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## APPLYING SPECIFIC ARTS ACTIVITIES TO IMPROVE THE QUALITY OF LIFE FOR INDIVIDUALS WITH ALZHEIMER'S DISEASE AND DEMENTIA

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APPLYING SPECIFIC ARTS ACTIVITIES TO IMPROVE THE QUALITY OF LIFE  
FOR INDIVIDUALS WITH ALZHEIMER'S DISEASE AND DEMENTIA

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THESIS

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A thesis submitted in partial fulfillment of the  
requirements for the degree of Master of Arts in the  
College of Fine Arts, Department of Art  
at the University of Kentucky

By

Ann Christianson Tietyen  
Lexington, Kentucky

Director: Dr. Allan G. Richards, Professor of Art Education  
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2012

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FOR INDIVIDUALS WITH ALZHEIMER'S DISEASE AND DEMENTIA

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## ABSTRACT OF THESIS

### APPLYING SPECIFIC ARTS ACTIVITIES TO IMPROVE THE QUALITY OF LIFE FOR INDIVIDUALS WITH ALZHEIMER'S DISEASE AND DEMENTIA

This study examined the effectiveness of a combination of seven different visual art activities, hat decoration, collage, embossing, painting, ceramics, photography, and printmaking, on quality of life for eight veterans with Alzheimer's disease and dementia. The eight veterans were selected from the population of residents at the Thomson-Hood Veterans facility in Wilmore, Kentucky. These veterans were administered the seven art activities mentioned above, which ranged from less difficult to increasing difficulty. Three standard self-reporting instruments, the Quality of Life-AD, the Rosenberg Self-Esteem Scale, and the Smiley-Face Mood Assessment, as well as systematic observation and surveys were used to explore the effectiveness of the activities in improving quality of life and to identify other relevant domains. The results suggest that the combination of art activities improved the quality of life of the participants, including observed domains of focus and concentration, problem-solving skills, memory, imagination, motor skills, self-esteem, mood, and social interaction. The educational approach used simple to more complex problem-solving skills and seemed to enhance cognitive performance and contribute to improved quality of life.

KEYWORDS: Art Education, Visual Art Activities, Alzheimer's, Dementia, Quality of Life

Ann Christianson Tietyen

May 4, 2012

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## Chapter One: Introduction

An article in the *American Association of Retired Persons (AARP) Bulletin* (Greider, 2011) states that in a recent national survey, nearly 60% of Americans believe there is a reliable medical test that can determine if they have Alzheimer's disease and nearly 50% believe there is now an effective treatment to slow the progression of the disease. Unfortunately, neither assumption is true. There is currently no medical test for Alzheimer's disease and although some drugs can temporarily slow symptoms, they do not stop the disease itself (Alzheimer's Association, 2011b). While a test for Alzheimer's disease may become available in the future, and much hope remains for finding a biological cure, research over the past decade has expanded to investigate alternative ways to both ameliorate symptoms and improve the quality of life for persons with Alzheimer's disease and dementia. The arts have proven to be one of the most promising approaches to improving these individual's quality of life.

The arts have long been undervalued as a source for healing and renewal for older individuals and especially for persons who live with an illness or disability such as Alzheimer's disease or dementia. Fortunately, in the past several years, there has been a renewed interest in the United States and world-wide to understand how the arts can moderate the effects of illnesses such as cancer, mental health disorders, autism, and Alzheimer's disease and dementia. Art educators, art therapists, aging experts, psychologists, scientists and people in all fields of endeavor are collaborating to explore the profound nature of the arts to promote healing and a high quality of life for people of all ages, and in differing conditions of health (State of the Field Committee, 2009).

There is little research on the vast potential of using the arts within an *educational and learning context* in order to afford the greatest benefits to persons with diseases such as Alzheimer's disease and dementia. It is time for a new avenue of investigation into the arts and Alzheimer's disease and dementia that addresses the importance of creative learning experiences and how they can impact specific cognitive disabilities and limitations of persons with these diseases. Moreover, a concentrated

research effort is needed to understand exactly how the arts may contribute not only to enhanced cognition but also to increased wholeness, health and quality of life for persons with Alzheimer's disease and dementia.

A broad examination of research and related literature in the fields of art, neurology, education, aging, psychology, and creativity suggests that the visual arts may afford one of the most effective types of learning experiences that can enhance cognitive function and impact well-being for individuals with Alzheimer's disease and dementia. Art educators and psychologists, who study learning and development in children, have reported the unique cognitive benefits of learning experiences associated with the visual arts (Eisner, 2002; Gardner, 1999; Sylwester, 1998; Arnheim, 1969). Scientists, neurologists and aging experts have suggested that an enriched creative and cognitive environment that continues throughout the lifespan can effectively delay, reduce, or eliminate the manifestation of symptoms of Alzheimer's disease and dementia (Fratiglioni & Wang, 2007; Cohen, 2005; Valenzuela and Sachdev, 2005; Mortimer, Snowden, & Markesbery, 2003; Verghese et al., 2003; Wilson et al. 2002). Neurologists have proposed a term, cognitive reserve, to describe the capacity of the brain to moderate the effects of disease through activities such as learning (Stern, 2002; Katzman et al., 1988). Much of the stimulus behind the cognitive reserve concept lies in findings in neurology that the brain, contrary to previous understanding, can grow neurons or modify its inherent structure through challenging, effort-filled types of learning experiences. This capacity to modify the structure of the brain in relation to learning is not limited to persons who are younger and healthy but may also impact individuals with such diseases as Alzheimer's disease and dementia (Sacks, 2008; Doidge, 2007; Cohen, 2005).

In addition to the effects of the arts on cognition, physicians, educators, art therapists and creativity experts have pointed to the ways in which engagement with the arts can affect multiple systems and domains of well-being (Power, 2011; Abraham, 2005; Cohen, 2005; Steiner, 2001; Sylwester, 1998). Current studies on



the use of the visual arts with persons with Alzheimer's disease and dementia have shown improvements in multiple domains including enhanced mood, calming effects, greater alertness, focus, interest and sustained attention, increased communication, elevated self-esteem, and enhanced social interaction (Peisah, Lawrence, & Reutens, 2011; Rancour & Barrett, 2011; Phillips, Reid-Arndt, & Pak, 2010; Stallings, 2010; Basting 2009; Fritsch, 2009; Rowe, Savundranayagam, Lang, & Montgomery, 2006; Rusted, Sheppard, & Waller, 2006; Kinney & Rentz, 2005; Stewart, 2004; Couch, 1997; Osler, 1988). Steiner (2001) maintains that participation in the arts can impact the whole person, not only enhancing the brain and intellect, but effecting body, mind, and spirit and human nature in its totality. As individuals are touched by these different factors and dimensions through engagement with the arts, cognitive performance may also be enhanced.

The inspiration for this thesis stems from an experience of several years ago. At the time, I was working as a recreation assistant at the Thomson-Hood Veterans Center in Wilmore, Kentucky. I was given a special opportunity to work on art projects with a group of residents who had Alzheimer's disease and dementia. The impact of witnessing the positive effects that the arts had on many aspects of their well-being, including demeanor, communication, focus, concentration and self-esteem, was both startling and eye-opening. The effect of this experience remained with me, only to surface later as an impulse to return to school to seek further understanding of the connection between the arts and healing. My own experiences as a painter also inspired me to study the effects of the visual arts on learning and healing.

What emerged from my initial experience while working with this group of individuals was a series of key questions, including: What types of visual art activities are most engaging for persons with Alzheimer's disease and dementia? Are there ways to maximize the effects of learning in the visual arts, so as to enhance cognitive function and increase cognitive performance? How do I approach these activities so they are enjoyable and recreational, yet also stimulating and ultimately fulfilling and healing to

the individual? Are there ways to provide a variety of different activities so that novelty, interest, and learning can be maximized? The present study answers these and other important questions.

This research investigated the impact of seven different visual art activities administered in combination on the quality of life of individuals with Alzheimer's disease and dementia. The seven different activities were applied in a concentrated format once weekly over eight weeks. By exploring a variety of different visual art activities administered in increasingly challenging and novel ways, this study investigated the impact of learning in the visual arts on cognitive performance and quality of life for individuals with Alzheimer's disease and dementia. In addition, this study focused on two additional aspects of quality of life, namely self-esteem and mood.

### **Purpose of the Study**

The purpose of this thesis was to examine the effectiveness of the above mentioned seven different art activities on the quality of life for individuals with Alzheimer's disease and dementia. In addition to observations made by the researcher to identify other relevant domains, quality of life was measured by surveys and tests already well-established in the field of Alzheimer's disease and dementia care and treatment. Logsdon (2002) suggests the following quality of life components accompany dementia: "physical health, energy, mood, living situation, memory, family, marriage, friends, self as a whole, ability to do chores, ability to do things for fun, money, and life as a whole" (p. 519). This study adopted these thirteen variables for measuring quality of life and also examined self-esteem and mood in greater detail.

### **Theoretical Foundation**

Visual arts tasks require complex skills that lead to the stimulation and integration of various components of learning. These aspects of learning include cognitive, affective, and physical functions such as thinking, problem-solving, memory, image formation, language, motor skills, rhythm and movement, sensations, emotions,

as well as dynamic and supersensible aspects of human nature such as imagination, inspiration and intuition (Eisner, 2002; Steiner, 2001; Gardner, 1999; Arnheim, 1969).

Creative art activities applied in a challenging, learning context may afford one of the most effective means for both enhancing cognitive abilities and improving quality of life for individuals with Alzheimer's disease or dementia. As a test of this theoretical construct, this study followed eight veterans who were administered seven different projects involving visual arts and different media. Standard tests of well-being, surveys and observations were used to measure multiple aspects of quality of life.

### **Background to the Problem**

Alzheimer's disease was first observed by a German physician, Dr. Alois Alzheimer, in 1906. Dr. Alzheimer noticed that one of his patients who had experienced severe memory loss and psychological symptoms showed dramatic shrinkage and abnormal protein deposits (termed plaques and tangles) in her brain at autopsy. Four years later, the disease was officially named "Alzheimer's disease" by Dr. Emil Kraepelin, a colleague of Dr. Alzheimer, in a research publication (Alzheimer's Association, 2011b). More than a century later, a medical cure for Alzheimer's disease has yet to be discovered.

