reactions to digital media.

Interviewee 8M believed it is not an issue of people resisting. It is an issue with

preferences. He prefers traditional painting. He has deep appreciation for things that are

"handmade, things that are textured and contemporary, … humans will be more prone to

really value things that are handmade and things that would show like textures and that

kind of beauty, you know". He revealed that the closest thing he has created using a

digital media was taking small drawings to be blown up on the blue print machine to

scale so he can trace it onto the surface he plans to work on. He argued that handmade things are dwindling due to technology. He admits the growth of digital art is a threat to him. He explained; "It seems like we are getting deeper and deeper into the virtual. Well you know and that's kind of frightening."

Interviewee 10F mentioned that some are opposed to the idea of innovative or emergent technology because they see it as rushed and it is amateurish. She said:

It feels very short-sighted because you can say that the art that is coming out of this is too soon or it's rushed, but you will probably say the same thing when artists started painting with oil paint at first, when acrylics became popular. I think it's really a matter of finding what works, finding what you can do with any kind of medium (personal communication, February 23, 2015).

Interviewee 1M alluded to the same reasoning. According to him, opposition is always present when people are confronted with new forms of ideas different from what they know. He calls this a natural process and people are only interested in preserving what they know instead of accepting what others might want. He proposed that those against digital art forms clarify for themselves the strength and potential of digital media which is a media helps artists produce faster results, easier to use, requires little skill and depth of understanding, and does not have the same soul that's in painting unlike traditional painting process.

According to Interviewee 11M, authenticity is an important aspect in painting. With the traditional painting, there is only one copy of an art piece making it a genuine artifact and if it is ruined, it is gone. There may be photo reproductions, however, those

are not authentic and are essentially worthless because they are only accessories to the

actual physical work of art. He argued that people against digital painting might be

confusing it with illustrative works, and other commercial works that lack authenticity.

He asserted that digital painting is completely different from this form of art. Though

unlike traditional painting, digital painting is stored on the Internet and unless the owner

has some inane watermark on it, the original is constantly downloaded. According to

Interviewee 11M this and the gratuitous copyright struggles affects the monetary value to

digital painting.

Role of academic administration.

Under this construct, two opposing thoughts emerged. On one-side participants

argued that the process of integration of digital media in the arts was slow. According to

Interviewee 11M, the expectations of faculty have not been fully met, as administration is

slow in bringing tools that could engage students in heavy exploration in digital painting

and other digital forms of art. On the other side, participants felt integration of digital

media was coerced. It is important to point out that participants on each side of this

argument favored either digital media or traditional media.

Emergent Theory

This section provides an examination of the emergent theory that emerged from

the data collection and analysis. The main objective of the research was to understand

how artists perceive the use of digital media in painting and to show how the emergent

theory can explain this phenomenon. An illustration of the emergent theory is shown in

Figure 2. The hypothesis of the emergent theory is that an artist's perception on digital

media and digital painting can be interpreted by taking into account 3 main variables.

These include; how the artist defines painting, how their definition influences their tool of

choice, and their view on the importance of the role and function of painting in the lives

of individuals, in society and culture and in art education.

Figure 2: Theory of Artists Perception of Digital Media in Art Education

As can be seen in the illustration (*Figure 2*), *Definitions of Painting*, which is placed at the top of the diagram is the main factor that influences all other factors; which are *Artist Choice of Media*, and *Importance of Painting*. The positioning of *Definitions of Painting* and the indicators directed from it to *Artist Choice of Media*, and *Importance of Painting* is demonstrative of its influence. Centered between all the factors that come into play is the *Artist*. The double ended indicator between *Definitions of Painting* and *Artist* indicates how an artist defines painting and how that definition impacts on them, their work, their preferred tools of choice, their general perception on the role and function of painting and how they perceive the use and integration of digital media. The line drawn between *Importance of Painting* and *Artist Choice of Media* illustrates how the artist's choice of media contributes to the expressive quality of their work. The indicators that lead from *Importance of Painting* and *Artist Choice of Media* to *Perception of Digital Media* show how the artist's perception on how media affects the expressive quality of painting influences their perception of digital media. Do digital media effectively help portray the artists' idea? Other factors include design sensibility, audience appeal and artist satisfaction. Whilst artist choice of media and definitions of painting are not directly related, they are both linked to the concepts of design sensibility, audience appeal and artist satisfaction.

During discussions with participants, most of them did point out that artists create works of art, not the media. Hence, the tool an artist uses has no bearing on the true meaning of painting. Contrary to this assertion, is Interviewee 8M and Interviewee 9M's

argument that digital painting has a good and flat feel to it. Similarly, posts on online discussion forums and blogs indicate there are two schools of thought that support both theories.

This theory supports Tolstoy (1995) and other theorists, argument that art is indefinable (Dissanayake, 1990; Kennick 1993) and the complexity of what is deemed 'good art'. On one side, theory states that it is the artist and not tools of the trade that determines the quality of an artwork. On the other hand is another perception that choice of tools plays a significant role in the quality of artworks.

Summary

The first section of this chapter discussed the findings of the analysis of data, which resulted in two main categories, including *Definitions of Painting* and *Artist Choice of Media. Definition of Painting* discussed how individual artists define painting and its implication on development as artists. *Artist Choice of Media looked at* factors that influence artist when choosing appropriate media. Concepts linked to these two categories include *Design Sensibility*, *Audience Appeal and Strategic Place of Exhibition,* and *Artist Satisfaction. Other Concepts discussed include Importance of Painting and Comparing Traditional and Digital Media.*

The second section of the chapter provided an examination of the emergent theory. The emergent theory explains how an artist's perception of digital painting can be interpreted by taking into consideration the 3 main variables. These are the artist's definition of painting, its influence on their tool of choice, and their view on the importance of the role and function of painting in the lives of individuals, in society and
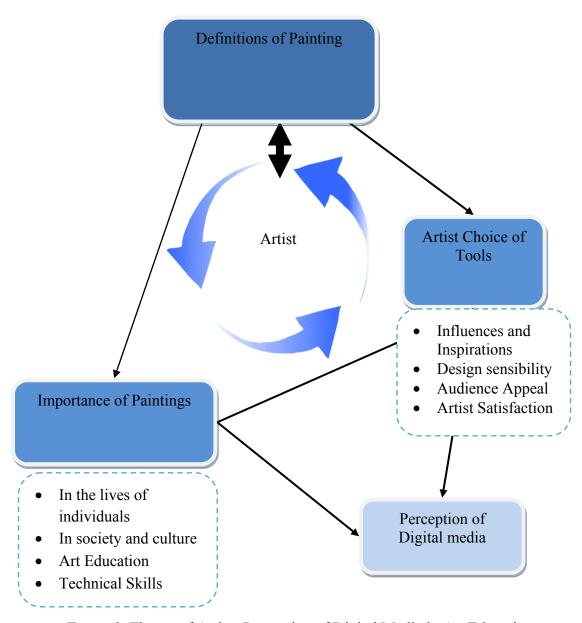
culture and in art education. The emergent theory supports the premise that painting is indefinable.

Conclusion

The purpose of this study was to understand the perception of artists on the use of digital media to create painting well known as digital painting. The way artists define painting reflects how they see themselves, and view the world around them. Their definitions are a telltale of how they work and how their work affects them and why they paint. Their style of painting is often developed based on an influence and the tool delineates his/her style of painting and the form of art s/he prefers to practice. While their tools help convey their message, they see themselves as nothing more than the tool; their creativity, skill, intelligence put the puzzle together to create works that can have the capability to connect to individuals and society as a whole.

As tools for painting, digital media are either seen as acceptable tools by some artists and by others only as effective tools for instructional and curriculum development. Interviewee 8M found that art created with digital media lacks texture and physicality. Interviewee 10F on the other hand thinks; "Aesthetics is not tied to a medium. It depends completely on the project you are working with and what you are trying to communicate at the end of the day." In effect, the results of the analysis show that painting is indefinable due to the constant changes in the styles and tools of the art. The results indicated that tools used in creating painting do not influence the outcome of the art work and hence should not influence how painting is defined. This concept reveals itself in the

emergent theory. The emergent theory hypothesized on the relationship between the main

theories and the concepts that emerged in the analysis of the data.

The next chapter provides a summary of the findings and theory in relation to

related literature interpretation and implications of the findings. In addition, it reviews

limitation of the findings as well as the future directions for the research.

Chapter 5: Discussion, Recommendations, and Conclusions

Introduction

The goal of this study was to use grounded theory methodology to examine the artist's perception about the use of digital media. For the purpose of this study, interviews were conducted with faculty members teaching at 4-year higher education art colleges located in Ohio and Illinois. The aim was to explore and understand the reasoning behind the faculty perception of the use of digital media specifically in painting.

The chapter begins with a summary of the findings, followed by discussion of the findings as it relates to aspects of the emergent theory developed from the data presented. The findings from the research are then discussed in line with the literature reviewed for this study. The chapter concludes with an examination of limitation of the findings as well as the future directions for the research.

The research questions for this research are:

1.   What are the views of art instructors regarding the role and use of digital media in the production of art?

2.   How might these views influence the true meaning of art from the standpoint of art instructors and the art world in general?

3.   Finally, how might the descriptions or views of the art instructors help define or refine the aesthetic value placed on art pieces produced using digital media?

Summary of the Findings

RQ 1: What are the views of art instructors regarding the role and use of digital media in the production of art?

Perception on the importance of digital media in painting.

Perception on the use of digital media in art.

All participants believed that how digital media is used, is up to the user. Interviewee 4F stated, "I have seen it used in a bunch of different ways. I mean I use Photoshop® to edit photos, make quick sketches to test out some coloration…. So it's a tool to do some great quick sketches on." Interviewee 1M thought, "In a way I think it's a silly question. It's like asking 'how do you use coffee in the world? It can be used in any way you want really." They discussed that artists' idea is what guides him or her to the appropriate tool to use. More importantly artists are always opened to innovative ways to convey their message to their audience and as Interviewee 8M pointed out, the modern artist often experiments with digital media to create more interesting contemporary pieces. An artist having the freedom to choose the media he works with contributes to the expressive quality of their work and the implication of choosing the right tool is crucial to an artist's style of work and the form of art with whom the artist aligns him/herself. It plays a significant role in how artists convey their message: be it the mood, culture, historical implications, or atmosphere (Borges, 2009). Interviewee 9M believed artists of today are more diverse and willing to experiment with other disciplines of art. This is evident in exhibitions by contemporary artists in art galleries and museums. The

implication of choosing the right tool is crucial to an artist's style of work and the form of

art with whom the artist aligns him/herself (Doonan, 1992).

Based on the discussions of the participants and the literature review there are

variety of factors that come into play when artist choose specific tools with which to

work. This decision primarily rests solely on the artist. The decision is however,

indirectly influenced by the audience who will view the work, the market and the end

result of the art piece. When an artist plans to produce a digital piece, the success of that

art piece mandates that they know their audience; an audience who accept that the use of

digital devices to create art works cannot tarnish the purity of the art. In addition,

audiences expect art piece that can catch their interest, draw on their emotions and have

the ability to convey the artist's message.

As regards to their perception of the use of digital media to create art, 9

interviewees, 7 (Interviewees 1M, 2M, 3M, 4F, 5M, 6F and 7M) of who use both types of

media (traditional and digital) and 2 (Interviewees 10F and 11M) who used mainly digital

media thought it is acceptable for artists to use digital art. Two of the interviewees

(Interviewees 8M and 9M), who are purist (they work mainly with traditional media) felt

it was unacceptable. The reason for this perception would be further discussed in the next

subsection. It is important to point out that Interviewees 8M and 9M are from an older

generation and thought that the purpose of digital media is to access the Internet and

research on their work. According to Black and Browning (2011), art teachers are

cautious or lack the knowledge on how to efficiently use digital media to create art or in

instruction. Similarly, Diehl (2013) pointed out that some art teachers are comfortable

and favor the traditional way of teaching. He argued that this might be because traditional methods have dominated in art. He noted that art teachers mainly access the Internet for educational resources links for their students to promote constructive learning. Moreover older artist often prefer to work with natural materials (Kirker, 2009) and are likely to have little or no background experiences with new media (Richardson (2009). This in turn has an overall impact on their attitude to digital media use in digital painting (Lin, 2004; Phelps & Maddison, 2008) and their perception that digital painting lacks aesthetic value (Candy & Edmonds (2002).

Perception of digital media in comparison to traditional media.

Participants differed on their perception of the benefits of digital media in painting. Nine out of 11 participants believed digital media prompted innovative ideas, as they believed it encourages artists to push the limit and provides a wider range of possibilities. Likewise, some participants for Yablonsky's (2005) study discussed that unlike traditional media, digital media provide spontaneity and offer innovative ways to generate ideas. In contrast to this belief, other participants for the same study revealed that they preferred the traditional method of painting to digital painting because they believed that traditional paintings possess certain traits that allow viewers to re-experience the painter's views. Interviewee 8M leaned towards this ideology, though he believed the sleek output of digital painting lessens the impact of this particular advantage. Interviewees 8M and 9M believed digital media is only effective when used to enhance instruction and develop curriculum. As pointed out earlier in chapter 3, Interviewees 8M and 9M are of older generation and this may be an influence on their

perception of technology. Their perception is based on the output, and in their opinion the lack of physicality, an aspect that characterizes most art forms. Participants who supported the use of digital media in painting expressed that they employ it in their work. The other group has never used digital media to work except as a tool for instruction. They believed digital media lacks presence, and as such cannot appeal to all audience or provide a sense of satisfaction to the artists.

   Characteristics.

   Some of the participants believed that reactions against digital painting may be due to the fact that new technological media is far more flexible and easier to use as a painting tool than the standard traditional tools. As a result, anyone who does not have the needed technical skills to create a 'good' work or art can use the pre-programmed tools in digital media to create something and call that art. Unlike digital media, traditional media "is lot of work…It isn't easy and it takes time…. and it is a specialization'' [Interviewee 3M]. A review of the selected literature points to three major factors that invoke reactions against digital art; originality, value and artist satisfaction (Candy & Edmonds, 2002a; Lin, 2004; Sherperd, 2011). According to the participants who mostly preferred digital media, it can help create very impressive paintings. Whilst this can provide new ideas and methods for painting, digital artists are often criticized for introducing tools that bring ease, flexibility and speed into an art form that requires originality, authenticity and creativity (Christodoulou & Styliaras, 2008; Lin, 2004; Spalter, 1999). Due to this, artists who turn to new norm always struggle to be accepted. According to Interviewee 8M and Interviewee 9M, digital paintings lack

richness of texture; it is flat, sleek and exist mostly on virtual realms. All participants

agreed that one major challenge of digital media is output. They agreed that the output on

flat paper is not the same as traditional media on canvas, which have depth.

Most participants, including those who supported the use of digital media in

painting did point out that using traditional painting creates a sense of satisfaction and

immediacy to individuals, and encourages them to tap into their creativity because it's

direct and hands-on. This argument corroborates Bain's (2005) theory that art students

need to explore with tools and materials in the studio to help them understand aesthetics,

and creativity through hands-on experiences. He argued that by doing so students develop

innovate ideas and help bring a sense of satisfaction to them through their work.

The participants of this study expressed that there is the need to categorize

paintings created with traditional media and paintings created with digital media as

comparing the two has provide no tangible value. Contrary to this was Interviewee 8M's

call for both digital painting and traditional painting to be compared as it would be

beneficial to show commonalities when it comes to the process of painting. The divergent

views expressed by the participants are depicted in the emergent theory, which shows

how artists relate to the tools they choose, to the importance of painting and how these

two factors, *Importance of Painting* and *Artist Choice of Media* influence their

Perception of Digital Media. The participants who are of the school of thought that

digital media is important in painting, choose to work with digital media and find that it

is important to artists because it provides innovative ideas. The participants, who do not

support the use of digital media, believe traditional painting tools better help express their

ideas and that traditional paintings appeal more to the emotions of audiences. An artist's work communicates the artist's expression, emotions and experiences to an audience who can understand the art form the artist shares (Iseminger, 2004; Pincus-Witten, 1984; Tolstoy 1995).

Aesthetic value.

On the question of which art form (traditional or digital painting) has more aesthetic value, Interviewee 8M and Interviewee 9M believe it has to do with preferences. Interviewee 8M prefers traditional painting and has neither used digital media nor intends to use it in the near future. On the other hand, he believes some artists "are doing some interesting things with it [digital media]''. Unlike Interviewee 8M and Interviewee 9M, most of the participants thought that good art is good art regardless of the media. According to them, the artist makes the difference. Tolstoy (1962) argued that the tool an artist employs does not determine the meaning of art. Regardless of the type of tool employed by an artist, be it old or digital media, the artist's creative effort, and talent communicate his ideas.

Analysis of the data revealed that some participants believed objections to digital media were due to peoples' need to preserve tradition especially if innovation deviates from the characteristics of the old; in this case, being original, authentic and an artist's emotional connection to their work. Some participants pointed to the evolution of photography and the history of the establishment of the various art movements where several styles of painting used to be. They argued that this is a natural process.

Perception of change in the history of painting.

Interviewee 10F mentioned that some people opposed digital painting only because the art form is new and some output seems to be of poor quality, "rushed", and "amateurish." She pointed to similar situations in the history of art when new traditional painting techniques were not accepted because different methods and tools were utilized. The emergence of digital technology in the field proved no different.

The industrial revolutionary period introduced new art movements that were thought to be distasteful and frowned upon by critics. Interviewee 10F pointed to art forms like photography, which have already been accepted. She cited artists like Jeremy Sutton and other traditionally trained painters, who have made that transition. Photography went through the same process when it was first introduced because it was seen as a mechanical tool (Gardner & Kleiner, 2013). Today, artists of that period are recognized even more so than living artists and photography is now accepted as art, not because of the tool it uses; it is recognized because of the artist's creative effort (Martin, 2007; Prodger, 2009).

RQ 2: How might these views influence the true meaning of art from the standpoint of art instructors and the art world in general?

Reflections of artists' definition of painting.

Eleven art instructors participated in the study. Themes generated from the data include, Definitions of Painting, Artist Choice of Media, and Influences and Inspiration, Importance of Painting and Comparing Traditional and Digital Media. Faculty individual definitions of painting revealed that participants believe painting informs artists,

individuals, a community, a people, a culture, and a phenomenon in history. Faculty

definitions not only characterized art as a necessity of life, but they also felt that art was a

part of their identity. One participant, Interviewee 8M, alluded to this when he expressed;

'I'm a painter…It's something I'll always do'. In addition, findings from faculty

perceptions regarding the use of digital media in painting demonstrate the role of digital

media in painting. As Moulard, Rice, Garrity, and Mangus (2014) stated, media adds to

the expressive quality of an artist's work.

In the same way, Interviewee 2M argued that art should have the ability to draw

audiences. In his *Progetto Arte* manifesto (2010), Michelangelo Pistoletto (1933-present),

an Italian painter and art theorist, stated; "artists must not be only in art galleries or

museums — they must be present in all possible activities. The artist, must be the sponsor

of thought in whatever endeavor people take on, at every level" (para. 10). This lends to

the emergent theory hypothesis that artists' definition of painting, influences their tool of

choice, and their view on the importance of the role and function of painting in the lives

of individuals, in society and culture and in art education.

Literature review on the definition of painting revealed that there are diverse

theories on painting as the art form has evolved and bears different styles and meanings.

Between 1966 and 1968, the American artist John Baldessari (June, 17, 1931- present)

challenged the theorist on their meaning by hiring someone to stretch a canvas, then a

qualified sign-painter to paint the letters, *What is Painting* (MoMA, 2007). According to

MoMA, the text Baldessari used was borrowed from a book on the appreciation of art.

His intention was to bring to light the incongruity of restricting a concept that is clearly

too broad in definite definition. Baldessari defended his work by stating that while it is text "…it is painting, because it is done with paint on a canvas. So I'm being very slyly ironic by saying, "Well, this is what painting is" (MoMA, 2007, p. 7).

As stated earlier, participants and related literature discussed that painting is indefinable. However, the lack of a general definition that represents all forms of art does not nullify individual definition of art. Interviewee 3M defined painting as an "obsession …my obsession" because to him it is "the rich color, the rich texture" and the "love" of its history. His definition includes how he defines digital painting. To him digital painting "keeps things fresh" and it is innovative." Including his definition, that digital painting speaks to his support of the art. Similarly, Interviewee 10F speaks in support of digital painting. He said painting is whatever the artist wishes it to be." In a way, individual definitions helps reveal how and why artist choose their tools [see Figure 2].

It is the creativity; the artist sense of design and technical skills that creates that painting and not the tool the artist uses that defines it as a good work of art. With this aspect identified and determined, the next step is to pinpoint characteristics of 'good art'. For Earle (2002), artistic ideas, imagination, and creativity are more important in judging an art piece than the form under which the art piece falls. Likewise, Interviewee 11M pointed out that the outcome of a painting is more important that the tool the artist uses. Interviewee 10F supports this ideology. She discussed that it is important for all artists to learn at least some form of digital application as "it probably would not hurt them if they knew a little bit of Photoshop because they can sort of make some decisions before actually finally making it [new work]."

The use of the term 'good art' in this context is used in relevance to the quality of an art piece. As already established based on this literature review and collected data, the tool an artist employs has little or nothing to do with what art is. This implies that any piece one creates intending to call it art is art. This consequently begs to question why some art pieces standout, idolized and better valued. Is there a thing as 'good art' and 'poor art?' To help examine this question, there are three major characteristics that experts often highlight as important in judging art. These characteristics are discussed as follows: *Inherent Meaning to Audience, Function to Society and Creativity* (Earle, 2002).

Inherent meaning to the audience.

Consistent with the emergent theory model [Figure 2], researchers indicated that art should possess qualities that appeal to audiences. The Ohio Department of Education Visual Arts Learning Standards (2012) has it specified in the learning standard for children in the kindergarten level that children must learn how to describe art and the terms used incorporate in describing art. Essentially, one is required from an earlier age to have the basic knowledge necessary to identify good works of art. In this case, art is not only an 'expression' as defined by researchers and some of the participants; it is as much the impact of the message on its audience. Is the message provocative enough to push the audience to think or change their thinking regarding a particular subject? On this, participants discussed the importance of teaching students about the significance of developing unique techniques that help them to capture their ideas on a support in a way that speaks to their audience.

Interviewee 9M explained that He teaches his students the importance of developing technical skills. He said, "I am teaching young artists that if you are living in these days and times you want to try to keep a foot at least in more digital art works and another foot in the traditional." Analogously Interviewee 1M explained, "It is necessary to give our students some kind of context of the contemporary art world and the broadness of all what is happening." Similarly, Interviewee 7M said, "Students need to work through awkward stage of learning, how to draft, learning, how to paint things, learning what an apple looks like from this angle." Skillfully executing ideas as an artist can help convey messages to audiences effectively. When the artist composes the image well and uses the appropriate pigment, tools and materials, he can reach his audience. Tolstoy (1962) argued that art should invoke feelings of audiences as well as to communicate the ideas of the artist. Echoing this idea were the thoughts of the participants who thought that audience appeal is an important concept to which all artists must adhere. They expressed that an art form must be of interest to the audience, elicit emotions in the audience, and provide an understanding about what the artists envision in his work. Fundamentally, it is essential for the artist to know his audience.

As expressed by Interviewee 3M "a good painting can create in the audience, something that is far more valuable than the tool used by the artist". He argued that the effectiveness of an artist message is more important than the tool s/he employs. Interviewee 4F stated that an artist should always bear in mind what appeals to "audience in a certain way". She pointed out the imperativeness of knowing one's audience as this guides them in choosing the right materials and the exhibition location and space that

would appeal to that specific audience. She explained, "If the predetermined audience is attracted to digital art, then they would find it more appealing if the choice of tool is a digital media and the work is displayed in a digital gallery."

Likewise, if the audience is particularly attracted to more traditional art, they are likely to visit an exhibition displayed in a physical location [Interviewee 8M]. In this instance, the artist has an edge or some control over the audience's attitudes towards his work. Fundamentally, it is essential for the artist to know his audience.

Schama and Beavan (2006) argued that this concept speaks to the power of painting. Simon Schama (2006) asserted that "the greatest paintings grab you in a headlock, rough up your composure, and then proceed in short order to re-arrange your sense of reality . . . " (p. 6). In a documentary relating to the topic, Schama presents Jacques Luis David (1748 –1845) as a most powerful French painter well recognized for his abilities to bring to life his ideologies. He picked themes that focused on political issues that led to the French revolution. As a result, his audience was not just art connoisseurs. They were ordinary citizens like "shopkeepers, fishwives, the whole sweaty' growling public" (16:18). Schama described David as "a monster" who had the "ability to let ideas blaze in dry ice" (Schama & Beavan 2006, 48:48)

Clearly 'good' painting should be a well-composed concept that has the capability to speak to its audience and bring them to a different perspective on issues at hand. It should be persuasive and comprised of different elements and principles that help elicit emotions from its audience without spoken words. Art has the power to stir up one's

emotions, challenge, change one's ideology, and make provocative and satirical statements regarding political and socio-economic policies that affect society.

Function in society and culture.

A common philosophy expressed by the participants was the fact that art plays a significant role in narrating the culture and recording history of every society. The participants believed art plays an important role in society. It has been used for centuries to document history, and narrate a moment in time of an event in history. Most discussed the function of painting in Western culture as a whole and more specifically the American culture, American society. They believe society and culture has a long historical and important connection to painting. They explained that painting's function is to portray people and society and ways of life in way artists understood it in the broader sense. Interviewee 1M stated that painting still holds a place in today's society and culture where people still feel painting has a story to tell. Some argued that painting is important to society. Interviewee 11F believed it is the reason why historical processes of art are still part of school curriculum.

Like the participants of this study, many theorists believe art is a fundamental component of the cultural practices of any society. Mukerjee (1971) noted; **"**Art is the great binder, the ubiquitous seal of community life and action. Art easily and effectively adapts the human mind to its social milieu, and is therefore one of the conditions of social progress" (p. xxi). To put it differently, art expresses and reflects the everyday activity, beliefs, and behaviors of a society. It is an embodiment of the history of the man, culture, and movements. Well-known examples are the cave paintings of Lascaux, Chauvet, and

Altamira in France and in Spain. Paintings during that period involved hunters engaged in cave painting, engraving, and sculpture reliefs that depicted their culture.

Interviewee 7M explained:

I think that there is a long connection, a historical connection to painting as something that is important to our culture because it actually, usually, initially, a few centuries ago told us more about our world more than we could see. The painting went out West and painted all these great, you know Yosemite National Park, which wasn't called Yosemite National Park back then and brought it back to people on the east, and basically fulfilled manifest destiny, you know the idea we had to conquer the whole country. It also portrayed people, and society and ways of life. And it was the way people understood their world in a broader sense. Since that time, it has shifted its role in many ways and I still think it holds a place in this culture where people still see a real physical painting and they still feel that it has a story to tell, it has information to tell (personal communication, January 19, 2015).

da Vinci, L. (1478-1518) expressed in his *Notebooks* that paintings are the truthful representation of the splendor and essence of nature. Furthermore, it possesses distinctive characteristics that allow a painter to present his thoughts satisfactorily because painting deals with natural philosophy and as such deals with how movement affects the mind. He argued that actions that bear resemblance to reality using lights and shadows are necessary qualities that create expressions.

Based on the arguments of theorists, participants and authors, it is clear that an important aspect of art is that it is an expression of an artist's experiences, his take on a range of human phenomena. This is creatively and imaginatively created and presented to an audience who are urged to contemplate on the behavior pattern of society. This concept is translated in the model theory that emerged during the data collection and analysis.

RQ 3: How might the descriptions or views of the art instructors help define or refine the aesthetic value placed on art pieces produced using digital media?

Creativity and artistic skill.

Participants discussed technical skill as a necessary foundation for every artist. They believed it is an important basic skill, regardless of the tool used. They believed there is a true need to have that kind of basic knowledge of different processes of hand manipulating image before proceeding to use digital media. Interviewee 11M called it "…a quirky little technical sort of advantage: that bring "a formal quality to one's work." Interviewee 8M thought that "there is a true need to have that kind of basic knowledge of different processes of hand manipulating image in order to do it on a computer… those technical skills in any form of art." Likewise, interviewee 11M said:

> I think a good noggin is most important for everyone, anyone. But, when you are an artist, the idea is really important. If you are making a piece that is extremely thoughtful and it's supposed to really engage the viewer in heavy thought, or if you are just making (personal communication, February 9, 2015).