Alzheimer's disease and dementia result in irreversible brain damage which affects memory, thinking, and behavior, and can ultimately leave the afflicted person incapable of living independently and in need of full-time professional medical care. Currently, as many as 5.3 million Americans have Alzheimer's disease. Most individuals with Alzheimer's disease are age 65 or older. One in eight people aged 65 or older (13%) have Alzheimer's disease. After age 85, the risk reaches nearly 50 percent. Alzheimer's disease can also affect younger individuals. Experts estimate that some 500,000 people in their 30s, 40s and 50s have Alzheimer's disease or a related dementia (Alzheimer's Association, 2010). Sabat (2001) describes Alzheimer's disease and dementia as "a tidal wave that is lurking in the ocean of our future" (p.vii). If no cure is

discovered, the number of people with Alzheimer's disease is expected to triple in the coming decades as the "Baby Boom" generation becomes senior citizens (Alzheimer's Association, 2011a). Even if interventions are developed to delay or halt the disease, there will still be millions of people trying to cope with differing effects of brain damage and limited resources to support these individuals in the future (Sabat, 2001).

In response to this growing public health concern, a broader look beyond a purely medical approach to the disease has now surfaced in research literature. Some promising new approaches and alternatives to care for people with dementia have recently been introduced and implemented in nursing homes and living centers (Power, 2010; Zeisel, 2009; Thomas, 2004). Thomas Kitwood (1997), a psychologist and pioneer in the field of dementia, developed a new paradigm called the "person-centered" approach to care for individuals with these diseases. The person-centered model for dementia care involves focusing and building upon the remaining strengths of the individual instead of their deficiencies and symptoms. It also emphasizes creating positive social relationships and communication among the individuals afflicted and their caregivers, bringing a sense of power and control to the person with dementia, affirming their identity and sense of self, and encouraging persons with dementia to participate in meaningful social activities.

As part of the movement towards person-centered care, the arts can provide a source of enjoyable, meaningful, purposeful and creative activity for persons with Alzheimer's disease and dementia. Current research on the creative arts and dementia has indicated that engagement with the arts not only aids in the amelioration of symptoms but also contributes to enhanced quality of life for persons with dementia in many ways (Peisah et al., 2011; Rancour & Barrett, 2011; Phillips et al., 2010; Stallings, 2010; Basting 2009; Fritsch et al., 2009; Rowe et al., 2006; Rusted, Sheppard, & Waller, 2006; Kinney & Rentz, 2005; Stewart, 2004; Osler, 1988; Couch 1997). The present study investigated the effects of visual art activities on different domains of quality of life for individuals with Alzheimer's disease and dementia. However, this study

emphasized an educational approach to administering art activities and used a combination of different visual art activities, unlike other studies reported in the research literature. The visual art activities in the current study were applied in a varied and rigorous format in order to stimulate and challenge cognitive and functional processes and enhance quality of life. These visual art activities that were applied over the course of eight weeks were hat decoration, collage, embossing, painting, ceramics, photography, and printmaking.

### **Significance of the Study**

If the proposed combination of art activities is found to have a positive impact on specific domains of well-being for individuals with Alzheimer's disease and dementia, it could provide possibilities for assisting individuals with dementia to have a better quality of life. While some researchers in the field request more longitudinal studies of art activities with individuals who have Alzheimer's disease and dementia, there is also a call for more vigorous research to assess the therapeutic benefits of short-term trainings and activities designed to strengthen cognitive skills (Vance, 2009; Wilson & Bennett, 2003). In addition, it is important that smaller studies, like the proposed study, continue in order to determine the best approaches for administering art activities that may afford a better quality of life.

### **Definition of Terms**

#### **Alzheimer's Disease**

Alzheimer's disease is the most common form of dementia, accounting for 50 to 80 percent of dementia cases (Alzheimer's Association, 2011b). According to the American Psychiatric Association DSM -IV manual (2000), Alzheimer's disease is clinically defined by a gradual decline in memory and at least one other area of impairment:

- Aphasia: A deterioration of language abilities.
- Apraxia: A difficulty executing motor activities.

- Agnosia: An impaired ability to recognize or identify objects.
- Problems with executive functioning, such as planning tasks, organizing projects, or carrying out goals in the proper sequence.

These changes must be severe enough to affect basic daily functioning and cannot be due to another medical condition, such as Parkinson's disease, thyroid problems, or alcoholism (American Psychiatric Association, 2000).

According to the Alzheimer's Association website, about 40% of people who have Alzheimer's disease suffer from depression (Alzheimer's Association, 2011b). Other common symptoms of Alzheimer's disease and dementia can include disorientation, mood and behavior changes, confusion about time and place, unfounded suspicions about family, caregivers, or friends, and wandering. Eventually, more serious memory and behavior changes can occur and there may be difficulty with speaking, swallowing, and walking (Alzheimer's Association, 2011b; Grossberg and Kamat, 2011).

The physiological characteristics of Alzheimer's disease include the presence of two types of abnormal nerve cell structures in the brain called plaques and tangles. Plaques are deposits of a protein called beta-amyloid which builds up between nerve cells. Tangles are twisted fibers of a protein called tau that increase inside of nerve cells. Both plaques and tangles spread in predictable patterns in Alzheimer's disease, from areas involved in memory, then on to other regions affecting different brain functions. Scientists now believe that it is the plaques and tangles that cause damage and destruction of nerve cells contributing to Alzheimer's disease (Alzheimer's Association, 2011b).

### **Cognitive Reserve**

Cognitive reserve is the ability of the brain to change its functionality in the event of injury, such as the brain pathology of Alzheimer's disease and dementia. Neurologists have proposed that the ability of the brain to modify its function and compensate for injury is related to density and number of connections between neurons in the brain. The more connections that the brain has available, the more

resistant the brain becomes to pathology (Stern, 2002; Schofield, 1999). In addition, some theorists propose a behavioral definition of cognitive reserve which suggests that stimulating complex mental activity across the lifespan allows for flexible cognitive processes that can be used to compensate for underlying neurological pathology (Stern, 2002). Research indicates that mentally stimulating learning experiences result in modifications in the neurological structure of the brain (Doidge, 2007; Cohen, 2005; Zull, 2002).

From these definitions it appears that cognitive reserve is enhanced by learning even if it occurs after injury to the brain. As a result, cognitive reserve for this study is defined as the ability of the brain to learn despite injury or pathology that may be caused by Alzheimer's disease and dementia.

### **Dementia**

Dementia is a general term for a group of cognitive disorders which includes Alzheimer's disease, vascular dementia (often due to stroke), mixed dementia, dementia with Lewy bodies and frontotemporal dementia. Dementia is caused by a disease of the brain and is usually chronic and progressive. The disease progresses in stages, and each stage brings further decline in three areas of functioning — cognition, behavior, and the capacity for performing activities of daily living (Grossberg & Kamat, 2011).

Although there are many individual differences, there are some common symptoms of dementia that have been identified. These include short-term memory loss, eventual long-term memory loss, language disturbances, difficulties with motor skills, inability to recognize common objects, and difficulty with problem-solving and planning (Grossberg and Kamat, 2011).

### **Dynamic Activity**

A dynamic activity is one that stimulates multiple aspects of human nature, including body, soul and spirit, sensible and supersensible, personal and interpersonal

experiences. For example, visual art activities are dynamic because they have the potential to engage not only the eyes and hands in physical activity, but also multiple dimensions of human nature and experience including problem-solving, flexible thinking, emotions, imagination, memory, aesthetic satisfaction, aspects related to identity and self such as self-esteem, and interpersonal dimensions of well-being such as a sense of belonging or joy.

### **Multimodal Activity**

A multimodal activity is one which engages a person with more than one portal of learning experience. For instance, participation in art activities may involve mental functions, emotions, and motor functions at the same time.

### **Quality of Life**

Quality of life for individuals with Alzheimer's disease or dementia is a relatively new concept, evolving over the last thirty years (Brod, Stewart, & Sands, 1999). Ready and Ott (2003) reviewed nine quality of life scales for dementia that encompassed a broad range of domains, including physical, psychological, social, emotional, environmental and spiritual. Some of these scales also incorporated aspects of self-concept, cognitive function, social support and participation in work or leisure activities. These nine scales differed according to how narrow or broad the domains, and whether administered as a self-report or an observational instrument.

Power (2010) argues that current scales for quality of life and dementia are incomplete and suggests other dimensions of well-being that are not represented in the literature. For example, Power suggests that well-being involves relating to the world in ways that are not necessarily visible or measurable, such as love, reflection, states of spiritual well-being, or imagination. In addition, Power (2010) asserts that at the center of well-being is a person's identity or sacredness of human spirit (pp. 61-64).



This study defines quality of life as broadly as possible to include any contribution — physical, mental, emotional or spiritual — to well-being of individuals with Alzheimer’s disease and dementia. Some of these domains may be identifiable and measurable by standard tests or observation, while others may not be visible, definable, or measurable, but may still contribute to quality of life.

### **Self-Esteem**

The definition of self-esteem found in Webster's online dictionary (2011) is: “A confidence and satisfaction in oneself: SELF-RESPECT.” In addition, Rosenberg (1979) defines high self-esteem as having self-respect and worth, appreciating one’s merits while recognizing faults to be overcome. Self-esteem is also related to a person’s self-concept and identity. Maslow (1970) suggests that every individual has a need for a stable and positive evaluation of themselves, for self-respect, and for the esteem of others (pp. 90-91). Kitwood (1997) indicates that a confirmation of sense of self and identity is one of the five essential psychological needs of a person with dementia (pp. 83-84). For this study, self-esteem is defined as a motivation that facilitates the individual to feel good about themselves and exhibit signs of self-respect, identity and individuality, and confidence and pride in what they say or do.

### **Limitations of the Study**

Research studies always have limitations and this one is no exception. One limitation of this research was that the sample contained only males. This was because most of the residents at the veteran's center were male and the sample was selected by the authorized personnel at the Thomson-Hood Veterans Center as representing those most capable of participating in visual art activities and understanding the consent process. However, having all males in the study enabled the researcher to design art activities geared towards male preferences and present subject matter and media that appealed to males such as sports, boats, hats, etc. Future research should include females and art activities of interest to them.

Another limitation of this study is that it was designed as a small scale, qualitative study. A qualitative research design seemed more advantageous than a quantitative design in order to observe and interact with each participant individually, allowing the researcher to make adjustments to procedures as necessary. For example, individuals with motor skill challenges were provided with alternative means and strategies to approach their projects.

This study did not use a random sample of participants or a control group. It was not intended to represent a sample of all individuals with Alzheimer's disease or dementia, but to investigate what can happen with those individuals at early enough stages that they are capable of participating in art activities and reporting on their quality of life. Because the sample was not large or random, and there was not a control group, the findings from this study will not be generalized to make statements about the general population of individuals with Alzheimer's disease and dementia. However, the results of this study can be used to explore and identify the effects of different types of visual arts activities on specific quality of life variables for those who are in the earlier stages or are the best functioning individuals with Alzheimer's disease or dementia.

## **Chapter Two: Review of the Related Literature**

The review of the literature is grouped into three broad areas. The first section provides a historical account of the use of the arts in healthcare leading up to current approaches to visual art activities for individuals who have Alzheimer's disease or dementia. The second area addresses new and promising research in neurology that lends support to the application of visual art activities within a learning context. Cognitive reserve theory is also discussed in this section. The third area explores the dynamic nature of the creative arts and the unique potential and capacity of the arts to impact quality of life for individuals with Alzheimer's disease or dementia.

### **Historical Context of the Arts in Healthcare**

Although the arts have been used in the context of healing for centuries, it is only in the past hundred years that the relationship between healing and the arts has reemerged in our culture. Some of the first healing arts programs date back to 500 BC when theatre was included as part of the healing process at Delphi (Ridenour & Sebastian, 2008). There is also evidence that many ancient tribes, such as the Dogons in Africa (dating back as far as the 10th century), used the arts as part of their ritualistic healing ceremonies (Sieber & Walker, 1988). In addition, much of Christian and Buddhist art is based on the principle that meditating on visual art or listening to certain sounds puts a person in a sacred state and leads to healing (Samuels & Lane, 1995).

Architecture, interior, and landscape designs have also been used to promote health and wellness. In the nineteenth century, Florence Nightingale designed and developed the famous Leeds infirmary incorporating artworks throughout the hospital. Nightingale became an advocate for the healing power of the arts. She believed that color, a flower, or a beautiful view was as important to healing as anything that medicine could provide (Society for Arts in Healthcare webinar, 2008). According to

Nightingale in her book *Notes on Nursing*:

The effect in sickness of beautiful objects, of variety of objects, and especially of colour is hardly at all appreciated ... People say the effect is only in the mind. It is no such thing. The effect is on the body, too. Little as we know about the way in which we are affected by form, by colour, and by light, we do know this; they have an actual physical effect. Variety of form and brilliancy of colour in the objects presented to patients are actual means of recovery (Nightingale, 1860, p. 33).

While the Industrial Revolution and the twentieth century witnessed many new discoveries in the field of medicine, these advances led to the singular and dominant goal of finding “cures” for illness. The giving of care and comfort took on a secondary, less emphasized role in medical practice. As a result, this model of medicine has been referred to as the “broken model” of healthcare (Gazella, 2004, p.89). In the last fifty years, there has been growth toward a more holistic and integrated healthcare model that recognizes the essential connections of body, mind, and spirit and embraces individuals and their communities. The creative arts are now finding their place within this integrated model of healthcare (Lee & Adams, 2011; Sonke, Rollins, Brandman & Graham-Pole, 2009; Cohen, 2006).

Art as a means of therapy was first used in the United States after World War I and became formalized after World War II with the establishment of the American Music Therapy Association in 1950. Similar organizations that promoted the visual arts, drama, dance and poetry followed, with defined training standards and accreditation and a focus upon integrating psychological, physiological and social aspects of well-being. In addition, a movement to incorporate the arts within hospitals, hospices, and communities has emerged over the last thirty-five years. This movement has involved art therapists, artists, and art educators who seek to offer healing in a broadly holistic manner and create more aesthetic environments for healthcare.

In the 1960s and 1970s movements to spread democracy resulted in the public’s desire for greater access to arts programs. As a consequence, the National Endowment

for the Arts was founded in 1965 with the mission to make the arts universally accessible. Other organizations such as Hospital Audiences and Very Special Arts were established to bring art events to people with disabilities. Numerous arts in healthcare programs emerged including Project Art in Iowa (1976), and the Shands Arts in Medicine Program (2008) in Florida (Sonke et al., 2009). In 2008, the National Society for the Arts in Healthcare was formed with a mission of integrating the arts, including “literary, performing, and visual arts and design, into a wide variety of healthcare settings for therapeutic, educational, and recreational purposes” (Society for Arts in Healthcare, 2011).

Building on the core principles of holistic medicine and person-centered care (Kitwood, 1997), the creative arts have been shown to facilitate communication and connection for persons with dementia, even when their physical and cognitive functions are compromised. Killick and Craig (2012) indicate that the arts can help people with dementia create an internal dialogue, increase communication, engage in meaningful activity, bring transitory relief, contribute to expressiveness and increased well being, and offer the opportunity to learn something new. Zeisel and Raia (2000) suggest that dementia care should focus on supporting the capacities a person retains, such as how a person “thinks, feels, communicates, compensates, [and] responds to change” (p. 2). Likewise, Cohen (2006) advocates for a more complete model of healthcare for individuals with dementia which supports their strengths. Cohen states:

The optimal treatment of the patient focuses not just on clinical problems but also on the individual potential of that person. It is only when problems and potential are considered together that health is best promoted and illness best cared for. This is the ultimate art and creativity of medicine and healthcare, bringing hope and clarity to situations that might otherwise be challenged by despair and confusion (p. 14).

Cohen describes a “*four-S*” approach to healthcare that not only involves looking at the signs and symptoms of a disease, but also a person’s skills and satisfactions (Cohen, 2006, pp. 13-14). As part of the movement towards holistic healthcare, innovative

programs such as Eden Alternatives (Thomas, 2004) have been designed to create an environment for people with dementia that provides contact with animals, plants and children and engagement with meaningful activity, in an effort to diminish loneliness, helplessness, and boredom. Within these new models of care, the arts have been shown to provide purposeful and meaningful social activity for individuals with Alzheimer's disease and dementia. In addition, new and exciting research investigating the contributions of the arts to improving the quality of life for people with dementia has recently emerged in the literature.

### **Current Research on the Arts and Dementia**

Current research on the arts and quality of life for persons with Alzheimer's disease and dementia includes many different types of creative activity including the visual arts, music, storytelling, dance, theatre, and poetry. Music, storytelling, dance, theatre, and poetry have been shown to contribute to enhanced quality of life for persons with dementia in many ways such as enhancing reminiscence, increasing mood, and improving motor skill functions (Phillips et al. 2010; Vanstone & Cuddy, 2010; Wall & Duffy, 2010; Basting, 2009; Choi, Lee, Cheong, & Lee, 2009; Fritsch et al., 2009; Hill, 2009; Ledger & Baker, 2007; Suzuki et al., 2007; Cuddy & Duffin, 2005; Hicks-Moore, 2005; Nyström & Lauritzen, 2005; Killick, & Allan, 1999; Koger, Chapin, & Brotons, 1999). Since this study focuses on the visual arts, an emphasis on studies that are solely or partially based upon visual art activities will be examined in greater detail.

### **Visual Art Activities**

A growing number of studies suggest that visual art activities enhance many different aspects of quality of life for people with Alzheimer's disease and dementia. The research on these improvements includes three different approaches to administering visual art activities. The first approach involves art activities administered by art therapists. The second approach includes art activities

administered by professional artists or day staff in nursing homes for the purpose of recreation. The third approach includes studies conducted by art educators.

### **Art Therapy Research**

Research studies based on art therapy have reported a wide range of improvements in domains of quality of life. These studies include observational case studies for one or a few individuals with Alzheimer's disease or dementia and involve single or few different types of art media. Osler (1988), describes a case study with an individual with dementia where mood was improved and calming effects were observed. Couch (1997) investigated the effects of mandala drawings on individuals with dementia and concluded that, "The art process, color choices, combinations, and placement within the mandala can provide a vehicle for symbolic communication for persons with dementia" (p. 192). Stewart (2004) describes four case studies of dementia and observed increased motivation, willingness to engage in visual art activities with various art media, and greater response to personal relationships with those around them despite confusions and loss of cognitive skills (p. 154). A more recent study by Stallings (2010) reports on the use of collage to aid verbal reminiscence for three older adults with dementia. Stallings concludes that collage allows individuals with dementia an opportunity to convey information that they normally might not be capable of verbalizing (Stallings, 2010). Peisah et al. (2011) present a case study of a woman with severe dementia who became calmer, more focused, and showed gratitude during engagement with art therapy activity.

Rusted, Sheppard, and Waller (2006) conducted a large quantitative study on the effects of art therapy for 45 elderly people with dementia residing in four nursing homes for a period of 40 weeks. The experimental groups participated in weekly art therapy activities and the control groups participated in non-creative recreational activities. The art activities were run by an art and occupational therapist and included up to six people with dementia per session. The researchers used standardized measurements of depression, behavior and mood, cognitive status, short-term memory, sustained

auditory and visual attention, verbal fluency, and mood changes within each session and again months later. Twenty-one participants completed the entire study. The researchers found that over 40 weeks, mental acuity, sociability, calmness and physical engagement within art therapy sessions increased slowly, on an upward, linear trajectory. However, for the non-creative recreational activity group, there was a positive change over the first 10-20 weeks of the program that was followed by a steep decline in engagement. The researchers concluded that art therapy has a greater and more sustaining effect on mental acuity, sociability, calmness and physical engagement than regular recreational activities when administered over longer lengths of time.

### **Recreational Art Research**

Research on recreational art activities for individuals with dementia and effects on quality of life have also been reported. Kinney and Rentz (2005) investigated improvements in quality of life for people with dementia as a result of participating in a visual art program called Memories in the Making. The researchers used a test instrument called the Greater Cincinnati Well-Being Observation Tool, to observe twelve people with dementia in two different day centers. Participants at one of the day centers were given Memories in the Making art activities while the other day center had regular recreational activities. The researchers found that the participants in the Memories in the Making program demonstrated significantly higher levels of “interest, sustained attention, pleasure, self-esteem and normalcy” during Memories in the Making than did those who participated in the regular recreational activities (Kinney & Rentz, 2005, p. 220). In addition, Rowe et al. (2006), observed 32 participants of a day program at Luther Manor in Milwaukee, Wisconsin, and evaluated the effectiveness of arts activities including sculpture, flower arranging, pencil art, and jewelry making on quality of life. The results of this study indicated that individuals who participated in creative activities showed significantly greater levels of engagement over others who participated in recreational activities such as bingo or crossword puzzles.



Visual art activities also include storytelling derived from images. The TimeSlips storytelling method developed by Anne Basting at the University of Wisconsin uses a picture (i.e. a photograph from a magazine, postcard or calendar) to promote conversation and initiate storytelling for people with dementia. According to Basting (2009) the visual image creates a springboard for conversation, reminiscence, and imagination. Researchers have found that nursing home residents with dementia who participated in TimeSlips storytelling method verses those who participated in regular recreational activities exhibited higher degrees of alertness and significant increases in pleasure and communication (Phillips et al., 2010; Basting 2009; Fritsch, 2009).