The participants recommended that all artists learn those hands-on basic skills even if the artist's discipline is rooted in digital media. Some argued that technical skills bring richness to any art piece. Some argued that every artist should learn color theory and how to mix paint. Interviewee 5M, argued that foundation in technical skills is necessary if artists want to create significant artwork in the digital world.

History reveals that the rise of movements in the history of art was due to artists' desire for something new resulting in new techniques and movements Researchers have examined different determinants of creativity. Interviewee 6F stated that in the process of learning new techniques, especially with digital art, "you also discover completely different vocabulary and visual languages and they sort of start having their own life and importance in culture…it's a very vibrant and a very complex, and expands an artist's potential."

As discussed earlier, it is important for an artist's work to have the ability to communicate to an audience. All the participants acknowledge that there is a need for students to learn and develop technical skills. In order for art or any form of design to be able to capture the eye of an individual or an audience, it should possess substance. It should successfully bring to life the artist's ideas. Similar to the works of old masters like Jacques Luis David, it should have the ability to transcend generations, command attention, and pry into the thoughts of all that set their gaze on it. In order for this to happen, an artist should have the eye for design; how to compose and capture their objects and models.

Using complementary colors enhances the work in general and areas the artist would want his audience to concentrate on. Playing with light and shadows can create the same effect. The use of texture creates sense of physicality and contrast. Movement directs the eye of the viewer to where the artist needs it to be. When this thought process guides the artist, he is able to create a composition that is pleasing to the eye and not distracting from understanding his/her message. Learning creative and technical skills has never been more important. When students train their skills in these areas, it improves their emotional intelligence, intellectual intelligence and their physiological intelligence.

It is deemed necessary for artists, art critics etc, to grasp the basic knowledge of art. It helps the artist carefully plan and compose the elements of art in order to attain visual impact. While training in the elements and principles of art does not necessarily require a formal educational setting, it is important to artists to possess these fundamental skills (Hiller, 2002, Johnson, 1996).

Hollands (2004) called for people in art education to widen the definition of art to include new art forms. In interviewing the participants, it became apparent that this concept has been realized in some educational settings. Sontag (1987) conducted a survey between 1984 and 1985 to determine the extent of computer application use in art departments. The results of the survey indicated that computer application use was limited. The author was optimistic that the use of computer application would improve in this area. 18 years after Sontag (1987) publication, Rush (2005), wrote that digital technology has permeated through every sector of art including painting. He noted that

artists now have the opportunity to use interactive digital media that further enables them interact with their audiences. This is further discussed in the next section.

Good art? Bad art?

Different factors contributing to critics opposing digital art have been identified in the data. Some factors were examined in the literature review as well. These factors include the tool, aesthetic value, creativity, and fear of the new. Using the theory on the definition of art and the fundamental principles of identified characteristics of 'good art' as a framework, the next subtopic will attempt to examine all criticisms of digital art to determine if they have any basis.

Digital media.

To gain a better understanding of how the views of the participants help define or clarify the aesthetic value placed on digital painting, it is necessary to revisit the characteristics that differentiate the art form from traditional painting and participants' thoughts in comparing the two art forms. Unlike traditional painting, which requires one sitting in front of easels, and other forms of support, and painting with brush, oils and other art media and materials, digital painting requires digital media such as use of computers, tablets, and pen tablets. Participant stated that the two art forms should not be compared. As Interviewee 1M shared, "There are just two different mediums, one does one thing, and the other, a different thing. Sometimes they blend, sometimes they don't. And you can talk about one with the other and the other with the one and so, it's kind of a non-issue - anymore." He continued to say, "Calling anything digital painting, 'painting' is actually not doing a service to either painting or digital work." On the other hand, most

of the participants thought it could be compared in terms of the advantages and disadvantages of using the types of media as tools. Contrarily, Interviewee 8M pointed out it might be necessary to compare the two art forms as it could show the commonalities between the two on the process involved in creating artwork as well as the cognitive and creative process involved. He believed that this would shed light on the importance of digital media and digital painting allowing for broader appreciation of the art form.

As some participants pointed out, digital painting can be compared to photography. Both art forms require the use of mechanical tools. Photography was not seen as an art form when Daguerre and Fox Talbot officially introduced it in 1839. Its ability to capture nature unerringly and its mechanical characteristics caused critics like Baudelaire to discount its contribution and influence in the field of art. Photograph created by artists is now accepted as art, not because of the tool but because of the artist's creative effort (Wells, 2004).

Digital art emerged in the 60's and according to Noll (1994), thirty years after, terms including computer art, virtual reality, and computer animation were still uncommon. Moreover, only a few museums took significant interest in digital art. These included museums that showcased virtual exhibitions. Digital art has come a long way since its inception; it is not new to the world of art (Piene & Russett, 2008), yet there are still debates over its value, creativity, and originality of art.

According to Interviewee 8M and Interviewee 9M, digital paintings lack richness of texture; Interviewee 8M called it "flat" and "sleek." All participants agreed that this is

the main challenge of working with digital media. Conversely, Interviewee 10F pointed

out that the old masters employed the use of technical devised to help create accurate

drawing and paintings. She stated,

> If you go back to the history, there are speculations on some of the paintings by
>
> Caravaggio, an Italian painter and Vermeer, a Dutch painter that they used a
>
> device called the Camera Obscura to create paint, which actually formed the basis
>
> or the fundamental principles behind photography.

Consequently, the fact that theorists and experts argue that the artists and not the

tools an artist uses creates works of art, digital art cannot be critiqued based on the tool

artists use. Some of the participants believed reactions against digital painting might be

because digital media is more flexible and makes creating art easier as most digital media

come with programmed design tools and colors which otherwise would have been

prepared by the artists using traditional tools. In light of this, anyone who does not have

the needed technical skills to create a 'good' work of art can use the pre-programmed

tools in digital media to create a piece and call that art. Other participants discussed fear

as one of the major factor preventing critics from accepting digital art.

Aesthetic value and artist skills and creativity.

Going with the premise by participants that digital media are just tools, it can then

be said that criticism of digital art should be based on the concept of the 'good art';

inherent meaning of the art piece to the audience, the function of the art piece to the

culture of the society and the artist's creativity. All participants discussed that audience

appeal dictates the type of tool an artist uses so communication would be more effective.

Interviewee 8M argued that when works show imagination, it excites its audience. If the right tool is used, it will appeal to an audience. According to Anderson (1993), a critique of an art piece should be based on the concept of good art. He proposed critics asked themselves three major questions when judging artworks. He recommended that they should ask; what is this? What does it mean? And what is its significance? The three proposed procedures are description, interpretation, and evaluation without which the assessment of the work falls short.

Though digital art has not been fully accepted yet, some internationally recognized artists create digital works. Some of the notable names the interviewees mentioned included Demar Marcaccio, and Julia Mehretu. Others identified in the literature review include Fay Sirkis, Dylan Cole and John Gosler, who are already creative in using traditional tools and are using digital tools to create impressive art works (Bloom, 2006). This goes to support the fact that judgment of artworks should be based on the creativity and talent of the artist and not the tool they employ.

Implications of Findings

This study expands on previous works on the integration of digital media in art. It provides a research-based theory to explain how the artist defines painting, how their definition influences their tool of choice and its implication on the role and function of painting in the lives of individuals, in society and culture and in art education in the arts. The emergent theory has implications for artists, future artists, art instructors and art administrators.

Based on the findings on the research and related literature, this study explored the perception of artists with concentration on art instructors teaching in 4-year higher education art colleges located in Ohio and Illinois. Because of differences in perception found among artists' posts online, the study hypothesized that the outcome of this study might reflect opposing views on digital media integration in painting.

Review of related literature (Goodman, 1987; Shanken, 2002) showed research on technology and art mostly concentrates on the impact of technology on art and its influence and achievements as an art form. The study revealed that major issues; originality, value and artist satisfaction are often discussed in relation to digital painting, little insight has been provided about the perception of artists on digital media. Contrary to the information provided in research articles and books, postings on online discussion forums and blogs displayed intense debate both for and against the use of digital media in painting. With this construct identified, this research study focused on examining bases for this issue by interviewing art instructors. The theory that emerged hypothesized that an artist's perception on digital media and digital painting can be interpreted by taking into account 3 main variables. They are, how the artist defines painting, how their definition influences their tool of choice, and their view on the importance of the role and function of painting in the lives of individuals, in society and culture and in art education.

As specified earlier, implications for this research may be helpful to artists, future artists, art instructors and administrator. The findings of this research may be of significance to artists and future artists who seek to understand the varying language of painting, the constant change in the fundamental rules of painting and for artists who can

instead develop and build on this knowledge. First, as already noted in the findings, painting is a medium for communication and self-expression. Gaining knowledge of its function as a communication tool could help artists develop a vital sense of how to effectively depict their emotion and ideas using appropriate tools and materials, be it traditional media or digital media-traditional painting materials. This could help enhance those ideas so their works are better interpreted by targeted audience. Secondly, the finding would be beneficial to art teachers to better understand the needs of their students, develop a better understanding of how digital media and painting can enhance instruction and the learning experience of their students. As stated by Richardson (2009), unlike students, some teachers often have little or no background experiences with digital media. As indicated in the literature review, research indicates that this factor has an overall impact on teachers' attitudes toward the digital media in instruction. Finally, the research may be helpful to academic administrators in the implementation of policies that apply to integration of digital media especially in art departments that are yet to explore or in the early stages of delving into the use of digital media. As noted in the findings, conversations with instructors, revealed integration of digital media was either seen as a slow process or viewed as a dismantling act to a well-structure school curriculum. Some instructors saw the process of digital media integration as a slow progress as compared to schools that carry out heavy explorations in digital media and software. One of the participants explained, "I think academia is pretty notorious for being behind the curve."

Limitations of Study

The limitations of the research initially proposed for this research study were:

1. The natural setting of the research;

2. The researcher's background and sensitivity to the study and the effect it might have on the findings of the research; and

3. the sample size.

These proposed limitations did not have any significant effect on the study. The pilot study was conducted to examine the feasibility of using grounded study as an approach. The pilot study revealed that the research tools were reliable and adequate in content and validity to measure the opinions of participants in the main study.

While this study is significant as it provides a look at how the artist defines painting, how their definition influences their tool of choice, and their view on the importance of the role and function of painting, a couple of limitations should be addressed.

Brief Reflection on New Digital Advancement

Purists, historians, and theorist are worried at the rapid rate at which technology is advancing (Benjamin, 2012). As one of the participants for this study expressed, "it seems like we are getting deeper and deeper into the virtual world you know, and that's kind of frightening." On the other hand, there are those who believe technology is and will continuously impact the art world positively. Perhaps concerns may lessen if digital painting cannot be so easily copied and mass-produced.

Today's artist has available to them digital tools and art applications including 3D printing, 3D Scanning, and Photoshop®. They have access to internet resources, social media, blogs and forums that increase accessibility to enrich discussion and an outlet to

share ideas with peers. Indeed, today, artists possess tools that stimulate some characteristics of traditional painting. For instance, 3D printing and 3D scanning provides options for textured colored printing. Digital painting can now be printed or scanned and be exhibited physically. Digital artist can now produce physical art with texture and rich colors. This development should be explored in another study.

Do these advancements mean digital renditions of paintings should be compared to traditional painting? Some artists believe digital painting is not authentic and advancements in digital media is going to erode the true meaning of art. Conversely, other artists in this study believed that the integration of digital media in the field of art is positive step forward and embrace the idea of using it to create art. The results of this study show that10 out of the 11 participants believed that the two forms of art should not be compared, as they are different art forms.

Recommendations for Future Research

This study focused on art faculty teaching in 4-year higher education art colleges located in Ohio and Illinois. Future research should focus on examining the perception of different groups such as students, academic administration, and artist in non-academic circles, museums and galleries or teachers in K-12 schools to determine if perceptions are changing with different constitutes.

Other pathways future research might explore could be using a focus group method to give participants (schools, faculty, and students) an opportunity to discuss among peers their thoughts on digital media in painting. In addition, new studies could focus more on other art forms such as sculpture, ceramic, print, film and design. Painting

is identified with sculpture as one of the oldest forms of art and yet theorists have never been able to pin down its definition due to its evolving nature. The first painting dates back to the famous prehistoric cave painting when all tools and materials was borrowed from nature. Some of the natural materials included plants, animals, wax, honey and minerals (Ascher, 1961).

While this study addressed the importance and place of traditional painting, the focus was more centered on digital media and digital painting. Future research could further explore the place of painting in the present day and in the future of modern art. Furthermore, future research can expand on this current research by expanding the geographical environment to include schools in other states and other countries.

Finally, another alternative approach to this study could be a critical examination of how instructional design can offer the opportunity for more creativity and skill development in art.

Conclusion

The purpose of this study was to gain a better understanding of artists' perception of digital media in painting. Using structured procedures in grounded theory method, this study explored the perception of artists with concentration on art instructors teaching in 4-year higher education art colleges located in Ohio and Illinois. The emergent theory proposed that an artist's perception on digital media and digital painting could be interpreted by taking into account 3 main variables. These are: 1) how the artist defines painting, 2) how their definition influences their tool of choice, and 3) their view on the importance of the role and function of painting in the lives of individuals, in society and

culture and in art education. It highlighted perceptions that had not been highlighted in the literature to date.

There are different schools of thought on technology or digital media integration into art and art aesthetics. Some believe painting created with digital media lacks aesthetic value. On the other hand, traditional art is believed to be outdated and as such receiving less attention in the school curriculum. Theorists have never been able to pin down the definition of painting, although it is identified as one of the oldest forms of art. This might be due to its evolving nature.

Different styles and movements were established with each movement's ideology reflecting the political, social and economical situation of that period (Ayres, 1985; Macmillan's Magazine, 1883). While media has played a large role in the history of painting, theorists and experts advise against basing the definition of painting/art on them as their function is only to enhance and create the art works (Tolstoy, 1995). Paintings, like any other form of art, possess some characteristics that allow critics and even the ordinary person to draw their own conclusion about how they feel about a particular painting or even allow them to compare two paintings by different artists or the same painter. These characteristics include creativity, inherent meaning of a painting to the audience, and the function of the painting in society. On this basis, it could be concluded that not all paintings are created equal. A good work of art transcends a painted picture and communicates to people. It is part of a culture of a people. It relates to the emotions of a society and has the ability to make a change.