### **Art Educational Research**

Studies involving art educators have focused mainly on the effects of art interpretation and appreciation on quality of life for individuals with dementia. In 2006, an art-viewing program for people with dementia and their caregivers, called Meet Me at MOMA at the Museum of Modern Art in New York City was evaluated by New York University researchers for its effectiveness in improving quality of life. The researchers used a battery of scales that were administered both to the person with dementia and their caregivers given before and one week after a ninety-minute museum tour. Some of the scales used were the Family Relationships Scale, the Rosenberg Self-Esteem Scale, and the Smiley-Face Assessment Scale. Individuals with dementia and their caregivers reported elevated moods during the week following their visits, and people with dementia reported elevated self-esteem. In addition, caregivers reported an increase in social support (Rosenberg, 2009). In a similar manner, Rancour (2011) collaborated with an advanced practice nurse to work with groups of individuals with different illnesses, including Alzheimer's disease and dementia, to observe and comment on works of art. Rancour found that there was "extreme engagement" with works of art for the group with dementia that was unusual for their usual attention span, and that the remarks were remarkably insightful for individuals who are so cognitively challenged (Rancour, p. 76).

These studies suggest that creative visual art activities, art viewing programs, and group storytelling with visual images can improve quality of life in various ways for people with dementia. These improvements include better mood, increased self-esteem, calming effects, better communication and greater focus, concentration, and interest. However, most of these studies either focus on the quality of life outcomes of art therapy or investigate levels of engagement during recreational art activities. Only two studies were found involving art educators and these were focused on art interpretation and appreciation and not on the learning processes involved while creating visual works of art.

The present study, however, was designed to maximize the learning experiences involved in the visual arts through hands-on engagement with a combination of different visual art activities that included hat decoration, collage, embossing, painting, ceramics, photography, and printmaking. In addition, other than the study by Rowe et al. (2006), there were no studies found that utilize more than one or two types of visual art activity. Furthermore, other than the study conducted at the Museum of Modern Art (Rosenberg, 2009), most of the results from these studies rely on observation of quality of life domains and not on any self-reporting instruments. This study, in contrast, incorporated self-reporting instruments as well as observed aspects of quality of life.

### **Advances in Neurology and Cognitive Reserve Theory**

New findings in the field of neurology are bringing a promising outlook for preventing and ameliorating the effects of Alzheimer's disease and dementia. These advances include the discovery that the human brain has the capacity to grow new nerve cells and also adapt and modify its structure in response to different situations, injury, or pathology. In addition, research has shown that many individuals who show characteristic brain pathology (plaques and tangles) for Alzheimer's disease never develop symptoms during their lifetime. In order to account for this effect, researchers have proposed a theory of cognitive reserve (see definition of terms). A closer look at

some of the factors that are believed to contribute to greater cognitive reserve lends support to the use of visual art activities in a challenging, learning context for individuals with Alzheimer's disease and dementia.

### **Advances in Neurology**

At one time scientists believed that the human brain contained a fixed number of nerve cells that were established soon after birth and gradually declined as people aged (Doidge, 2007). This theory was overturned in the 1960s and 1970s by research which found evidence of the growth of new neurons in the brains of animals (Gould, Reeves, Graziano, & Gross, 1999; Kaplan & Hinds, 1977; Altman, 1969; Altman & Das, 1965). In 1998, the presence of new nerve cells was also found in the brains of adult humans, in the hippocampus (Eriksson et al., 1998). Extensive study has now shown that the human brain is capable of generating new nerve cells (termed neurogenesis) throughout the life-span and even into old age (Doidge, 2007). Results from research utilizing new technology such as PET scans and fMRI images has also revealed that the brain is capable of modifying its structure (termed brain plasticity) including brain volume, neural circuitry, and underlying physiology when stimulated by certain conditions (Doidge, 2007; Cohen, 2005; Kolb, 1995). Further research has suggested that nerve cell re-generation and brain plasticity may be associated with exercise or mentally rigorous and challenging learning experiences (Cohen, 2005). Animal studies have shown that mentally stimulating and complex learning environments have multiple effects on the brain including increasing the number of nerve cells and strengthening neural connections (Johannsson & Belinchenko, 2002; Pham, Winblad, Granholm, & Mohammed, 2002; Volkmar & Greenough, 1972; Rosenzweig, 1966; Bennett, Diamond, Krech & Rosenzweig, 1964). In addition, studies on rats have shown that impaired rats with brain lesions raised in enriched environments performed better on cognitive tasks (such as mazes) better than impaired rats raised in standard or impoverished conditions (Paban et al., 2005; Puurunen & Sivenius, 2002; Yang et al., 2007).

Researchers caution that although there are strong associations in animal studies between an enriched learning environment and new nerve cell production, this relationship is not necessarily causal and may not be applicable to humans (Leuner, Gould, & Shors, 2006). However, further research on humans suggests that certain types of learning experience may modify underlying brain structure in some way that contributes to increased brain volume. Research on humans using fMRI brain scan technology has indicated that the volume of grey matter in the brain (composed of neuronal cell bodies and connecting fibers) can be increased by certain types of challenging and stimulating learning experiences. For instance, a study of London Taxi drivers, who memorize and practice routes for two years before qualifying as drivers, showed greater volume of grey matter in areas of the brain involved with spatial representation than non-taxi driver controls. In addition, the amount of grey matter for taxi drivers correlated with the amount of time spent learning and driving (Maguire et al., 2003; Maguire et al., 2000). In another study, Draganski et al. (2004), recruited healthy young volunteers who learned to juggle over three months time. When the brains scans of the jugglers were compared to controls there were significant increases in grey matter in areas of the brain that processes visual motion.

In a follow up study, Boyke et al. (2008) studied healthy senior citizens who were taught to juggle. Again, it was found that the senior citizens who learned to juggle had a higher volume of grey matter in areas of the brain that process visual motion as compared with controls, but slightly less as compared with the younger volunteers who juggled in the previous study. The researchers conclude that the human brain in older age still retains its ability to modify its structure according to exercise or learning demands. In addition to these studies, research has shown that brains of musicians contain increased volumes of grey matter in areas which correspond with motor, auditory and visual- spatial functions as compared with non-musicians (Gaser & Schlaug, 2003; Munte, Altenmuller & Jancke, 2002; Schlaug, 2001). These results are encouraging because they suggest that exercise and mentally stimulating learning experiences may increase the underlying neural integrity of the brain.

### **Cognitive Reserve Theory**

Another important finding from the field of neuroscience has been the discovery that some individuals, who have characteristic plaques and tangles in their brain, never develop symptoms of Alzheimer's disease during their lifetime. In 1988, Thomas Katzman, a neuroscientist from the University of California, San Diego School of Medicine, discovered ten cases of older people who were cognitively normal and symptom free during their lifetime that had the characteristic brain pathology (plaques and tangles) of Alzheimer's disease in their brains after death. Katzman reasoned that these individuals must have some characteristic feature of brain anatomy, genetic make-up, or contributing lifestyle factor that protected them from manifesting the symptoms of Alzheimer's disease. Katzman coined the term "cognitive reserve" to describe the ability of the brain to compensate and protect itself from the effects of Alzheimer's disease. Katzman reasoned that the individuals who were cognitively normal during their lifetime had greater amounts of cognitive reserve than those who manifested symptoms.

Since Katzman, other longitudinal studies, such as the Nun Study (Iacono et al., 2009) and others (Tyas et al., 2007; Bennett, 2006) have confirmed that many individuals, who show characteristic brain pathology of Alzheimer's disease, show no evidence of symptoms during their lifetime. In an HBO documentary about the science of Alzheimer's disease (Hoffman, Froemke, & Golant, 2009), David Bennett, a neurologist and Director of the Rush Alzheimer's Disease Center at Rush Medical College describes the underlying mechanisms that may contribute to greater cognitive reserve in certain individuals. Bennett believes that a person with cognitive reserve probably has a rich system of "alternative routes" or neural networks for their brain to circumvent areas of pathology (p. 135). Bennett compares the brain's effective use of alternative neural routes to a driver who is able to successfully meander around a traffic accident using side streets. Bennett proposes that an individual with greater cognitive reserve has more efficient alternative networks available in order to circumvent areas of

pathology. Bennett's theory raises important questions as to how individuals can best access or develop these alternative networks. Some leading professionals (Basting, 2009; Zeisel, 2009, Cohen, 2005) believe that one of the ways for individuals with Alzheimer's disease and dementia to access these alternative brain pathways is through experiences in the creative arts. In addition, there is evidence (Hoffman, Froemke, & Golant, 2009; Cohen, 2005) that suggests that older brains may be more neurologically active than younger brains, and that older people use both hemispheres of the brain more effectively than younger people. Due to these advantages, older people may be able to compensate for brain pathology more readily than younger individuals, given the proper circumstances.

Additional research on lifestyle factors and cognitive reserve suggests that participation in activities which are novel, complex, effort-filled, multimodal (see definition of terms), and social may help to prevent cognitive decline in the elderly as well as protect against the development or expression of Alzheimer's disease and dementia (Fratiglioni & Wang, 2007; Karp, et al., 2006; Cohen, 2005; Fritsch et al., 2005; Scarmeas & Stern, 2003; Wilson, Barnes, & Bennett, 2003; Schooler & Mulatu, 2001; Glass, Mendes de Leon, Marottoli, & Berkman, 1999; Hultsch, Hertzog, Small, & Dixon, 1999). Valenzuela and Sachdev (2006) reviewed 22 studies, which took place from 1966-2004 on over 29,000 individuals, on the effects of education, occupation, and mentally stimulating leisure activities on dementia risk. These researchers found robust evidence that higher levels of education, higher occupational status, and participation in mentally stimulating leisure activities during early, mid and late life were all good predictors of protection against the symptoms of dementia, with participation in mentally stimulating leisure activities as the most significant measure of protection against Alzheimer's disease and dementia.

In addition, in an interview by Ellis (2010), Mark Lovell, an Alzheimer's disease researcher from the University of Kentucky, discusses different lifestyle factors that may enhance brain performance and counter the effects of cognitive decline or disease.

Lovell suggests that continued life-long learning can help create stronger synapses, strengthen the connections between neurons, and create thicker dendrite networks in the brain. Lovell reasons that stronger nerve cell connections built through challenging learning experiences may allow for sufficient neuronal communication despite the loss that normally occurs during aging or disease. According to Lovell, “The best way to keep your synapses functioning normally is to keep your brain very active” (p. 27). In addition, Lovell suggests that *novel* learning experiences are important for combating cognitive decline. In the words of Lovell, “It is critical to learn new things, because that can help push back the trip point at which cognitive decline begins” (p.27). Lovell suggests that people who have been visual thinkers take up mathematics, or mathematicians take up painting or writing, in order to strengthen parts of the mind not normally used.