While media cannot be factored into the definition of painting, the data and reviewed literature shows media, has played a large role in history and development of painting and is an inherent aspect of artist's experiences and development.

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Appendix A: History Of Painting Techniques And Criticism

The section examines the history of painting and attitudes towards the introduction of digital media and style of painting in relationship to attitude towards computer or digital painting. It is a chronological summary of the paintings styles of some of the major art periods starting with the prehistoric period. Other periods examined include the ancient Egypt, the, ancient Greek, and ancient Roman periods. It will examine painting styles of the Renaissance period and their contribution to the evolution of painting techniques. It will address the contributions of fine art photography.

Painting contributed immensely to aesthetics theory in the different periods in history (Bolton, 2013). Schools were established to train various artists in diverse ways. Disciplines of painting particularly fresco, tempera, oil, watercolor, gouache, pastels, acrylic, cold wax techniques, enamel, polychrome and stereochromic paintings and much later digital painting were introduced during different stages in the history of painting. Furthermore, during the establishment of the various art movements several styles of painting were developed including decorative, realism, cubism, abstract, impressionism, expressionism, gothic, surrealism, and many more (Gardner & Kleiner, 2013). The themes they concentrated on included religious, portraiture, historical, nature, landscape, allegorical, and still life. The history of painting dates back to the pre-historic period when hunters engaged in cave painting, engraving, and sculpture reliefs that tell stories of their culture. Painting spanned all cultures and periods where the introduction of new styles and philosophy known collectively as modern art were successfully established (Ayres, 1985; Gardner & Kleiner, 2013). The culture of each era has a deep and direct

impact on the development of new styles especially during the modern art period. In contrast with the old modern art, traditional art, which lasted until the early 20th century, functioned more as representational and religious art forms. The evolution of art is said to have begun with the prehistoric cave painting found in caves in Lascaux, Chauvet, and Altamira. It continued through the ancient era of Egypt, Aegean and Etruscan, as well as the Greek and the Roman classical period. Their paintings were mainly composed of the murals, vase painting, and panel paintings. Paintings of the classical era functioned as narrative or descriptive art forms used to record the life of a group or individuals. The fall of Roman Empire in 450 B.C gave rise to Byzantine art, of Constantinople (Gardner & Kleiner, 2013).

Events and periods in history had a significant influence on art as they engender the emergence of the different and popular art movements. While form and content of one particular period may differ slightly or largely from the one that preceded it, the transformation is always influenced by the previous style (Rosand, 1974). The change is either due to resistance to approaches in art, or to the social environment that the earlier style supported. Change was attributed to the friction between schools of thought on aesthetics and the philosophy of art. Hence, while the main purpose of this section is to examine art criticisms of art during the Industrial Revolutionary period and subsequent modern art forms in connection to digital painting , it will begin by examining the philosophy of the ancient art forms starting with the prehistoric period. This is because their role in history engendered the development of the beginning of art theory and art criticism (Gardner & Kleiner, 2013).

Prehistoric Period (53,000 B.C – 15000 B.C)

Prehistoric period included Paleolithic, Mesolithic, and Neolithic, which referred to the stone technology that prevailed through thousands of years of the early human life. The prefixes paleo, meso, and neo stand for words early, middle, and late correspondingly. The suffix lithos means stone in the Greek language Gardner & Kleiner, 2013).

While the origin of painting is said to be unknown (Janson & Janson, 2004; Van Dyke, 1919) research have evidence that it might have begun with the prehistoric cave painting cave paintings, which were first discovered over a century ago in caves in parts of central Europe, Africa and Asia, France and northern Spain (Ayres , 1985; Gardner & Kleiner, 2013). The painters who were hunters as well depicted their daily activities including hunting of animals through their paintings. Assessment of the choice of subject, and the suggestive style of painting, show that 'originality' was not the main objective of prehistoric painters. The technique used in the painting at Lascaux involved depicting their animals of different sizes using colored silhouettes or outlines (Gardner & Kleiner, 2013). The paintings showed the prehistoric painters were not concerned with perspective; rather they were interested in descriptive rendering of images. An example of this can be observed in the painting of the bulls at the Hall of Bulls in Lascaux in France. Because the descriptive technique was applied, both horns of the bulls were made visible though the painting was of the side of the animals. If the perspective technique had been employed only one horn would be observed (Gardner & Kleiner, 2013). The painters used walls with jagged surfaces to help bring a more realistic look to the painted

form. For example and protruding portions of the walls were to suggest the bulging parts of the animals. While the reason behind of the painting of the forms in the cave is unknown, researchers believe the hunters believed they possess magical abilities that could control the animal they hunt by imprisoning its soul in the painting. They believed the paintings would improve the hunters' luck, and, help preserve their food supply (Ayres, 1985; Gardner & Kleiner, 2013).

Other techniques the prehistoric painter used were the application of colors on some parts of the forms through grading of colors from the outside to the inside. This technique was used in the cave painting found in Font de Guame in France. For the cave paintings at Niaux, the painters used the oriented hachure technique, a mode of representing a relief to illustrate steepness. At Altamira and Lascaux, the painters used two colors, red and black and finish by outlining their forms to create a relief (Leroi-Gourhan, 1982).

Little is known on the aesthetic doctrines of prehistoric art due to the limited documentation on its background. Nygaard (2004) affirmed that the notion that rock paintings and carvings were used for spiritual purposes was rejected by many academic researchers. This was based on the assumption that the animals represented on the rocks were not part of the dietary intake of the people of the Stone Age. Their hypothesis was based on the finding of excavations by archeologists who discovered that the main protein source of the Stone Age man was cod, herring, and pollack. None of above mentioned protein source was however illustrated in their paintings and carvings and as such, the figures painted on the panels during that age were purely a representation of

artistic expression and the caves acted as galleries where they could exhibit their works. Some archeologist borrowed terms and phrases commonly by art historians and art critics "such as, elegant, in pure style, clumsy, and immature" to describe rock art (Nygaard, 2004, p. 154). Nygaard sought to debauch this theory. From the his point of view, prehistoric art on rock surfaces is not art in view of the fact that they functioned as significant aspect of ritual activities as well as survival guides and instructions to standard societal behavior (Nygaard, 2004).

Egyptian Painting (3500 30 B.C - 30 B.C)

Van Dyke (1919) explained that aim of the ancient Egyptian paintings was to idolize deity and monarchy. They were symbolic illustrations, which were used recorded and preserved history. Mural and panel paintings and sculpture were the best method of preserving their history because books were non-existent then and the papyrus was too weak to preserve the paintings. Hence, they curved and painted their palace wall and tombs to tell their history in a form of vignettes. Another function of the paintings was to lighten rooms as Egyptian architecture were usually built to keep out light. They painted in bright and almost whimsical colors and frequently used greens, yellows, and blues to create boarding bands (Van Dyke, 1919). The roofs and were often painted in blue colors and decorated with gold stars. Though the Egyptian artist adopted a naturalistic style of painting, they employed an odd and consistent method in portraying the human figure. They always illustrated the feet, legs, in profile while the shoulders, arms, the torso, and eye, were painted to face the front view. They made use of symbolic colors like yellow, green, and blue, to paint the skin color of certain gods (Van Dyke, 1919).

As stated by Gardner and Kleiner (2013), mural paintings functioned as representational and narrative art forms. The paintings usually portray the agricultural and hunting activities in ancient Egypt. Artists adorned the walls of the mastaba (ancient Egyptian tomb) of Ti who was an official of the Fifth Dynasty with murals painted in limestone. A scene on one wall depicts Ti and his men wielding spears in a boat on in marshes hunting for birds and hippopotamuses. The artists used Papyrus to create a dense growth. On the lean and towering stems of the plants, the artists created fine grooves that spread out in a graceful manner at the top into a chaotic scene of startled birds with beasts creeping up on them (Gardner and Kleiner, 2013). Ti's figure is rendered in formal pose and twice its size as compared to other figures. This form of representation is customarily employed by the Egyptian artists to demonstrate the rank of leaders. The disparity in sizes in the representation of the human figure changed under the rule of Akhenaton after he toppled the native cult of Amen. The painting style of the artists changed to reflect the new religious change. They expressed their newfound attitude by creating a new movement whose realistic representation of animals was now extended to the human figure including royalty. This was demonstrated in the painting of Smenkhare who was the half-brother of Akhenaton and his wife Meritaten. In this painting, it is apparent that the traditional method of figure representation has been done over with and replaced with a less formal representation of those of a higher rank (Gardner and Kleiner, 2013).

Greek Painting (1200 - 31 B.C)

The Greeks employed geometric styles in the painting of vases. Greek paintings themes can be compared to prehistoric cave paintings, and Egyptian painting in the sense

that they all function as narrative or descriptive art forms that were representations of the

life and culture of a people (Gardner & Kleiner, 2013). Their painting of the human

figure and furniture on the vases were two-dimensional silhouettes. The figures were

illustrated with triangular torsos and the legs, arms and head in profile. They incorporated

motifs and patterns in their painting. This style represented a major change in the subject

of storytelling in the classical age. The Greeks were interested in the painting of animals

such as the native boar, lions, panther, and mythical animals in particular, the sphinx

(mythical creature with human head and lion body) and lamassu (mythical creature

human-headed winged lion) (Gardner & Kleiner, 2013). They customarily painted these

side by side on the same vase. The painters usually used black in rendering their

silhouettes, red, and white to show highlights. Not all the artists utilized the geometric

style. For instance, painters including Kleitais and Exekias known for their black-figure

technique rendered their works in a slightly different style. Another technique introduced

around 530 B.C was the red-figure technique. This technique was the inverse of the black

technique. Instead of painting the figures in black pigment, they were painted in red

instead (Gardner & Kleiner, 2013). The benefit of this technique was that the red depicted

the natural skin tone of the Greek. Another method of vase painting was the white-ground

technique, which required the use of white clay to paint the background while black glaze

was used to outline the figures. Despite the fact that this style had been around for some

time, it became popular around in the middle of the fifth century (Gardner & Kleiner,

2013). Artists painted human figures in conformity to the traditional way; with head, legs

and arms in profile, and the torso, and eyes in front view, they however did not use the

geometric technique. Instead, they made use of motifs and patterns. The painted figures and ornaments conformed to the shape of the vase. An important and significant trait of classical ancient Greek vase painting was the concept of ancient Greek mythology for example Achilles, Ajax, Herakles and Antaios (Gardner & Kleiner, 2013). Another characteristic was how painter signed their work. On the vases, they stated the artist name followed by the phrase "painted me" (Gardner & Kleiner, 2013, p. 133). For instance, on Francois Vase, a vase painting by Kleitias was signed, "KLEITAS painted me" (Gardner & Kleiner, 2013, p. 133). This personified the vases. Critics argued that vase painters in Greek copied their technique from the Corinthians (Gardner & Kleiner, 2013).

Roman Painting (753 B.C – A.D 400)

Roman art is said to be an imitation of Greek art. It is not a surprise then that some of the panel and mural paintings depicted famous Greek mythical tales as well as Greek heroes. Gardner and Kleiner (2013) noted that Roman mural paintings in Pompeii show the most complete record of changes in interior decoration styles in the entire world. Pompeii was originally a Greek city that produced many mural painters. It was later dissolved into the Roman Empire (Rostovtzev, 1963).

August Mau, a German art historian, suggested a systematic way to divide the mural paintings styles into four (Mau, 1899). These four styles were the representation of the classifications of the different Pompeian Styles and until date form the foundation for the study of the history of Roman painting. The first style known as the Masonry Style required the use of painted stucco relief that gave panels an expensive marble look. This style is believed to have originated from Greece (Mau, 1899). The second style was

named Mau's Second Style. It is believed than this style was borrowed from the Greek. The second style an improvement of first style In this style, painters used illustrations to give an impression of a three-dimensional look instead of the flat wall painting the first style exhibited. In the third style, artists painted intricate straight lines generated from their imaginations on one tone background (Mau, 1899). They created perspective within frames that gave an appearance of opening into another realm. The fourth style known as the Intricate Style, which was the most popular of the four was a blend between the second and third styles in which utilized architectural illusions (Mau, 1899; Gardner & Kleiner, 2013).

Paintings in the Middle Ages (400 – 1400)

The Middle Ages, Medieval, or the Dark Ages were the terms coined by historians to describe the period between the classical art period (Greek and Roman art period) and the Renaissance period. Historians saw this era as having little to offer hence the name 'the Middle Ages' to derogate the contributions of that age (Kern, 1968). It was believed that the Middle Ages' lacked any academic and economic progress. During this period, The Catholic Church was in presidency, it controlled all social aspects of the age, and possessed the power to suppress the freedom of express ones ideas. Europe during this period employed the feudalism system. Under this system classism prevailed (Kern, 1968).

In the course of the eighteenth century, historians re-examined and later acknowledge the advances of medieval culture. The Medieval art was a representation of the interrelationship between Christianity, the art form of Byzantine, a region located at

the eastern part of Christianized Roman Empire, Islamic art, and Celtic German art known as the 'barbarians' It included Romanesque Art and Gothic art. These artistic styles in each of the regions were developed to express their religious and cultural beliefs (Gardner & Kleiner 2013).

According to Van Dyke (1919), when Christian artists in Byzantine started out, they expressed their religious convictions through styles they unequivocally inherited from the typical Roman art techniques. Artists' went through many style changes and gradually transitioned to their own styles. In the early part of Christianity, figure painting was opposed because it was seen as the worship of idols. It later came to be accepted under the conviction that art can act as a visual aid to preach Christianity to people who could not read. During this period, painters borrowed directly from the Roman technique of figure painting. Nevertheless, they were regulated by standard rule that restricted figure painting wholly to the depiction of Biblical figures. Their rendition of human forms was not natural and the expressionless faces did not depict the form of the passion associated with Christian worship. Their color scheme, which was usually flat tints of red, blue and greens with outline bands of brown was similar to that of the representative and decorative style of Ancient Greek and Roman art. Furthermore, perspective was hardly used. Gradually their method of figure painting changed to a more stiff and heavyset figure type with long garment that represented the Christian form of worship and hid the sizeable parts of the figure. The expressionless faces change as well. For example, face of Jesus Christ was painted to have more majestic expression with sorrowful and large eyes. The color scheme changed to more rich tones with gold

decoration. Soon this style became overcompensated, which left the figures looking more unrealistic than before. As stated by Van Dyke (1919), the facial expressions led to contorted features with sullen and depressed looks. Their choice of color of brown for the skin and green tint for shadow give the impression of sickly being. During the period of Romanque and Gothic ages, Cimabue and his pupil, Giotto as well as Ambrogio Lorenzetti of the Sienese School of painting challenged the rigidity of the painting conventions of the early Byzantine painting.