In conclusion, there is mounting evidence to suggest that older persons, including individuals with cognitive disorders such as Alzheimer’s disease and dementia, can benefit from enriching learning experiences which may improve brain functioning, promote brain plasticity and enhance cognitive performance. The types of learning experiences shown to be most effective over the long term are novel, stimulating, challenging, engaging, complex, multimodal and social. However, while one recent study (Noice and Noice, 2009) reports that a short-term theatrical intervention resulted in certain cognitive gains for older adults, there were no studies found which focus specifically on the use of the visual arts applied in a learning context over the short-term in order to impact cognitive performance and quality of life for individuals with Alzheimer’s disease and dementia. In order to fill this gap, this study will examine the effectiveness of a combination of visual art activities applied in a learning context on cognitive performance and quality of life for individuals with Alzheimer’s disease and dementia.

## **Cognitive Benefits of the Visual Arts**

The mentally stimulating effects and cognitive benefits of the visual arts are acknowledged by psychologists, educators, creativity and learning theorists, and aging experts. Although each of these perspectives differ, taken together, the theories of these leading authors demonstrates the vast array of cognitive benefits that are made available through the visual arts that may impact individuals with Alzheimer's disease and dementia. These different theories lend relevance to the use of visual art activities in a learning context for individuals with Alzheimer's disease and dementia.

Arnheim (1974) recognized many unique cognitive processes involved in visual perception and in creating works of art. According to Arnheim, visual thinking involves more than just passive sensory experience but actually results in the active formation of an intellectual concept and image (Arnheim, 1974). Furthermore, he describes the process of making art as visual problem-solving. According to Arnheim, creating a work of art involves a dynamic interplay of forces such as form and color which rely upon the image. He explains that language, on the other hand, is in itself without form and that people cannot think in words, since words cannot contain an object. Arnheim suggests that visual art activities have a tremendous role to play in thinking processes, as the formation of images and concepts are central to our perceptions of reality (Arnheim, 1969).

Gardner (1983) states that "Artistry is first and foremost an activity of the mind" (p. 47). Gardner believes that the visual arts encourage complex mental activity in which symbols are encoded and decoded according to the artist's own inner symbolic language. In this way, creative art activity actively engages thinking processes. In addition, Gardner (1999) developed a multidimensional framework for describing intelligence which includes artistic types of intelligence as components. In Gardner's view the intellect is multifaceted and actually includes eight different areas including "linguistic, logical-mathematical, musical, bodily-kinesthetic, visual-spatial, interpersonal, intrapersonal, and naturalist intelligence" (pp. 41-44, 49). Gardner



believes that involvement with the arts, in particular, can mobilize these different types of intelligences, and help people use their mind to the fullest extent (Gardner, 1983).

Eisner (2002) describes the different types of cognitive experiences made available through the arts. According to Eisner, visual art activities engage individuals in different types of complex thinking. Eisner disputes the common claim that the arts are considered to be more “affective” as opposed to cognitive, easy rather than difficult, and simple rather than complex (p. 35). He suggests that the processes used by individuals while they engage with the visual arts are actually quite complex, and involve many aspects of thinking and intelligence. These cognitive processes include observation, noticing subtleties, conceiving of imaginative possibilities, interpreting meaning, and exploiting opportunities that arise in a work (pp. 9-12). Furthermore, Eisner points out that each medium requires learning how to think within the parameters of the material or process, which stimulates a number of complex mental processes (pp. 236-237).

Other leading professionals, including biologists, neurologists, and gerontologists, have described the impact of art activities on not only thinking and perception, but on actual brain activity. Zull (2002) states that the engaging nature of artistic processes creates a desire for repeated practice that involves intense effort and focus. According to Zull, this mental effort and repetition strengthens neural networks in the brain. Similarly, Posner and Patoine (2010) believe that the arts play a crucial role in the formation of attention networks in the brain which support memory and learning. According to these researchers, the engaging nature of the arts creates a situation of sustained focus which can produce stronger and more efficient neural networks in the brain. These networks, in turn, can affect cognitive skills more generally (Posner & Patoine, 2010).

Professionals who work closely with individuals with Alzheimer’s disease and dementia have described some of the cognitive benefits of the creative arts specifically for them. Basting (2009) works with people who have dementia on a technique of

group storytelling she developed, called TimeSlips. Basting has found that memories are enhanced and conversation increased with the TimeSlips storytelling method. She suggests that the reason for these improvements has to do with the unique way that storytelling engages and stimulates multiple centers of the brain. Basting explains that parts of memories, such as their emotional aspects, images, or other aspects of experience, are actually stored in different areas of the brain. She believes that mental stimulation through the arts may encourage the brain to develop neurological detours around diseased areas. Similarly, Zeisel (2009) maintains that the creative arts engage different parts of the brain where memories are stored and “dispersed” (p. 81). Zeisel believes that memories are not lost in Alzheimer’s disease, just *access* to these memories. He describes participation in the arts as a means to retrieve these memories.

In summary, the work of psychologists, educators, aging experts, and professionals in the field of Alzheimer’s disease and dementia suggest that the arts have unique cognitive benefits that may impact mind and brain function for individuals with Alzheimer’s disease and dementia. These effects include image and concept formation, engaging critical areas of multiple intelligences, stimulating processes such as flexible thinking or imagination, and strengthening neural connections in the brain including creating new pathways and networks that may effectively bypass areas that are damaged. Since creative art activities including visual art activities may impact thinking and cognition, brain activity, and possibly underlying brain neurology and function in such profound ways, it is important to investigate the best avenues of approach to art activities for individuals with dementia that maximizes these benefits. For these reasons, the present study used an educational approach to visual art activities in order to create challenging learning experiences in an effort to maximize cognitive performance and contribute to improved quality of life.

## **Dynamic Qualities of the Arts**

Over and above the mentally stimulating effects of the visual arts are the dynamic benefits associated with creative arts engagement. The arts affect physical, psychological, personal and interpersonal, social and spiritual aspects of life, encompassing the fullest aspects of well-being, and are therefore considered to be dynamic (see definition of terms for a full description of “dynamic”). The power and capacity of the arts to affect multiple aspects of body, soul, and spirit have been acknowledged by many leading creativity experts, psychologists, educators and professionals (Flood & Phillips, 2007; Cohen, 2005; Steiner, 2001; Sylwester, 1998; Gardner, 1983). Sylwester (1998) observes that the arts, unlike any other forms of learning, stimulate and integrate multiple aspects of well-being including bodily-kinesthetic functions, intrapersonal aspects, emotion/attention, and reason/logic. In this manner, the arts are considered to be multimodal (see definition of terms for full description of “multimodal”). According to Sylwester (1998):

From fine-tuning muscular systems to integrating emotion and logic, the arts have important biological value. . . Emotion and attention (which are central to all activity in the arts) often lead us to important rational behaviors that wouldn't have emerged if we hadn't walked through that arts-enhanced doorway. Emotion drives attention, and attention drives learning, problem-solving, behavior, and just about everything else (pp. 31- 35).

The arts engage not only multimodal aspects of well-being but also have other health benefits. Cohen (2005) describes the ability of the arts to synergistically affect multiple mind/body connections and engage older individuals in a socially supportive manner. In a large multisite longitudinal study, the Creativity and Aging Study (Cohen, 2006), Cohen found after one year that older people who engage in the arts had better health, fewer doctor visits, used fewer medications, felt less depressed, were less lonely, had higher morale and were more socially active than elders in the control group. Cohen concludes that the positive results of this study have to do with the fact

that creative art activities are engaging and enjoyable, bring a sense of mastery and control to the individual, and increase social engagement (p. 178).

In addition, the visual arts have unique, transcendent, personal and interpersonal properties which can contribute to a sense of well-being. Rudolf Steiner (2001), educator and founder of the Waldorf School system, contends that the arts should hold a central place in education, because it is through the arts that the entire human being is engaged. According to Steiner, the arts are associated with thinking, feeling, and willing. In addition, the arts nourish the senses, improve observation, and engage heart, soul, mind and higher aspects of spirit and self. Eisner (2002) suggests that a number of unique personal and interpersonal benefits are afforded by the creative arts. These benefits include celebrating the individual, refining the imagination, savoring the aesthetic experience, as well as the intrinsic satisfaction which grows from creating a work of art (pp. 198-208). Zeisel (2009), a sociologist and author of *I'm Still Here: A Breakthrough Approach to Treating Alzheimer's Disease*, suggests that the arts offer vibrant and extraordinary interpersonal dimensions to well-being for persons living with Alzheimer's disease or dementia by providing meaning and connection to culture and community. Power (2011), a physician and author of *Dementia Beyond Drugs*, describes the unique benefits of the arts for individuals with Alzheimer's disease and dementia. According to Power, since creativity transcends language, it enables the mind to break free of established patterns, find new discoveries, and live "in the moment." In addition, through the arts the spirit is re-invigorated affecting multiple domains of well-being. According to Power, the arts may also bring a sense of belonging and joy (p. xiii).

In summary, creative art activities, including the visual arts, not only stimulate cognition and the brain in varied and profound ways, but can also have an integrated, healing effect on mind, body, soul, and spirit. Due to the the various dimensions of self that can be touched by the arts, the arts may provide an appropriate means for enhancing quality of life for persons with dementia. The arts may contribute to a supportive healthcare environment that focuses and builds upon the strengths of the

individual with dementia and not their disability or weakness. The arts may therefore fill the void where the applications of medical science and pharmacological interventions may fall short.

The fullest benefits of the arts on well-being for persons with Alzheimer's disease and dementia are just beginning to be explored in the research literature, although it is evident from a review of the related literature that the creative arts are unique in their ability to access multiple domains of quality of life. Current research in the visual arts for individuals with dementia has indicated that the arts can enhance mood, have calming effects, result in greater alertness, focus, interest and sustained attention, increase communication, elevate self-esteem, and enhance social interaction. However, there was no research found that uses an educational, hands-on approach to visual art activities aimed at improving cognitive performance and quality of life. It is also not clear whether quality of life can adequately be assessed for groups of individuals with Alzheimer's disease and dementia as a whole or if quality of life is something that is unique to the individual. The best application of visual art activities within an educational context has not been approached in the literature to date. For these reasons, the present study was designed to build upon current findings in the fields of neurology, art, education, aging, and Alzheimer's disease and dementia, by administering a combination of art activities in a creative, learning context to potentially impact cognitive performance and improve quality of life. These varied art activities were hat decoration, collage, embossing, painting, ceramics, photography, and printmaking.