Theorizing Art In The Ancient Era And The Middle Ages

Theories on Art have existed for a long period before the Middle Ages. Ancient art of powerful civilizations, namely, Egypt, Greece, Rome, and those of the Middle Ages had famous philosophers who wrote on and developed theories of art as guides to help judge the value of art (Nelson & Shiff, 2003). Greek philosophers such as Socrates, Plato, and Aristotle were credited with initiating the inquiry into art theory. The theories they developed acted as the foundation for the development of subsequent art theories and art criticism (Nelson & Shiff, 2003). A dialogue between Plato and Socrates (469 BC–399 BC) in Plato's Republic X revealed that the two Athenian Philosophers' theory about painting is that painting is an imitation of reality. In the dialogue Plato used the phrase "creator of appearances" to describe artists (Plato, 1892, p. 380). He used the word 'untrue' several times to describe painting noting that art is an "indistinct expression of the truth" (Plato, 360 B.C, p. 559)

According to Halliwell (2000), Plato described painting as an "imaging/modeling of the visible world" (p. 101). He went further by stating that painting gave the visual

artist the ability to capture the essence of nature and ones personality through facial expressions and movement. Plato argued on the same line when he stated that painting conveys feeling and value. The argument by Halliwell for Plato's stance on painting as an expressive tool debauched the opinion that Plato had no love for painting.

Keuls' (1978) supported Halliwell's argument that Plato has little respect for painting. He wrote that though most students of Plato testified that his dislike for painting turned more aggressive in his later years, any reference to painting was merely an allegorical argument free of critical judgment. The author contradicted herself by admitting that Plato made some discriminatory comments in later dialogues that indicated his contempt for the art. As stated by the author, Plato's contempt for the art contradicted his show of respect for famous artists in his earlier dialogues. This proved his students' conclusion on his attitude towards painting right. Keuls (1978) pointed out that Plato's increase in contempt for painting was due to the introduction of graphic arts into school curricula, and the graphic artist being assigned a new role as contributors in the educational system and the field of philosophy.

Karelis (1976) maintained that Plato criticized painting and poetry in Republic X. His criticism of the art was condemned by other philosophers including Aristotle (384 BC – 322 BC) and Georg Wilhelm Friedrich Hegel (1770 – 1831). She noted that writers who supported Plato's theory insisted that he was not as critical of painting as it seemed. While others like Sir Philip Sidney (1554 – 1586), an English poet argued that the Greek Philosopher was against the arts.

While Aristotle shared the same notion that art is an imitation of reality, his thoughts in his article Poetics showed he believed art had the ability to "represent men either as better or worse than the average, as the painters do." Unlike Plato who looked at both painting and Poetry, Aristotle's discussion was solely based on poetry though he made one or two references to painting (Aristotle, 1962; Aristotle, 1967, p. 17; Marshall, 1953).

Painting and the European Renaissance Era

The Renaissance period followed the Medieval Age. It was a revival of ancient Greece and Rome classical and its emergence was influenced the philosophy of individualism and humanism, which was a belief system that stress the potential value of every person's need for achievement (Gardner & Kleiner, 2013). The Renaissance had a significant influence on the cultural and socioeconomic conditions of that period. Socioeconomic conditions affected how art was observed, perceived, defined, and taught. The great cultural movement is believed to have started in Italy in the late 1200's and gradually spread through Europe, and by 1600, had influenced almost all parts of Europe. The Renaissance had its roots can be traced to the late Gothic era in Italy (Gardner & Kleiner, 2013).

Inspired by the works of the ancient Greeks, Romans, and the works of philosophers such as Plato, pioneer humanists including Francesco Petrarch helped in the development of the Renaissance. The influences of the humanists, Italian merchants, and political officials had a huge impact on the advancement of literature and the arts in Italy and other parts of Europe (Pater, 1986). During the Renaissance, new methods of

painting under different art movements were formed and perfected over time. Proto-Renaissance painters included Giotto di Bondone (1266 -1337) who experimented with techniques that portrayed perspective effectively. Filippo Brunelleschi, Donatello, and Tommasco Guidi a painter popularly known as Masaccio, (1401-1428) were recognized as the founding fathers of the Renaissance artistic revival. Artists of the High Renaissance, namely Raphael, Michelangelo and Leonardo da Vinci remain the popular artists of the Renaissance (Pater, 1986).

According to Burckhardt (1928), the transition from medieval age to the Renaissance was a shift from times when all focus was on religion, to a period that concentrated largely on individual growth.

As noted by Labella (2002), the Renaissance began in Italy at a time when the country consisted of a collection of independent states. Milan, a powerful state then attracted artists and writers alike. Florence became the cultural, intellectual, and artistic center of Renaissance Italy southern Europe. The authority of the Pope increased as the northern Italian states progressed in wealth and power. Popes was later considered as international political figure rather than a spiritual leader, and many of them were thought to be corrupt and discriminatory, and fell prey to the vices of corruption and nepotism that often accompanied a position of high power (Labella 2002).

The Renaissance painters employed realism in their painting. In accordance to the philosophy of humanity and individualism and focus on the real world, the Renaissance painter concentrated on themes that had to do with the human figure, animals, landscapes, portraits, buildings, as well as on Christianity and mythological tales themes (D'Elia,

2009). Their paintings showed detailed scenes inspired by daily activities. The painting

surface of the artists included canvases, walls, palaces, ceiling of churches as well as

homes of the wealthy, panels, and furniture (D'Elia, 2009). Artworks during the

Renaissance era became an important aspect of the society as they were displayed at both

private and public locations and this created the possibility for peoples from different

social backgrounds to be exposed to art. Art opened jobs for many artists because they

were contracted by patrons s namely, bankers, rulers, the church and the rich to create

artworks that could be exhibited in homes, churches and public buildings. Owning an art

piece conveyed prestige, power, affluence, as well as intellectual level in the society.

Additionally, schools were established to educate artists on the on subjects pertaining to

anatomy, geometry, and optics (D'Elia, 2009).

Throughout the High Renaissance period, artists namely da Vinci were interested

in depicting realistic images in three-dimensional forms (Lee, 1940). They experimented

with optics, mirrors and lenses to achieve their images, According to Hockney (2001),

prominent old masters including, Ingres, Michelangelo Merisi da Caravaggio (1571 –

1610), and Diego Velázquez (1599 – 1660) used optics, mirrors, and lenses to create

realistic paintings. Optics played a vital role in the development of painting styles and the

reasoning and purpose of painting since the 17th century. His examination brought to light

the connection between photography, film, drawing, and painting. It hammered on the old

argument by researchers on the existence of technology and its use before the

introduction of the computer and other digital equipment. An example of photographic

realistic painting is the portrait of Giovanni Arnolfini and his wife by Jan van Eyck (1390

– 1441), which exhibits a three-dimensional form that lacked in the earlier works of the painter. Halliwell (2000) made a brief mention of the use of optics by painters. He argued that Egyptian painters relied on traditional methods unlike the Greek who used optics to create their work in a shorter span of time.

No known critique against the Renaissance style of painting has been documented. Literature that examined art criticism during the Renaissance period pointed to the opposition of humanists to the medieval age. Art criticism addressed works by individual artists than the Renaissance in whole. According to D'Elia (2009), conflicts sometimes existed between artists and their contractors. An example the author discussed was the disagreements between Michelangelo and the pope on the execution of painting of the Sistine Chapel ceiling, situated in the official residence of the pope. As stated by the author, Michelangelo stormed out on the pope until he was coerced to come back to work. Another example was the disagreement between Rosso Florentino (1494–1540), and Leonardo Buonafede, a wealthy businessperson and the director of the Saint Maria Nuova. The patron commissioned Rosso to paint a panel. Having little knowledge of Rosso's style of painting, he fled after he saw the sketches to the painting because the Saints in the drawing looked like devils to him. Vasari (1998) noted that Rosso normally sketched in oil paint, which gave his forms a fierce and anguish appearance. In the finished work however, the expressions of the forms had changed to a more pleasant look.

Mannerism

The Mannerism style emerged during the 16th century in Italy. It was a transitional period, which fell between the later part of the Renaissance in the 1520 and the early stages of the Baroque style. It was believed to have originated in Florence and Rome and extended to several parts of Europe. It arose during a period when Italy was state of unrest, experiencing the Protestant Reformation and the Sack of Rome in 1957. Mannerism was a reaction against the renaissance and unlike naturalistic paintings of the Renaissance artists, Mannerist paintings exhibited artificiality (Gardner & Kleiner, 2013; Swain, 2011). The style was developed by artists who were more interested in a particular style rather being inspired by nature like the Renaissance artists. Compositions by Mannerists painters illustrate no particular center of interest, and the use of space was undefined. They employed a lot of dramatic movement and exaggeration in the painting of figures. Furthermore, Mannerist painters did not follow the rule of color harmony. They used opposing colors that gave a look of disharmony. Jacopo Tintoretto's (1518 – 1594) Last Supper characterized the painting style of the movement. The lack of focal point and the aggressive colors in the painting gave it a chaotic appearance (Gardner & Kleiner, 2013).

Baroque

Baroque art was instituted in Europe after Mannerism between 1600 and 1750 (Gardner & Kleiner, 2013). This style originated in France under the influence of King Louis XIV (1638 – 1715) and the Catholic Church. It was established as reaction against the artificial Mannerist style (Barker, 2012). Characteristically Baroque style conformed to tradition and spirituality and utilized realism. The concept of the style was created by

Caravaggio, Annibale Carracci, and Gianlorenzo Bernini, other prominent theorists and practiced by artists including Rodriguez Velázquez Diego (1599 – 1660), Peter Paul Rubens (1577 – 1640), Johannes Vermeer (1632 – 1675) and Rembrandt Harmenszoon van Rijn (1606 – 1669) (Bailey, 2012; Gardner & Kleiner, 2013). Baroque art portrayed luxuriousness, which King Louis XIV favored and encouraged for his benefit. The king employed artists to paint his portraits and the portraits of his mistresses, as well as his followers (Gardner & Kleiner, 2013).

Rococo

Rococo art made its first appearance in France in the 1700's (Bailey, 2012, Barker, 2012). The style was developed in reaction to the Baroque art, which was more geared towards the rich in society. Rococo art was encouraged by the growing middle class. The Rococo style exhibited elegant and flamboyance in its technique. Notable artists of this period included Francois Boucher (1707 – 1770) a painter and engraver. Boucher's works were seen as the embodiment of the Rococo expression. His style was portrayed by sophistication, employed light colors, and utilized decorative designs to illustrate mythical stories (Bailey, 2012).

The Effect of the Industrial Revolution on Painting

As stated by Gardner and Kleiner (2013), the Industrial Revolution period named the modern era or the machine age is believed to have emerged around mid-eighteenth century. Within a short period, physical labor was substituted for machines and the input of science in the field of technology and industry soon characterized the activities of modern societies. Under the modern era Enlightenment ideology replaced religion with

mechanical theories, including Darwin's theory of evolution and the theory of relativity elucidated by Albert Einstein.

The emergence of the Industrial Revolution can be credit to the social and economic conditions of that period (Henning, 1960; Kavolis, 1964b). The French Revolution of 1789, and other revolutions, counter-revolutions, revolts, and civil wars in Europe and America were some of the aspects that influence the emergence of the movement. Science and technology acted as catalysts to the changes during the industrial revolution helping to speed up the changes. Steam, petroleum, and electricity were explored to improve transportation, communication, and industrial production, which included steel and alloy steel and composites for the construction of ships, trains, heavy artillery, bridges and tunnels. Typewriters and textiles were produced during that period (Deane, 1979; Gardner & Kleiner, 2013).

During the industrial revolution age, reactions to the social structure sparked the establishment of several artistic movements (Gardner & Kleiner, 2013). Changes during these periods influenced artists to play with ideas translated into the development of movements that included Neoclassicism, Romanticism, Impressionism, Cubism, Expressionism, Futurism, and Surrealism, which in turn encouraged individualism and freedom from the standard rule (Gardner & Kleiner, 2013). Changes in styles and movements were constant during the Industrial Revolution period notably during the last half of the 19th century. The Industrial Revolution period saw the rise and fall of different art styles and art movements starting from Impressionism period to Op art period. Innovative tools inspired artists to come up with new techniques, which were kept

changing at rapid rates (Gardner & Kleiner, 2013). During this epoch, artists chose tools

and materials accessible to them and best communicated the theories they wished to

convey to their audience (Shanken, 2009). Tools and materials as such played significant

roles in the visual formulation of artists' ideology and their symbolic representation to the

artist's audience (Gardner & Kleiner, 2013).

Gardner and Kleiner (2013) noted that artists use to receive contracts from the

church, and people from notable circles before the emergence of the modern era. During

the modern era, these clients were replaced by people of the middle class who were more

concerned with money and property and new little about the arts. Art critics controlled

the market by creating an unpredictable market that was risky for the independent artist.