### Chapter Three: Design of the Study

As the review of the related literature suggests, there are different approaches that can be used for administering art activities for individuals with Alzheimer's disease and dementia. These include the art therapy approach, the recreational approach and the art educational approach. The visual arts educational approach was selected for this study for several reasons. It follows from research findings in the fields of education, psychology, aging, and neurology that the best approach is one that stimulates learning and therefore may increase cognitive performance. The art activities in this study were applied in a way that maximized novelty and the learning process, challenged brain function and stimulation through engagement with different media, and focused on the process of making art as a central aim. While previous research on the visual arts and dementia has focused mainly on art therapy or art activities as a form of recreation, a visual arts educational approach designed to specifically stimulate and challenge learning processes and impact cognitive performance has yet to be reported in the literature.

The art educational approach used in this study differed from the art therapy approach since the goal was not to administer therapy or target areas of deficit. Instead the aim of this approach was to leave individuals free to explore materials as well as processes, and become *fully* engaged in learning. The therapeutic effects were expected only as a potential by-product and were not pre-determined in any way. There was no targeting of individual symptoms or areas of deficit. In fact, no knowledge was obtained either before, during or after of the specific diagnoses, life problems, or areas of deficiency for each individual who participated in this study. Only a general diagnosis of Alzheimer's disease or dementia was assumed at time of consent. In this way, privacy was assured for each individual. This also prevented any assumptions or misconceptions on the part of the researcher as to what type of activity might be best for each individual. Finally, it is important to note that the art educational approach used in this study differed from a recreational approach to art activities. Although

recreational enjoyment was a component of this study, the central focus of this approach was to provide novel, stimulating learning experiences that challenged each individual and led to the production of completed works of art. These advanced types of learning experiences might then impact quality of life. In the final analysis, based on the related literature, the art educational approach was determined to be the most beneficial for ameliorating the effects of Alzheimer's disease and dementia. Improved quality of life provided a barometer of improved cognitive performance. It was with this knowledge that the design of this study was formulated.

### **Sample**

The sample of eight participants was drawn from residents on the Eisenhower wing of the Thomson-Hood Veteran's Center in Wilmore, Kentucky. The Thomson-Hood Veteran's center is state-owned and operates with 285 beds. The facility was built in 1991 to accommodate both short and long-term residents with skilled nursing, physical therapy and seven day-per-week recreational activities. Residents occupy five areas of the large two story building, each area named for a famous president (Thomson-Hood Veteran's Center, 2012, website). The Eisenhower wing, where I focused my project, houses approximately 44 residents who have Alzheimer's disease or related dementias. The residents were identified by the recreation director and recreation leader at the facility as being the most capable of participating in visual arts activities. Ten participants consented to the study; however two were not able to participate.

### **Objectives**

The objectives of this study were to:

- Determine if the combination of art activities used in this study, namely hat decoration, collage, embossing, painting, ceramics, photography, and printmaking, could improve the quality of life of participants over eight weeks of visual art activities.

- Explore if the combination of art activities used in this study could enhance learning and cognitive performance for individuals with dementia.
- Determine if single or multiple domains of quality of life were improved by the combination of visual art activities.
- Assess if self-esteem was modified by the combination of art activities.
- Assess if the time span of eight weeks was sufficient for impacting quality of life, self-esteem and mood.
- Determine if each separate art activity enhanced mood and observe any trends in mood over the course of eight weeks of art activities.

### **Test Instruments**

In addition to researcher observation, five standard test instruments were used to assess quality of life. These test instruments were the Quality of Life-AD, the Rosenberg Self-Esteem Scale, the Smiley-Face Mood Assessment and two surveys: Participant Assessment and Arts Session Evaluation (see Appendices A, B, & C).

#### **Quality of Life-AD**

The Quality of Life-AD test instrument is a self-reporting questionnaire with thirteen items, designed by Rebecca Logsdon (Logsdon et al., 2002, Appendix A). The Quality of Life-AD measures thirteen areas of well-being, namely “physical health, energy, mood, living situation, memory, family, marriage, friends, self as a whole, ability to do chores, ability to do things for fun, money, and life as a whole.” Ratings for these variables are either “Poor, Fair, Good, or Excellent” (Logsdon et al., 2002, p. 519).

This scale was selected from other test instruments established in the literature due to the short number of questions and ease of format. Ready and Ott (2003) compared the current scales for assessing quality of life for persons with dementia and conclude that the strengths of the Quality of Life-AD are its brevity and reliance on



reports from patients, caregivers, or both (Ready & Ott, 2003). This study used the Quality of Life-AD test instrument for self-reporting only. The Quality of Life-AD was administered by the test administrator to participants before the first week of art activity and after eight weeks of hat decoration, collage, embossing, painting, ceramics, photography, and printmaking.

### **Rosenberg Self-Esteem Scale**

The Rosenberg Self-Esteem Scale is a brief, ten-item questionnaire developed by sociologist Morris Rosenberg in 1989 (Rosenberg, 1989, Appendix B). Although this test was initially developed to measure self-esteem in adolescents, it is now commonly used with people of all ages. In addition, this scale was recently used with effectiveness for persons with Alzheimer's disease and dementia by New York University researchers in conjunction with the Museum of Modern Art's MeetMe at MOMA program (Museum of Modern Art, 2009).

The Rosenberg Self-Esteem Scale includes ten items that have five positively worded and five negatively worded statements that are rated on a four-point Likert scale with the following ratings: Strongly Disagree, Disagree, Agree, and Strongly Agree. In this study, the Rosenberg Self-Esteem Scale was administered by the test administrator to participants before the first art activity and after eight weeks of hat decoration, collage, embossing, painting, ceramics, photography, and printmaking.

### **Smiley-Face Mood Assessment**

The Smiley-Face Mood Assessment was used to determine the participant's mood before and after each art activity. In this assessment, participants circled one of five images ranging from very unhappy to happy to indicate their general mood. This instrument was administered by the test administrator and completed by each participant. The Smiley-Face Mood Assessment was adopted from research conducted by the Museum of Modern Art in New York City (L. Humble, Museum of Modern Art, personal communication, July 21, 2010, Appendix C).

## **Surveys**

Two surveys were used in this study. These surveys were the Participant Assessment and the Arts Session Evaluation. While other tests used in the study were self-reporting instruments, the surveys were completed by the test administrator in order to assess aspects of quality of life from her perspective. These surveys have specific questions that address aspects of quality of life that were not captured by the previous tests. They also contain open-ended questions about the effectiveness of activities in improving different aspects of quality of life.

### **Participant Assessment Survey**

The Participant Assessment Survey was completed by the test administrator after eight weeks of the described art activities. This survey evaluated the effectiveness of the series of art activities for each participant and rated their mood, behavior, interest, and social interaction after the series of art activities.

### **Arts Session Evaluation**

The Arts Session Evaluation was completed by the test administrator after each art activity. This survey provided further information on the degree of interest, socialization, self-esteem, and appropriateness of the activities for the participants for each activity.

## **Test Instrument Evaluation**

This study included eight individuals who were in the early to middle stages of Alzheimer's disease or dementia. Each participant gave written consent of their ability to participate in this study. All research procedures were reviewed and approved by the University of Kentucky Office of Research Integrity (Protocol number 10-0844-P4S). Each of the test instruments, the Quality of Life-AD, the Rosenberg Self-Esteem Scale, the Participant Assessment Survey, the Arts Session Evaluation, and observations made by the researcher were assessed qualitatively. In addition, the Quality of Life-AD and

the Rosenberg Self-Esteem Scale were assessed by a paired difference t-test in order to seek possible associations in the results. The test was also assessed by a standard deviation baseline measure as recommended by the author of the test (R. Logson, personal communication, University of Washington School of Nursing, May 4, 2011).

Although a larger sample of participants would have been preferred for statistical analysis, a paired difference t-test can be used appropriately with caution for sample sizes less than fifteen if the distribution of data does not seem to be badly skewed (Watkins, Scheaffer, & Cobb, 2008, pp. 607-608). In order to assume a normal distribution for this study, the sample data was tested for outliers using the criteria that an outlier is a piece of data that is more than 1.5 times the interquartile range as recommended by Watkins, Scheaffer, and Cobb (2008, p. 607). The calculation for outliers for the Quality of Life-AD and the Rosenberg Self-Esteem Scale are shown in Appendices F and G. It should be emphasized that this study assumed a population of individuals in the early to mid stage of Alzheimer's disease or dementia that were judged as capable of participating in art activities, and not the entire population of individuals with Alzheimer's disease or dementia.

### **Observations by the Researcher**

The researcher utilized an objective, systematic, and detailed approach to make observations of participants during each activity. In addition to making notes after each art activity, sessions were audio-taped and transcribed by the researcher in order to note specific comments made by participants during the activities and frequency of responses. After reviewing the tapes, specific areas of improvement were identified and categorized.

### **Hypotheses**

The questions which were raised during my previous work with individuals with dementia formed the basis for the current hypotheses. In addition, as indicated by the research literature, visual art activities have been shown to impact the quality of life of

individuals with Alzheimer's disease and dementia in different ways. However, there were no studies found that explore the effectiveness of an application of a combination of visual art activities applied in a learning context on quality of life. Consequently, the purpose of this study was to investigate the application of a combination of different art activities (hat decoration, collage, embossing, painting, ceramics, photography, and printmaking) and observe the effects on domains of quality of life for individuals with Alzheimer's disease and dementia. This investigation was predicated on three main hypotheses:

### **Hypothesis I**

It was hypothesized that the combination of art activities administered in this study would improve the quality of life of the participants. This hypothesis grew out of the objective to determine if the combination of seven different visual art activities — hat decoration, collage, embossing, painting, ceramics, photography, and printmaking — could improve the quality of life of participants over eight weeks. To determine whether or not this hypothesis was supported, the Quality of Life-AD test instrument was applied before and after eight weeks of art activities. This test instrument measured thirteen dimensions of quality of life. In addition, observations made by the researcher and surveys completed by the test administrator provided additional domains and information about quality of life.

### **Hypothesis II**

It was hypothesized that the combination of art activities administered in this study would improve the self-esteem of participants. This was measured by comparing results of the Rosenberg Self-Esteem Scale before and after eight weeks of art activities. In addition, observations made by the researcher and surveys completed by the test administrator provided additional information concerning the self-esteem of participants.

### **Hypothesis III**

It was hypothesized that mood would be elevated and participants would be more content after each art activity. This was indicated by results from the Smiley-Face Mood Assessment administered before and after each art activity. In addition, observations made by the researcher and surveys completed by the test administrator provided additional information on the mood of participants.

### **Procedure**

The art activities were administered once weekly over a period of eight weeks. The order of the activities was hat decoration, collage, embossing, painting, ceramics, photography, and printmaking. Each activity took place once per week except ceramics, which took place over two weeks since there were two parts to this activity. The art activities used in this study involved increasingly demanding exercises designed to stimulate sensory experience as well as challenge complex thinking and problem-solving skills as determined by a study of effective pedagogical practices stated in the research literature (Lowenfeld, 1982; Ocvirk, 1978). In addition, the activities were designed in ways which, although challenging, could result in certain measures of success. For example, participants could select realistic or abstract themes, and simple and more complex subject matter were provided so that each participant could work from their own skill level. A supportive atmosphere was maintained. Individual artworks were appreciated and recognized for their unique individual contributions and aesthetics.