Moreover, because the number of artists had increased, there was a lot of competition

between artists to be noticed by the public. These obstacles alienated the artist and drove

them to protest against the degradation of the arts through their works and the support of

sympathetic art critics (Gardner & Kleiner, 2013). Armed with the romantic ideology of

self-expression, the artists came together to form movements demanded a new and

dynamic reformed vision that considered the artist individuality that was free from the

unrefined taste of the middle class and all institutions that supported it. The protest

against old principles started progress of modern art movements, which consisted of art

forms that differed from the traditionally art of Greece, Rome, and the Renaissance era

(Gardner & Kleiner, 2013). By the close of the 19th century, traditional art had been

replaced by modern art. As time evolved, there was a constant challenge between those in

favor of philosophy of modern art and those for traditional art causing the two ideas to be

blended. They were again separated by independent artists, leading to the formation of different movements, namely, Romanticism, Realism, Impressionism etcetera (Gardner & Kleiner, 2013). By the middle of the century, the art was divided into two branches. One side was centered on optical realism and the other was based on the psychological and spiritual investigations. Optical realism dealt with scientific research and productions of photography and cinematography and artists' interest in psychological and spiritual led to the development of abstract art whose audience included a selected few and specifically trained groups of individuals, while optical realism was directed to the public and popular (Gardner & Kleiner, 2013, p. 931). The split between the two groups was attributed to three factors, which included the camera, bulk production of prints, and duplication of prints. Shortly before the end of the century artist started applying the principle and elements of design. Every stage of change was met with conflict and resistance especially during and after the period of the Industrial revolution (Gardner & Kleiner, 2013; Rosand, 1974).

Neoclassicism, Romanticism and Realism

During the late 18th century and the early parts of the 19th century, three different dominant styles emerged in the Western World. There were Neoclassicism, Romanticism, and Realism (Gardner & Kleiner, 2013).

The term Neoclassicism simply referred to the revival of ancient Greek and Roman art style. The concept originated in France and it was led by Napoleon Bonaparte who preferred the classical method of ancient Greece and Rome to the Baroque and Rococo styles, which he strongly criticized (Cage, 2008). The influence of Napoleon

firmly established Neoclassicism in the Western world. The movement gained so much strength that that it seemed likely to continue as a strong force in Europe. The restrictions of Classicism however led some artists to rise against Neoclassicism and formed their own approach known as Romanticism a concept based on emotions. This approach immensely influenced western art (Gardner & Kleiner, 2013).

Romanticism was the major painting style at the start of the industrial revolution. This style was later followed by another, realism, which progressed to impressionism, a style that was ushered in at the end of the industrial revolution and continued after the end of the period (Gardner & Kleiner, 2013). As work by modern artist of the industrial revolution period differed from standard art created by academic artists of the 19th century, their work was dismissed by critics. They gave some art movements disparaging names, which the artists adopted anyway, debasing the original negative label attached to the name. This period saw the invention of the oil paint and the introduction of linear perspective (Manchester, 2002).

According to Gardner and Kleiner (2013), Romanticism emerged in the middle of the 18th century in Europe, and gained strength during the Industrial Revolution period. The Industrial Revolution thus played a major role in the establishment of Romanticism, whose goal was to reform the theory and practice of art, as well humankind's perception of their environment. Emboldened by the revolution, philosophers of the Romantic Movement called for the dissolution of traditional institutions and norms that obstructed human rights. They adopted the Enlightenment Age's idea of preference of "nature over social conventions and artifice" (Gardner & Kleiner, 2013, p. 931). The differences

between the two however is that the rationalism of Enlightenment recommended that one should listen to the reasoning of the head while Romanticism urged people to listen to their heart. Gradually, the philosophy of Romanticism replaced the rationalism of Enlightenment cultural situation during the revolutionary age. Theorists linked the theory of emotionalism to the Greek and Roman paragon of selfless virtue to reinforce and sell their beliefs to their audience. The main objective of the Romanticism movement centered on the belief that the discovery of one's identity can be found in the inner being and not in established societal norms. Their belief was embodied in their artistic style and technique. According to art historians, Romanticism was difficult to define because unlike the other art movements, it had no fixed doctrine. Given that it promoted individualism and the freedom to adopt any preferred style or sources and this resulted in the development of several styles Gardner & Kleiner, 2013. The movement had its roots in France and spread across most of parts Europe. Romanticism included painting, sculpture, architecture as well as poetry, fiction, and music. The artist laid emphasis on themes that evoke melodrama. They were inspired by nature, history, literature, religion, as well as the exotic and abstract themes. They were influenced by artistic styles of the classical period, the Renaissance and Baroque. Gardner and Kleiner (2013) argued that painting was the most appropriate and logical medium for the artist of the Romantic period because it was "an extraordinarily sensitive medium for the romantically subjective, and personal expression". The movement was ideal for conveying the melodramatic themes the artist of this era embodied (Gardner & Kleiner, 2013, p. 934).

Despite the efforts by artists to prevent their alienation from society because they embraced a movement that oppose the formidable changes and supported individualism, their quest resulted in estrangement (Gardner and Kleiner, 2013). It was believed their ideals opposed the theory of the academies. An example is Jean Auguste Dominique Ingres (1781– 1867), a French artist who favored the neoclassical style was ridiculed and criticized because he used rich colors and applied the technique of classical Greek Vase painting. Jacques-Louis David's (1748 – 1825) neoclassical themes in Romantic content and his style of combining different forms were considered unconventional as such criticism of his work continued until the emergence of Eugène Delacroix in the mid 1820's (Gardner and Kleiner, 2013). Critics turned their attention to Delacroix because they believe that his art was more radical since they contained newfangled characteristics that opposed the official Neoclassicism style than Ingres' work. Soon Ingres' position as the spectacle of ridicule in the art society changed when he became the head of the academic group against Delacroix and Theodore Gèricault (1791 – 1824). Delacroix and other Romantic artists of that era were labeled with derogatory terms; namely 'barbarism' and 'destroyers' (Gardner and Kleiner, 2013, p. 935). To Ingres, Romanticism and Realism had a pernicious influence on art that demonstrated awareness of traditions. He called for artist to return to the past. He declared,

> Let me hear no more of that absurd maxim: "We need the new, we must follow
> our century, everything changes, everything is changed. All that is sophistry!
> Does nature change, do the light and air change, have the passions of the human

heart changed since the time of Homer? –"One must follow one's century"…but what is my century's wrong? (Gardner and Kleiner, 2013, p. 935)

Ingres called for the perseverance of traditional art and the rejection of the newer modern art of the epoch described the resistance of the classicists to modern art specifically Romanticism and Realism (Gardner and Kleiner, 2013).

An article written by the Macmillan's Magazine for the New York Times described an incident that occurred at a dinner in the house of a banker. This incident illustrated the differences in character between Ingres and Delacroix and the extent of Ingres' disapproval of the Romantic style. According to the article, an angry Ingres stormed up to Delacroix when learned he was invited to dinner as well and exclaimed, "Drawing, Sir, drawing is honesty! Drawing, sir, drawing is honor!" He continued, "This is too much! I shall go; I will not let myself be insulted any longer" Ingres was so mad with frenzy that he accidentally knocked over a cup of coffee spilling it on himself (Macmillan's Magazine, 1883, p. 1). Delacroix on the other hand, was reported to have remained calm and spoke no ill of Ingres earning the respect of the other guests present. In response to Ingres behavior, he discussed the qualities that make Ingres a distinguished painter. He explained "Talent is apt to be exclusive; narrowness is often the condition of its existence" (Macmillan's Magazine, 1883). Delacroix's comment summed the causes for the friction between artists during that period. His statement pointed to the idea that artists adopt different styles that suit them. Different artists may be inclined to interpret aesthetics according to his or her bias, emotions, or cultural needs. If open mindedness were applied, the differences may not be an issue (Macmillan's Magazine, 1883).

As stated by Willette (2010), Charles Baudelaire (1821 – 1867) was part of the Romantic movement and his writings on examination of the Salons showed he was inspired by Romantic thought. He constantly used the first person plural personal pronoun 'we' showing he considered himself a Romantic. For instance, in his defense of the Romantic idea on beauty he wrote,

> Absolute and eternal beauty does not exist, or rather it is only an abstraction skimmed from the general surface of different beauties. The particular element in each manifestation comes from the emotions; and just as we have our own particular emotions, so we have our own beauty" (Willette, 2010, sec. 1:6).

Baudelaire used definitive words to explain Romanticism in his essay Le Salon de1846. He described Romanticism as the "most recent, most modern expression of beauty" (Willette, 2010, sec. 1:3). He continued by labeling the Romantic artist as "the great artist" because he believed he or she have the ability to combine the needed conditions the "greatest possible" being the "quality of naïveté" required of a Romantic artist" (sec. 1:3). According to Baudelaire, Romanticism

> is precisely situated neither in choice of subjects nor in exact truth, but in a mode of feeling. They looked for it outside themselves, but it was only to be found within. For me, Romanticism is the most recent, the latest expression of the beautiful (Willette, 2010, sec. 1:3).

According to Baudelaire, Romanticism was the true representation of modernism; that is "artistic freedom and the expression of individuality" (Willette, 2010, sec. 1:4). While Baudelaire praised Romantic Movement by defending their stance on beauty, his

opinion on Realism lacked impartiality. Whereas he used words like "beautiful" and "modern" to ascribe Romanticism he choose the words "ugliness" to describe Realism, a movement that emerged after the decline of Romanticism (sec. 1:7). The Realist style did not appeal to Baudelaire. He wrote reviews on exhibitions by Ingres and Delacroix while, he disregarded works by Jean Désiré Gustave Courbet (1819 –1877), a realist, though they all represented France (Willette, 2010). In his essay, *Le Salon de 1859*, Baudelaire expressed his disapproval of photography when he stated, "Each day art further diminishes its self-respect by bowing down before external reality; each day the painter becomes more and more given to painting not what he dreams but what he sees" (Willette, 2010, sec. 1:10). To him Realism as unworthy of all art forms art and realists were people who "have no imagination". He noted that, "Without imagination, all the faculties, however sound or sharpened they may be, are as though they did not exist" (Willette, 2010, sec. 1:12). He quoted Delacroix "Nature is but a dictionary" in order to compare him to the realists (sec. 1:12). Baudelaire argued that they are "are obedient to the imagination seek in their dictionary for which the whole visible universe is but a storehouse of images and signs to which the imagination will give a relative place and value; it is a sort of pasture which the imagination must digest and transform" (Willette, 2010, sec. 1:12).

Before the 19th century, artists mainly focused on subject matters determined by the art academies and the Salon de Paris (Gardner and Kleiner 2013).The French Revolution encouraged artists to give equal precedence to everyday subjects depicted in their natural settings. According to Gardner and Kleiner (2013), Realism became a

dominant style of art during mid-nineteenth century, after going through a gradual

process of development and criticism. Influenced byscience and real life experiences,

artists created works that spoke to their audience because they could relate to the

message. At the beginning of its establishment, Realism borrowed some characteristics of

the romantic style (Gardner and Kleiner 2013). The Realist method of painting included

reproduction of an optical field to the exact tone of color. Nature chose the subject matter

not the artist. Hence, Realism was achieved using nature and the daily activities of

society as the subject matter. The argument between Realist and Romantic stemmed from

subject matter. Realist rejected the artificiality of the Romantics and their representation

of the archaic times (Gardner and Kleiner 2013). Because Realism was the representation

of the reality and the present, they quantified modernity and modern style. While the

renaissance style was used to illustrate Christian and Classical themes, Realism was used

to report facts in history and staged reenactments of past events on flat surfaces. Notable

Realist painters included Gustave Courbet (1819 – 77), Honore Daumier (1808 – 1879),

Jean-Francois Millet (1814 – 1875), and Thomas Eakins (1844 – 1916) (Gardner and

Kleiner 2013).

Technological Advances in 19th Century Europe

Europe in the nineteenth century was a period of radical change. It was the age of

the Industrial Revolution, when Europe attained scientific, industrial, and technological

advances that influenced individuals to call for reforms in all aspects of society.

Modernism was born during the mid-part of the nineteenth century with the emergence of

Realism and the invention of the camera; a technological tool devised purposefully for

recording photographic images. Photography supported the Realists' ideal that Realism represented actuality (Gardner & Kleiner, 2013). Technology has provided art with the means to produce innovative works.

According to Miller (2007), the invention of oil paint and acrylics, the use of perspective, lithography, the camera, photography, and airbrush are some of the inventions influenced by technology. He argued that without an artist any work created with any technological innovation lacks the aesthetic values required to make the work an art piece.

Photography.

Like any other technology, photography was developed to "satisfy a foreseen social need" (Wells, 2004, p. 12). Wells gave some example of situations that led to the product's development and point to need for the camera in society. The first example was the demand for portraiture due to the growth of the middle class population. The second was the report by Batchen (1997) that showed a list of the names of 24 people who shared the same desire to invent a tool that created images by light since 1782; that is before the photography was officially introduced by Daguerre and Fox Talbot in 1839. The authors discussed the question as to whether photography was to be considered as art or technology. At the beginning of its inception, photography was regarded as a valuable technology because of its ability to produce nature realistically and accurately. Ironically, the same valued quality of photography precluded it to being accepted as an art form in some circles. Its ability to capture nature and the mechanical characteristic accurately led critics like Baudelaire to discount its contribution and influence to the field of art (Wells,

2004). According to Wells, Baudelaire (as cited in Wells, 2004, p. 13) claimed that "if photography is allowed to deputize for art in the art's activities, it will not be long before it has supplanted or corrupted art altogether" (Wells, 2004, p. 13). He called for photography to return to its only function as a support tool for arts and sciences. He labeled photography as a "very humble handmaid" comparable to "printing and shorthand, which have never created nor supplemented literature" (Wells, 2004, p. 13). Baudelaire saw photography as a document meant to "enrich the traveler's album and restore to his eyes the precision his memory may lack" and "adorn the library of the naturalist, magnify microscopic insects, even strengthen, with few facts, the hypothesis if the astronomer"(p. 14). He saw it as the "secretary and the record keeper of whomever needs absolute material accuracy for professional reasons" (Wells, 2004, p. 14). Some photographers accepted the criticism while others opposed it believing it to be more than a mechanical tool for capturing images. They argued that when it is improved upon, photography could produce images with qualities equal to painting. As began Pictorialism; the photographer's quest to prove critics wrong and improve photography to the level of art forms by making sure subjects are well composed and limiting the appearance of technological presence in photographs by making pictures to look unfocused, blurry and fuzzy. Some concentrated on religious subjects, while others scratched their work to create roughness associated with paintings on canvases (Wells, 2004).