### **Test Procedures**

As mentioned, each art activity took place once per week for a total of eight weeks. These activities lasted approximately 1.5 hours. Prior to the start of the eight-week art activities, two self-reporting instruments, the Quality of Life-AD and the Rosenberg Self-Esteem Scale were administered by the test administrator to the participants. These two tests were also administered following the last art activity after eight weeks. In addition, the Participant Assessment Survey was completed by the test

administrator after eight weeks of art activity. Before and after each individual art activity, the Smiley-Face Mood Assessment was administered to participants by the test administrator. In addition, following each art activity, the Arts Session Evaluation was completed by the test administrator.

### **Art Activities Employed**

The combination of seven different art activities was administered over eight weeks. Each activity was explained by the researcher for 5-10 minutes before the start of activity. The procedures were then demonstrated.

#### **First Art Activity — Hat Decoration**

The hat decoration activity involved using stencils and fabric markers to decorate golf hats. A template drawing of the front of the hat was given to each participant so they could plan and practice the design for the front of their hat. After the participants planned their design on paper it was replicated onto the hats.

#### **Second Art Activity — Collage**

The collage activity involved using scissors, glue, and cut paper to create a collaged picture. Participants selected from a number of different images including birds, leaves, abstracts, and landscapes that were made available as reference. Participants were shown individually how to cut and glue shapes to create their collage.

#### **Third Art Activity — Embossing**

The embossing activity involved using wax crayons and colored pencils to rub over objects such as stencils, bark, leaves, or pre-fabricated embossing plates. Cards and bookmarks were used for rubbing over objects. Markers were available to embellish the cards after the embossing was completed. Participants selected objects to emboss and were shown individually how to rub crayons and pencils over objects.

#### **Fourth Art Activity — Painting**

The painting activity utilized watercolors. A still life set up which included pears, apples, lemons, a green cloth, and a vase with branches of forsythia was set on the table. The researcher also brought in reproductions of still life paintings by Botero to help generate ideas concerning composition. The researcher discussed how painting involves observation and discussed looking for shapes within objects in order to create composition. Participants were shown individually how to plan their work so the wet paint would not run into any new areas, and how to blend colors on the paper.

#### **Fifth Art Activity — Ceramics Part 1**

White, air-drying clay was used for the ceramics activity. Two projects were created; a pinch pot and a coil pot. Photos of different pinch pots and coil pots were shown as reference. After the demonstration, participants were assisted individually if they had questions about how to build their pots, create a base, or embellish their pots with impressions of stencils and different objects.

#### **Fifth Art Activity — Ceramics Part 2**

The ceramics activity, part two, involved painting the ceramics pieces that were created in the previous session. The researcher discussed different ways of applying acrylic paint including stippling with different colors. Participants were assisted individually if they had questions about colors or paint application.

#### **Sixth Art Activity — Photography**

For the photography activity, a disposable camera was distributed to each participant. This activity took place outside in an enclosed courtyard. The researcher discussed different aspects of photography, including emphasis on shape, line, lighting, pattern and texture and showed examples of photos that incorporated these aspects. The participants were then asked to take different photos in the courtyard that

emphasized these aspects. Participants were assisted individually if they had questions about how to work with their cameras and how to advance the film to the next frame.

### **Seventh Art Activity — Printmaking**

For the printmaking activity, the researcher brought pre-made stamps of different subject matter such as barns, leaves, birds, and branches. Foam shapes, paint rollers, and other printing sponges were also made available. The participants used the different shapes and rollers to create both realistic and abstract works with acrylic paint. Paintbrushes were also used to embellish their work. Participants were assisted individually if they had questions about how to create a background or how to create different impressions on paper utilizing the available materials.



## Chapter Four: Results

This study was intended to determine the effectiveness of art activities on quality of life for individuals with dementia. Several standard tests were administered. These tests indicated that, in general, quality of life for individuals in this study improved by examining each hypothesis. In addition to the standard test results, other results were also observed, namely, additional domains to the stated variables demonstrated on the standard tests. These additional domains were shown to improve as well.

**Hypothesis I: The combination of art activities administered in this study will improve the quality of life for the participants.**

Results from Quality of Life-AD test instrument, surveys completed by the test administrator and observation by the researcher suggest that Hypothesis I was supported. The domains of quality of life that showed improvement were often specific to certain individuals, but all participants demonstrated and were observed to make some type of quality of life gain. As indicated by Table 1 (p. 52), five of the eight participants increased in overall quality of life scores from pre-test to post-test. At the recommendation of the author of the Quality of Life-AD test (R. Logson, personal communication, University of Washington School of Nursing, May 4, 2011), the standard deviation of the sample at pre-test was taken as a baseline indicator ( $s = 8.89$ ) and compared to each individual score at post-test. With this criterion, participants 2, 5 and 8 scored higher than one standard deviation at post-test and therefore showed clinical significance for improved quality of life. In addition, there were no significant decreases in post-test scores, suggesting that quality of life either improved or remained the same for all of the participants after eight weeks of art activities. Results from the *t-test* statistical analysis, which measured the Quality of Life-AD results for the group as a whole, suggests that quality of life improved only slightly ( $\alpha = .10$ ; Table 2, p. 53). Although this result would have been more reliable with a larger sample, a test for

possible outliers indicated no extraordinary skew for the data that would indicate that the data might not be normally distributed (see Appendix F).

When the data from the Quality of Life-AD was compiled according to each variable, all thirteen dimensions of quality of life showed increase at post-test (Table 3, p. 54). The largest increase was in the area of the participant's experience of "life as a whole," which jumped eight points for the group as a whole from pre-test to post-test. The next highest increases were for "energy" and "friends."

### **Survey Results**

Results related to quality of life from the Participant Assessment Survey completed by the test administrator (Table 4, p. 55) indicated that improved mood and behavior was observed frequently or a few times for all participants. In addition, by this survey, no participants became agitated during sessions, fell asleep during sessions or left before the end of sessions. Most participants were reported to be happy and content during the activities. The Art Session Evaluation completed by the test administrator after each art activity indicated that most activities received high ratings (4 or 5) and the activities enhanced self-esteem and encouraged socialization of the participants.

### **Observed Domains**

While thirteen specific domains were measured by the Quality of Life-AD test instrument namely, "physical health, energy, mood, living situation, memory, family, marriage, friends, self as a whole, ability to do chores, ability to do things for fun, money, and life as a whole," systematic observation by the researcher revealed some additional domains that may have contributed to quality of life for the participants. These additional observed domains were in the areas of cognitive performance, motor skills, mood, self-esteem, communication, and increased social interaction.

## **Cognitive Performance**

Cognitive domains measured by the Quality of Life-AD were “memory” and “ability to do chores” or tasks. However, other domains associated with cognitive performance were discovered by observation. These domains were enhanced focus and concentration, problem-solving skills including analysis and reflection, imagination, and memory.

### **Focus and Concentration**

Focus and concentration were observed to improve throughout the course of the activities. In general, there were more extended periods of self-directed, contemplative activity and fewer instances of distraction observed during the later activities. At the onset there were more comments that indicated some distraction, such as asking for something to eat, or about something unrelated to the activity. These types of comments did not occur during the later activities. In addition, as the activities progressed, longer periods of quiet, concentrated activity were observed. Questions specifically related to the task at hand occurred more frequently during the later activities. There were also questions raised concerning the specific day or current season which seemed to indicate a greater awareness of their surroundings during the later activities.

### **Problem-Solving Skills**

As each activity became more complex, involving more steps to acquire a finished product, the use of different problem-solving skills was observed. The first project, hat decoration, required two steps, from planning a template to completing a finished hat. Figures 4a and 4b (p. 65) show an example from this project. As the activities progressed in complexity and required more steps, it was observed that the participants asked more questions, studied their work more carefully, and were more engaged with each activity. In the beginning, the participants would often stop working if they were uncertain about what to do next. Later, they were more verbal and

directed with their questions. For instance, some of the questions asked were “What should I do next?” or “How do I make a base?”

Figures 5a and 5b (page 66) show a participant working out one of multiple steps to complete his collage. Figure 6a and 6b (p. 67) shows a participant who used problem-solving skills such as planning and analysis to decide how to make his still life painting look three-dimensional. All of the participants were able to meet the challenges presented by each activity, and no one became frustrated or gave up during the activities. Instead, each participant seemed to enjoy the increasing challenges. A couple of participants demonstrated the ability to analyze their process and reflect upon their work. After working in collage, one man stated, “It doesn’t take long to do it, does it? As long as you have the right things to do it!” Another participant, when asked about his finished painting, described how he moved his brush to create the shapes which became an apple and a vase. As he discussed this process, he used a brush in his hand to gesture in the air.

### **Memory**

The use of memory was demonstrated by some of the participants. These memories seemed to be triggered at certain times during the activities. While painting the still-life of fruit, one individual recalled with enthusiasm the pear trees that grew in his cousin’s yard. He also talked about how good the pears had tasted. Another participant remembered different boats and the nautical notations he used while in the navy during World War II. During the clay activity, the sea shells and other items that were used triggered different memories for the participants, including events during past vacations, previous places of residence, different beaches visited, and expeditions into nature.

### **Imagination**

The use of imagination was observed frequently during the activities. There were many times where the outcomes of the art were much different than what was

demonstrated by the researcher, indicating a self-directed use of imagination. One participant used his imagination frequently to create innovative works that had special meaning for him. Figures 7a, 7b, and 7c (p. 68) show some examples of his artwork. This participant would often create titles for his original works. He titled the work shown in Figure 7c as “Starfish Landing.” Other examples of the use of imagination by the participants were observed throughout the study, such as innovative uses of materials and subject matter. For example, the use of color and textures were often invented. Coil pots were made into sculptural pieces that went beyond the typical structure or function of a pot, and instead incorporated objects for an aesthetic effect. Also, some of the participants created imaginative stories about their work. One man described how his ceramic art was displayed at the White House as part of a traveling exhibit. Another man made up a story about the house he had drawn, which included parts of a home where he had lived previously.