Other photographers stood their ground against critics by honoring and accepting the unique qualities of conventional photography. Similar to other art forms, exhibitions

on photography were held in galleries. Magazines were produced to inform people about photography as art and imitated characteristics of established art forms. Photographers during that period earned their living by taking pictures of individuals who could not afford having their portraits painted. This drew criticism from painters. Frank Howard (as cited in Wells, 2004, p. 15) noted:

The cheap portrait painter, whose efforts were principally devoted to giving a strong marked diagram of the face, in the shortest possible time and at the lowest possible price, has been tot a great extent superseded. Even those who are better entitled to take the rank of artists of artists have been greatly interfered with. The rapidity of execution, dispensing with fatigue and trouble of rigorous sittings, together with supposed certainty of accuracy in likeness in photography, incline many persons to try their luck in Daguerreotype, a Talbotype, Heliotype, or some method of sun or light-painting, instead of trusting to what is considered the greater uncertainty of artistic skill (Wells, 2004, p. 15)

Other critics, for instance Lady Elizabeth Eastlake (1809 – 1893) who though agreed that photography is not art were sympathetic to the art form. She wrote that photography "is made for the present in which the desire for art resides in a small minority…" however, the "craving, or rather the necessity for cheap, prompt, and correct facts in the public at large" (as cited in Wells 2004, p. 15). Eastlake saw photography as "the sworn witness of everything presented to her view" meaning "facts which are neither the province of art nor of description, but of that new form of communication between man and man" which she believed to be "neither letter, message, nor picture" (as cited in

Wells 2004, p. 15). Explaining Eastlake argument, Wells (2004) noted that photography

was more concerned with reporting facts rather than the advancement of a different

aesthetic theory. In reference to the phrase "sworn witness", the authors explained that

the expression represents the typecast role of photography for many years as the reporter

of reality (p. 15). They established that the reason behinds Eastlake's argument is

"photography's inability to choose and select the objects within the frame that locates it

in a factual world and prevents it from becoming art" (Wells 2004, p. 16). Wells (2004)

disagreed with Eastlake's stance that photography was "ubiquitous and classless" because

they could be commissioned by anyone (Wells 2004, p. 16). According to them, the use

of photography extended from "experimenters and hobbyist" to people who turned it into

a profession and improved on its performance and established the best method of

photographing people and settings (p. 16). They asserted that Eastlake's hypothesis that

photography was a new type of communication, which failed to detect the beginnings of

modernity during a period marked by the development of technological and scientific

innovations and transformations (Wells 2004).

Miller (2007) noted that the discovery of photography was not completely

accepted until its potential was realized. The camera, made the execution of the art form

flexible and easy. He argued that the camera is only an instrumental object without the

artist. According to him, one could only become an artist if they have the understanding,

insight, and technical expertise required to create an art piece. Artists like Eugène

Delacroix (1798 – 1863) found the outcome of using the camera more realistic than just

using the brush. The author attributed the advancement of impressionism and other art movement to the influence of photography.

Modernist Art

By the early twentieth century, science and technology were well established had made remarkable achievements some of which included the Max Planck's Quantum Theory (1900), the Special Albert Einstein's Theory of Relativity (1905), and the General Theory of Relativity (1915), as well as the Ruther-Bohr descriptive model of the nuclear atom (1913) (Gardner & Kleiner, 2013). The notion of modernism was derived from the progress made in science and technology. The scientific and technological revolution was reflective in the art field as the impressionist movement gave way to modernism. At the close of the 19th century, which was during the impressionist period, there was a growing demand by for art forms that expressed the mood of modern times (Gardner & Kleiner, 2013).

Encouraged by critics, art dealers and art collectors who supported the need for change from traditional art responded to the demand by establishing new styles and movements reflective of social and political discourse existing during the early parts of the twentieth century (Gardner & Kleiner, 2013). The course taken by the artists led to the formation of the Avant-garde movement. Their movements were met with a lot of resistance from a larger percentage of the public in support of the traditional art, including conformists, academies, and the government. The new movements issued their own journals, pledged manifestos, and held independent exhibitions and conferences. The aim of the avant-garde Movements was to see to a total reformation within the field of

art. Their exhibitions were comparable to political demonstrations of that period (Gardner & Kleiner, 2013).

As early as the impressionist period, the avant-garde called into question the concept of traditional art. Disagreements within the movement resulted constant separation and reformation of cluster of groups under the umbrella of the avant-garde movement. The consistent split within group earned the movement its name 'the avant-garde', a French word that literally means 'vanguard', a term given to a unit of troops who lead in the advancement an army. The movement was spread throughout Europe and America. In Germany and Austria, they started the Art Nouveau style and held several exhibitions between 1897 and1905 (Gardner & Kleiner, 2013). The avant-garde painters formed the Fauve movement in Paris held exhibitions in two salons in1905 and 1907, shocking the public with their technique of painting in bold colors and distorted figures. The Armory Show of 1913, held in New York marked the first international exhibition of modern art in America. Other movement under the avant-garde umbrella included the expressionist movement, futurist movement, and the surrealist movement (Gardner & Kleiner, 2013).

Impressionism, Realism, and Post-impressionism.

By the end of the nineteenth century, impressionism the French form of Realism, different from that of Courbet was established (Gardner & Kleiner, 2013). In 1864, Dante Gabriel Rosetti, an English painter wrote on the style in his letters to his family. In a particular letter to his mother, he wrote:

There is a man named Manet (to whose studio I was taken by Fantin), whose

pictures are for the most part mere scrawls, and who seems to be one of the lights

of the school. Courbet, the head of it, is not much better.

Rosseti and Rosseti (1895, p. 180)

(Gardner and Kleiner (2013) stated that in response to the new style, Courbet

wrote in 1867: "I myself shouldn't like to meet this young man … I should be obliged to

tell him I don't understand anything about his painting, and I don't want to be

disagreeable with him" (p. 980). Under Manet, realism in painting moved to a different

phase where new methods were added to the style. The aim of the impressionist

movement was to further authenticate nature through color and light. The term was

coined by a journalist in 1874, in his attempt to ridicule a painting by Claude Monet

(1840 – 1926) titled *Impression–Sunrise*. As Gardner and Kleiner put it, "the battle over

the merits of impressionist painting" began in 1863 with Manet's *Le Déjeuner sur l'herbe*

(Luncheon on the Grass), when the artist mounted an exhibition of his "then-

controversial" works rejected by the Jury for the Major Academic Salons at the Salon des

Refuses (Salon of the Rejected) in Paris (Gardner & Kleiner 2010, p. 980). The

Academic Salons were established institutions that monitored and reviewed artworks

during annually organized exhibitions of canvas paintings. Until the 1880's, the

exhibition center of the Academic Salons maintained its position as the field where

professional artists met to compete in the "battleground of modern versus traditional"

(Gardner & Kleiner 2010, p. 981). According to Gardner and Kleiner (2013), the Avant-

garde representatives, were ironically the most "shocked" by Manet's "daring modernity"

(Gardner & Kleiner 2010, p. 981). Manet's painting was a composition of a naked woman casually having lunch with two fully clothed men with another almost naked woman in the background. The figures were the identifiable forms of his favorite model, Victoria Meurend, his brother Eugené, and, Ferdinand Leehof a sculptor. The show of resentment was directed at an exhibition of promiscuity in a public park. In response to his exhibition, one critic wrote, "A commonplace woman of the demimonde, as naked as can be, shamelessly lolls between two dandies dressed to the teeth. These later look like schoolboys on a holiday, perpetrating an outrage to play the man…this is a young man's practical joke- a shameful, open sore" (Gardner & Kleiner 2010, p. 981).

Gardner and Kleiner (2013) argued that Manet's paintings might have been accepted had he not exhibited a painting of a naked woman amongst dressed men. As such, critics' rejections were based on his subject matter. In 1886, most critics and a large segment of the population accepted impressionists as genuine artists. Soon another style, Post-impressionism was born. Post-impressionism was based on the explorations of Georges Seurat (1859 – 1891), Paul Cézanne (1939 – 1906), Vincent van Gogh (1853 – 1890), and Paul Gauguin (1948 – 1903) on three-dimensionality, importance of lines for expressions, pattern and color, and symbolism of subject matters (Gardner and Kleiner, 2013). Painters of this movement included some impressionist painters and a group of young painters who felt impressionism ignored too many traditional elements and concentrated excessively on light and color. In a conversation with Ambroise Vollard (1866 – 1939), an art dealer in 1883, Pierre-Auguste Renoir (1841 – 1919) an impressionist painter said, "I had wrung Impressionism dry, and I finally came to the

conclusion that I knew neither how to paint nor how to draw. In a word, Impressionism was a blind alley, as far as I was concerned" (Gardner and Kleiner 2013, p. 1003)

Hurt (2006) wrote on the factors leading to modernist revolution in art. He noted that before the first exhibition by the impressionist painters in 1874, government controlled art for over 200 years and for 300 hundred years artists have compelled to traditions institutionalized during the Renaissance, and the artists was still using the oil paint as its source of color after 400 years. Discontented by these issues, artists called for change, setting off the rise of the industrial revolution and modern science (Hurt 2006). Between 1800 and 870, new pigments including, yellow, red, blue, green, and orange were created. The new pigments played a significant part in the impressionist movement (Hurt, 2006).

Another invention that facilitated the technique of impressionist artists was the collapsible mental paint tube by John Rand in 1841. This tool allowed the artists to step outside the studio to paint in a different way. Albert Wolff described public's response to the developing impressionist style. He noted,

> Some people burst out laughing at the sight of these things, but they just leave me heartsick. The self-declared artists style themselves the intransigents, the impressionists; they take canvas, paint, and brushes, throw some color on at random, and sign the result (Hurt, 2006, p. 2)
>
> In 1876, Edmond Duranty, an art critic said of the clashes between supporters of modern art and those of traditional art, "thus the battle really is between

traditional art and the new art, between old painting, and the new painting" (Hurt, 2006, p. 1). Duret wrote in 1878:

The unhappy impressionist can protest that his sincerity is absolute . . . But the public and the critics condemn him . . . For them, only one fact pertains: the things that the impressionists put on their canvases do not correspond to those found on the canvases of previous painters. It is different, and so it is bad. (Hurt, 2006, p. 2)

As noted by Gardner and Kleiner (2013), realism, impressionism and post-impressionism were adaptations of principles of romanticism that progressed into individual movements. They asserted that the movements were the manipulations of nature by the instincts and perceptions of artists until it came to a point where artworks were no longer an imitation of nature. Nature was replaced with the artists' imagination and individual technique and ideas were encouraged leaving them with the freedom to express reality as they see it. Many artists adopted the symbolic approach to subject matter and form, which was connected to the Symbolism movement of Europe.

Cubism, Constructivism, and Suprematism.

Modernist art provided insight into digital painting and its concept. King (2002) asserted that only a few of the avant-garde movement possess elements similar to digital painting, particularly Cubism, Constructivism, and Suprematism.

Cubism.

As stated by King (2002), Cubism was established between 1907 and 1911. Pablo Picasso (1881 – 1973) and Georges Braque (1882 – 1963) are recognized as the pioneers

of the movement. It was initiated before World War I by the two artists. The technique of the cubist artist was influenced by mathematics and science as they favored fragmentations and geometric forms, particularly cubes. According to King (2002) claimed that artistic movements bore similarities to the Einstein's inventions.

Kshatriya and Goodrum (2007) pointed out the cubist saw the figure as geometric forms instead of as living beings. For example, Picasso's *Portrait d'Ambroise Vollard* is elaborately rendered in colors and lines and depicting little about the subject matter.

There was a division between critics regarding avant-garde movements. Art critics of that period comprised of (1) conservative critics who preferred the traditional art of the academy to the modernist movement, (2) radical and sympathetic critics who supported the new art forms and (3) critics in between. Writers and art critics, including Guillaume Apollinaire, André Salmon, and Maurice Raynal who had developed alliances with modernist artists gave positive remarks on controversial art styles by artists they supported and were able to get them published by them small publishers who were themselves courageous enough and prepared to publish their books and articles. On the other hand, critics like Louis Vauxcelles and Arsène Alexandre who supported Post-impressionist style, inveighed against cubism (Willette, 2011).

Constructivism and Suprematism.

In 1911, a Russian critic wrote of the Russian Avant-garde movement, "The gods are changing from day to day ... everything has been jumbled together in a pandemonium. Everyone tries to scream as loudly as possible to appear as modern as possible" (BBC, 2014, p. 6). Constructivism fell under the umbrella of avant-garde movement of Russia.

The art form, which emerged in 1919, was created by the Russian Sculptor and painter, Vladimir Tatlin (1885 – 1853), who was influenced by the works of Picasso and Braque. The term Constructivism was not coined to describe Constructivism as a movement rather it described the concept behind their rendition of images. Constructivists were interested in the integration of technology in art and as such built abstract forms out of contemporary technology, mass production, and industrial materials. Vladimir Lenin (1870 – 1924), the first head of the Soviet Union (USSR) (B.B.C, 2014) observed that the concept of the movement had could not be grasped by the larger population. By the latter part of the 1920's, the movement was rejected by a significant number of people in the Soviet Union. As a result, Constructivists including Naum Gabo (1890 – 1977) and Antoine Pevsne (1886 – 1962) relocated to Germany, where they achieved success in their field. Unlike the works of those who migrated, the work of others who stayed back held little significance to the public (MoMA, 1978).

The Suprematism movement was developed by Kasimir Malevich and emerged in 1913 (Compton, 1976) The movement was introduced to the public in 1915 at an exhibition in Saint Petersburg. Malevich saw the new movement as the "New Painterly Realism" (Compton, 1976, p. 577). The artist threw light on the reason for creating a new art movement when he explained, "For the new artistic culture, things have vanished like smoke and art goes towards an end in itself, creation, it goes towards the domination of the forms of nature" (Compton, 1976, p. 577). Their technique of using geometric shapes was similar to cubist and constructivist art. Unlike the Constructivist movement, which

could not overcome the sentiments of the public, Suprematism survived initial criticism

of the public and soon became a dominant style (Compton, 1976).

Popular Art.

Popular art or Pop art movement was a reaction against abstract art. The most

famous works were the works of Andy Warhol and Roy Lichtenstein. The movement was

"entirely a Western cultural phenomenon, born under capitalist, technological

conditions". The use of serigraphy, a technique used in printmaking, characterized the

Pop art movement (Osterwold, 1999, p .6).

Pop art received a mixed review from the onset. Fortunately, they movement with

its vibrant art form was accepted by museums, collected and artists in general (Schroeder,

1992). The movement started in the 1950's with Richard Hamilton and Jasper Johns and

by the 1960's has become an established as an art form. Pop art is known to be one of the

dominant art movements of the 20th century. The movement was one of the first to use

printmaking and the press to advertise their work (Schroeder, 1992).

King (2002) mentioned that the Pop Art movement obtained its characteristics

from mass-communication media and popular icons. He indicated that some Pop artists,

particularly Richard Hamilton later used the computer in creating some of his works in

the mid 80s after computer technology hit the mainstream.

Summary

The history of painting techniques revealed that the evolution of painting is made-

up of a collection of changing process that often adopt from previous styles and yet the

difference are exceptionally vast due to affecting factors including socio-cultural and

economic contexts that influenced ideologies of change. Aside from the periods that fell between the Prehistoric to the Egyptian periods, which shared similarities in art as decorative and narrative art forms for recording history, artists after that period faced criticism for either adhering to the traditional style of the academia or for introducing a difference in style.

Art critics analyzed art based on standard aesthetics theories. Aesthetic theory is seen as the pursuit of a rational basis for art appreciation. According to the literature on art history, critics of the of the Academic Schools often favored artists of the old order and rejected artists of newly created movements, including impressionists, Romanticist, Realists, Cubists, and Suprematism whose works are now highly acclaimed. Negative criticism of art works usually left artists and critics at loggerheads over who was right or wrong. Impressionism and Cubism were some of the names coined by critics for new movements to show their disapproval for the art forms. The names were willingly embraced by their respective groups changing the negative tone behind the names to a positive meaning to correct the public's demeanor towards the movement.

The Renaissance was part of a historical dynamic cultural movement that influenced modernist art. It provided the necessary resource on art criticism to examine similar situations digital painting. Some authors cautioned against denying the benefits of technology in art. According to Findlen (1998), unwillingness to cross standard boundaries set for traditional disciplines curb the discovery of innovative ways to paint.

Appendix B: Pilot Study

Prior to the conduct of the main study, I conducted a pilot study at a 4-year higher education art college located in Ohio. The pilot study described the processes included in data gathering, analysis and findings. These included problems, challenges, decisions, judgments as well as the process of data collection, memo writing, analysis, coding and generating categories. Using the grounded theory guidelines and strategies, the researcher conducted a pilot study on the use of digital media in painting and its significance. The research was conducted with the purpose of learning from instructors about their experiences in using digital media and their perception towards its use. Another purpose of the pilot study was to identify deficiencies and necessary modifications of the research questions and interview questions before carrying out the main research. According to Sampson (2004), the evaluation of data reveals the inefficiencies in a research design. Conducting a pilot study can therefore help expose problems in the research. The pilot study revealed that the research tools were reliable and adequate in content to measure the opinions of participants.

The pilot participants were provided the pseudonym names Interviewee #P1M, Interviewee #P2M, Interviewee #P3M, and Interviewee #P4M. The letter P stands for pilot. The letter M (for Male) is added to each pseudonym name to represent the gender of each participant. Hence, Interviewee 1 became Interviewee #P1M, and Interviewee 2 became Interviewee #P2M

Problems Identified

The pilot phase of this research demonstrated that the proposed means of taping the interviews could not be adhered to in all interviews. All the participants had been made aware of the form the interview would take in emails. They were asked if they were in agreement with that and thereof, the participants consented to it. The last participant opted for audio interview instead. Of the three participants who consented to be videotaped, two were visibly uncomfortable during the early part of the interview. For that reason, the interview questions were reconstructed with questions originally placed in the middle asked first to help reduce the level of discomfort and make them feel more at ease. For instance before the interview with Interviewee #P3M started, he had brought up his lack of experience using digital tools, he was so fidgety and physically tense that I decided to start questions related to his educational background and personal interests. The same method was used with the interview with Interviewee #P2M. This time questions pertaining to digital tools were asked earlier as he earlier revealed he has experimented with digital media.

Another problem identified during the pilot phase was the construction of some of the interview questions. For example question 1 stated, "What media do artists or painters usually use?" in response to this, Interview #P1M asked:

Well that question has to be more specific.... I mean...you need to ask people... because there are two questions there. Art is a big general thing. And me… what I do is very specific. So you are asking about me specifically? (personal communication, January 31, 2013)

His response stated the obvious so I decided to refine the question to "What is the common media these days? And why do artists choose those kinds of media?

Participant Feedback

Two participants offered important feedback on the interview questions. The first was from Interview #P3M who pointed out that the use of the word *resistance* in regards to the acceptance of digital painting might be too strong a word. Due to this, word *resistance* was changed to *opposition*. The second feedback was from Interview #P4M. He suggested using the term digital media in place of digital tools, which according to him is more of a "grey area." Upon researching on the term, it became clear the term refers to all forms of art created with new technological tools and digital painting falls under this genre (Jana & Tribe, 2009).

Appendix C: Semi-Structured In-Depth Interview Questions

Semi-structured In-depth Interview Questions

1. In your opinion what is art/painting?

2. What media do you primarily prefer to work with?

   a. Why do you do prefer that media?

   b. Tell me about some of the factors that led to that choice?

3. What is your opinion about the importance of tradition art/painting in

   a. society?

   b. education?

4. How has digital media influenced your teaching method?

5. How has art/painting influenced your teaching?

6. Have you ever experimented with any digital tool? What kind?

7. What was that experience like?

8. Is there opposition to the integration and the use digital media in painting/art?

   a. from the public

   b. from other artists

9. Do you believe technology offers a greater opportunity for artists?

10. What are some digital media that you have employed in your work?

11. What are some of the obstacles you have faced working with digital media?

12. Which do you see has having more aesthetic value? Traditional or digital media art?

13. Should traditional art and digital art be compared?

14. Where is the place traditional art ten years from now?

    a.   education

    b.   society

    c.   in the lives of individuals

15. Would digital art ever be fully accepted?

Appendix D: Consent Form

Title of Research: Artists' Perception of the Use of Digital Technology in Painting

Researchers: Cynthia A. Agyeman

You are being asked to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked to sign it. This will allow your participation in this study. You should receive a copy of this document to take with you.

Explanation of Study

This objective of the study is to understand artists' attitude towards the use of digital media and digital painting.

If you agree to participate, you will be asked to participate in interviews, focus groups discussion about the topic and group observation.

You should not participate in this study if you are under 18 years and not an art teacher or art student currently enrolled in an art institution.

Your participation in the study will last for an hour. You can leave the study anytime.

Risks and Discomforts

No risks or discomforts are anticipated

Benefits

The research seeks to unearth and explain artists' perception of digital media. The outcome of the study will begin the development of an underlying theory for understanding the elements of technology in art and how that may affect the work of future artists.

You may not benefit, personally by participating in this study. This Study will inform the literature, art instructors and Art Institute directors as to the impact technology is having on artists and future artists as to work in the field of art.

Confidentiality and Records

Your identity will be kept confidential and be replaced with identifiers. Data will be kept in a secure locked drawer.

Additionally, while every effort will be made to keep your study-related information confidential, there may be circumstances where this information must be shared with:

* Federal agencies, for example the Office of Human Research Protections, whose responsibility is to protect human subjects in research;

* Representatives of Ohio University (OU), including the Institutional Review Board, a committee that oversees the research at OU;

Compensation

No compensation will be provided.

Contact Information

If you have any questions regarding this study, please contact Cynthia Agyeman at ck143704@ohio.edu and (740) 8188982 /Teresa Franklin Ph.D. franklit@ohio.edu and (740) 593-4561.

If you have any questions regarding your rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740) 593-0664.

By signing below, you are agreeing that:

- you have read this consent form (or it has been read to you) and have been given the opportunity to ask questions and have them answered
- you have been informed of potential risks and they have been explained to your satisfaction.
- you understand Ohio University has no funds set aside for any injuries you might receive as a result of participating in this study
- you are 18 years of age or older
- your participation in this research is completely voluntary
- you may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you and you will not lose any benefits to which you are otherwise entitled.

Signature   Date

Printed Name

Version Date: *[01/30/13]*

Appendix E: Sample Email: First Contact with Prospective Interviewees

Hello,

     My name is Cynthia Agyeman and I am a PhD student in the Department of Educational Studies at Ohio University. I am conducting research under the supervision of Dr. Teresa Franklin on *Artists' Perception of the Use of Digital Media in Painting*. As an art instructor, your thought and knowledge on artists' perception on digital media will be important to this study. I would appreciate the opportunity to speak with you about your experience on this topic.

     I would be happy to arrange a time and location convenient for you. Your involvement in this survey is voluntary and there are no known or anticipated risks to participation in this study. If you agree to participate, your participation should not take more than about an hour. You may leave the study at anytime. All information you provide will be considered confidential and will be grouped with responses from other participants. Furthermore, you will not be identified by name in any dissertation, report or publication resulting from this study. The data collected will be kept for a period of six months in a secured drawer in my supervisor's office at Ohio University.

     If you have any questions about this study, or would like additional information to assist you in reaching a decision about participation, please feel free to contact Cynthia Agyeman at ck143704@ohio.edu and (740) 818-8982 /Teresa Franklin PhD. franklit@ohio.edu and (740) 593-4561.

     I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at Ohio University. However, the final decision about participation is yours. If you have any questions regarding your rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740) 593-0664.

Thank you in advance for your interest in this project.

Sincerely,

Cynthia Agyeman
Ohio University
Educational Studies
(740) 818-8982
ck143704@ohio.edu

Appendix F: Sample: Coding Interview with Interviewee8M

I: What is the common media these days? And why do artists choose those kinds of media?

> Comment [n1]: Question needs to be refined

Memo: Questions needs to be refined

Interviewee 8M: Well I think it is really left up to the artist. And a lot of artists are now even though they may have a degree in say painting, they are doing other types of art work like sculpture and ceramics and photography. So the idea of just being kind of locked into one discipline is rather old hat so to speak. Of cause if you go into a gallery you will see that a lot of works are sort of mixed media. Artists are dealing with 2D and 3D, and so there is not a clear cut, I think preference that artists have. It is like the idea sometimes dictates what form it will take and there for sometimes artists are open to like any way of getting their point across and concepts across. And so today, really you see the artists being more experimental with working across disciplines. In fact some of the more interesting I think pieces that you see, contemporary pieces, are those that really push the limit.

> Comment [n2]: Left up to the artist
> Comment [n3]: Artist choice of media
> Comment [n4]: Artist majoring in one field and doing other types of artwork
> Comment [n5]: Diverse art works
> Comment [n6]: Artist choice of media
> Comment [n7]: Mixed media
> Comment [n8]: Artist choice of media
> Comment [n9]: The idea sometimes dictates
> Comment [n10]: Current Artist are being more experimental, work across all disciples
> Comment [n11]: Diverse art works
> Comment [n12]: Artist choice of media
> Comment [n13]: Contemporary pieces pushes limit
> Comment [n14]: Artist choice of media

Memo: artists of today are more diverse and willing to experiment other disciplines of art. This is evident exhibitions by contemporary artists in art galleries and museums

Appendix G: Sample Field Notes

Recruiting Interviewee 8M was difficult as he did not respond to any of the emails I sent to him. After a couple of days I visited his department and has the chance to have a face to face conversation with him. After I introduced myself and my research to him, he made it known to me that while he did received and read my email; he felt he was not the right participant for my research study as he had never employed a digital tool in his works before. He felt he knew little about the topic of the research as such could not provide the needed information. This pecked my interest. In my proposal I stated that I wanted my participants to have experiences in either digital or traditional media or both hence, I felt this was a necessary to understand what sets digital paintings and traditional painting apart, as well as gain some knowledge about their similarities. I became more interested interviewing Interviewee 8M and recruiting more participants like him to participate. While we set a date to sit for the interview, Interviewee 8M tried avoiding being a participant in a nonverbal way by introducing me to graduate student who first found interest in painting through digital media. Sensing his hesitancy. I probed for a confirmation for the interview date at which he laughed. and said he thought I would not be interesting in interviewing him. He then confirmed that he will be available for the interview on the scheduled that.

Days before the interview with Interviewee 8M I thought of ways to revamp and state the interview questions in ways that could reduce any nervous state the participant might be in and help prevent yes or no answers or short answers altogether and draw out his true opinion about the topic. I decided to start questioning him about his work, and

what draws him to paint and gradually introduce the question about the use of digital

tools and its importance not only as a painting tool but its importance in teaching as well.

I met with Participant in his office. His office door was open and he was sited at

his desk, which was stacked with papers. Framed painting mostly of figures playing

saxophones and other musical instruments were mounted the office walls. Immediately

he saw me he laughed and jovially said he hoped was not going to show up for the

interview. He felt a little uncomfortable and in a supposedly good-humored way (smiling

yet fidgety) told me he was nervous and the use of video camera to tape the interview

was making him more nervous. I restated that he was uncomfortable with the method I

could use an audio recorder instead at which he replied he wanted to ahead with the

visual interview.

As planned I stated asking questions based on traditional painting. Interestingly

the participants provided a lot of insight into his background. Not only did he provide

information into his work and how he studies works he terms as "powerful", he

remembered to tools and materials he was first introduced to in painting as a child. When

the subject of digital tools was added to the topic he became a bit reserved. He became

careful in his choice of words. He later made it known that the academic circle

responsible for giving him a job started forcing the introduction of digital tools on the

department. He stated that he believed digital tools are important tools had made teaching

easier to teachers and students alike. While he thinks digital painting and digital imaging

are interesting and have come to stay, he has no plans of ever using them to paint.

Appendix H: IRB

OHIO
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Research

12E173

Office of Research Compliance
RTEC 117
Athens, OH 45701-2979

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A determination has been made that the following research study is exempt from IRB review because it involves:

Category 1. research conducted in established or commonly accepted educational settings, involving normal educational practices

Category 2- research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior

Project Title: Artists' Perception of the Use of Digital Technology in Art

Primary Investigator: Cynthia Ama Agyeman

Co-Investigator(s):

Advisor: Teresa Franklin
(if applicable)

Department: Educational Studies

Rebecca Cale, AAB, CIP
Office of Research Compliance

06/08/12
Date

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved (as an amendment) prior to implementation.

Thesis and Dissertation Services