### **Motor Skills**

One of the most striking areas of improvement observed during this study was in the area of fine motor skills. While all of the participants seemed to make gains, the most pronounced change occurred for two individuals in particular. One man had very limited use of his motor skills at the beginning of this study. At the start of the study he was not able to use his right hand at all, even when prompted or when he wanted to do so. His hand would remain on his lap, and although there was no apparent injury, he could not move it. His left hand would shake and he could only move it erratically. As a consequence, he was not able to use the scissors for the collage activity. In order to glue down the shapes, he had to pound these with his fist, since he could not press the paper down with his fingers (Figures 1a, 1b, and 1c, p. 62). However, during the fourth week, he was suddenly able to use his right hand during the painting activity. Equally as surprising was the fact that he was able to coordinate the brush movement with a considerable degree of control in order to complete a painting (Figures 2a, 2b, p. 63). He enjoyed the process so much that he even completed a second painting. In

addition, during the remaining art activities he continued to show improvement. During the photography activity, which took place in the seventh week, he was able to raise the camera to his eye level with both hands several times. Another participant, who used his hands only minimally during the first few activities, used his hands more often during the later activities. During the final art activity, he was able to manage and coordinate the use of several different tools to create an abstract artwork (Figures 3a - 3c, p. 64).

### **Communication and Social Interaction**

While some participants were naturally quieter than others, they were all able to communicate verbally. Some limited their verbal comments to “Yes” or “No,” or short phrases. Others were much more communicative and would discuss their work, events from their past, the weather, the current season, or University of Kentucky basketball. In general, there was more conversation and more questions were asked as the activities progressed from week to week. There was also much light-hearted humor between individuals as they viewed their work or the work of others. One individual colored a sun “green,” and he and others poked fun at it, describing it as a “cabbage sun!” The participants also complimented each other frequently on their work. For example, they would remark, “That is really nice!” “That is beautiful!” or “Good Job!” There were also some insightful comments made concerning their art. For instance, one participant would name colors according to their properties, such as “glare” or “rustic,” showing considerable insight into the different aspects of colors.

### **Mood and Self-Esteem**

Comments were made which indicated a sense of self-esteem and improved mood by participants during this study. These will be described in the following sections as they relate to Hypotheses II and III.

**Hypothesis II: The combination of art activities administered in this study will improve the self-esteem of participants.**

The results suggest that Hypothesis II was supported. Analysis of this hypothesis is based on results from the Rosenberg Self-Esteem Scale, surveys completed by the test administrator and observation by the researcher. The results from the Rosenberg Self-Esteem Scale pre- and post-test by participant are listed in Table 7 (p. 59). As shown in the "Difference" column, large increases in scores were noted for Participant 1, 5, 6, and 7. Table 8 (p. 60) shows the statistical results from a one-tailed paired difference t-test for the pre- and post-test scores for the Rosenberg Self-Esteem Scale. As shown in Table 8, the calculated t-test score was 2.48. By comparing the t-test score to the values listed in the Critical Values of t (Table 6, p. 57), it was determined that the calculated t-test score showed significance at a .05 level and even at a .025 level. Survey results on the Arts Session Evaluation which was completed by the test administrator (Table 5, p. 56) indicated high ratings (4 or 5) of enhanced self-esteem of participants for most of the activities.

Observations by the researcher showed many examples of increased self-esteem for participants as the activities progressed. When asked about what they thought of their artwork, participants often responded with enthusiasm. Some remarked that they were going to show their finished work to their family. Some of the participants asked if their work would be framed and placed on the unit. After the clay activity, one man remarked, "I'm selling mine!" After the collage activity, one participant held up his work for everyone to see exclaiming, "No doubt about it, it's a winner!" He then took a bow while the others clapped in response. During printmaking one man remarked at how he was going to "make a good artist" someday, and another man exclaimed, "I love this art!" Another participant who was quieter during most of the activities started to smile and laugh when he was asked if he liked his work. One of the staff members remarked that she had never seen him "laugh like that." At other times he would look over his work with quiet consideration. After the final activity, he remained in the art room and continued to look at his finished work after the others left the room. It was as if he was

absorbed in the wonder of what he had just accomplished. In addition, there were many compliments and positive remarks made about the work of their fellow participants. As projects were completed, other staff members came in to view the artwork and a visiting family member came during one activity to view the collage that was created by his father.

**Hypothesis III: Participants will be more content after each art activity. Mood will be elevated.**

The results suggest that Hypothesis III was supported. Analysis of this hypothesis was based on the Smiley-Face Mood Assessment, surveys completed by the test administrator, and observations by the researcher. The results from the Smiley-Face Mood Assessment are indicated in Table 9 (p. 61). As can be seen in the “Difference” column, mood scores increased for the activities of collage, clay, painting clay, photography and printmaking. The calculated mean of the scores for the activities at pre-test was 3.99, with a score of 4.15 at post-test. Observations made by the test administrator on the Participant Assessment Survey (Table 4, p. 55) indicate that the activities were observed to improve mood frequently for the majority of participants.

The researcher observed that mood improved for many of the participants during the activities. One participant, in particular, was often observed to have a dramatic shift in mood from the start to the end of each activity. This change was most pronounced before and after the photography activity. Before beginning the photography activity, this participant expressed a great deal of unhappiness and commented on his desire to leave the facility. However, as soon as the cameras were distributed he became focused and interested in the workings of the camera and examined it carefully. A friend from the facility came over and started to talk with him about the camera. By the end of the activity, this participant was conversing happily with his friend and expressed that he was very happy. Although this was the most dramatic change observed in mood for a participant, it was a common observation by the researcher that participants left each activity feeling more upbeat and joyful than



when they arrived. Observation also suggested many possible reasons for improvements in mood. For example, the effect of a color or the subject of their artwork seemed to bring happiness and joy. Birds were a favorite subject of their art, which brought remarks of appreciation of the different colors and shapes of birds. At other times, improvements in mood seemed to stem from the sense of wonder, enjoyment and satisfaction that occurred as they viewed what they had just created.

Table 1

*Quality of Life-AD Pre- and Post-Test Total Score by Participant*

Participant	Attendance	Pre	Post	Difference
P1	3x	42	42	0
P2	4x	33	46	+13*
P3	4x	38	39	+1
P4	6x	40	44	+4
P5	8x	35	47	+12*
P6	8x	36	34	-2
P7	8x	40	35	-5
P8	8x	14	28	+14*
Mean		34.75	39.38	
Standard Deviation		8.89		

*Note:* The Quality of Life-AD test was administered before and after eight weeks of art activities.

Scores for each of 13 items range from 1 to 4 with higher scores indicating a higher quality of life. Minimum score is 13, Maximum score is 52. Adapted from "Quality of Life-AD," by Rebecca Logsdon, 1996, University of Washington.

\*Scored higher than one standard deviation at post-test.

Table 2

*Quality of Life-AD Paired Differences t-Test, One Tailed Test*

Sample size ( $n$ )	Degrees of freedom ( $df$ )	t-test score for paired differences	$t_{.05}$ (from t-table)	Significance ( $\alpha$ )
8	7	1.77	1.895	.10 (not significant at .05)

*Note:* See Table 8 for t-test values. For levels of significance at .05 or less, reject the null hypothesis.

Table 3

*Quality of Life-AD Pre- and Post-Test Total Group Score by Variable*

Variable	Pre	Post	Difference
Physical Health	23	25	+2
Energy	20	24	+4
Mood	24	27	+3
Living Situation	21	24	+3
Memory	18	19	+1
Family	23	25	+2
Marriage	22	25	+3
Friends	24	28	+4
Self as a Whole	21	23	+2
Chores	21	24	+3
Fun	22	23	+1
Money	20	22	+2
Life as a Whole	21	29	+8*

*Note:* The Quality of Life-AD test was administered before and after eight weeks of art activities. Adapted from “Quality of Life-AD,” by Rebecca Logsdon, 1996, University of Washington.

\*Highest variable increase in quality of life.

Table 4

*Participant Assessment Survey Variables by Frequency of Response(n=8)*

	Not at All	A few times	Frequently
Sessions improved mood	0	3	5
Sessions improved behavior	0	4	4
He/she resisted attending	4	4	0
Left before end of session	8	0	0
Fell asleep during sessions	8	0	0
Became agitated during sessions	8	0	0
Was interested in sessions	0	2	6
Was unable to participate due to physical disability	6	2	0
Appeared happy or content during sessions	0	1	7
Interacted socially with others during sessions	0	2	6

*Note:* The Participant Assessment Survey was completed by the test administrator for each participant following eight weeks of art activities. Adapted from *I can create: Arts programming for people with Alzheimer's disease and related disorders*, St. Aldan's Episcopal Church & Very Special Arts Oregon. 1995, Portland, Or: Legacy Health System Family Support Services.

Table 5

<i>Arts Session Evaluation Rating by Art Activity</i>						
	<i>Participation</i>	<i>Creative and Interesting</i>	<i>Encouraged Socialization</i>	<i>Enhanced Self- Esteem</i>	<i>Appropriate for Residents</i>	<i>Effectiveness of Artist</i>
<i>Hat Decoration</i>	5	5	5	5	5	5
<i>Collage</i>	3	4	5	4	5	5
<i>Embossing</i>	3	5	5	3	3	5
<i>Painting</i>	5	5	5	5	5	5
<i>Ceramics I</i>	5	5	5	5	5	5
<i>Ceramics II</i>	5	5	5	5	5	5
<i>Photography</i>	5	5	5	5	5	5
<i>Printmaking</i>	5	5	5	4	5	5

*Note:* The Arts Session Evaluation was completed by the test administrator following each art activity. Ratings are from 1 to 5 with 5 being the highest score. Adapted from *I can create: Arts programming for people with Alzheimer's disease and related disorders*, St. Aldan's Episcopal Church & Very Special Arts Oregon. 1995, Portland, Or: Legacy Health System Family Support Services.

Table 6

*Critical Value of t. Significance for One-Tailed test*

<b>df</b>	<b>0.10</b>	<b>0.05</b>	<b>0.025</b>	<b>0.01</b>	<b>0.005</b>	<b>0.0005</b>
1	3.078	6.314	12.706	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.598
3	1.638	2.353	3.182	4.541	5.841	12.941
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.859
6	1.440	1.943	2.447	3.143	3.707	5.959
7*	1.415*	1.895*	*2.365	2.998	3.499	5.405
8	1.397	1.860	2.306	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.228	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.086	2.528	2.845	3.850

Table 6 (continued)

*Critical Value of t. Significance for One-Tailed Test*

<b>df</b>	<b>0.10</b>	<b>0.05</b>	<b>0.025</b>	<b>0.01</b>	<b>0.005</b>	<b>0.0005</b>
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.069	2.500	2.807	3.767
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
40	1.303	1.684	2.021	2.423	2.704	3.551
60	1.296	1.671	2.000	2.390	2.660	3.460
120	1.289	1.658	1.980	2.358	2.617	3.373
~	1.282	1.645	1.960	2.326	2.576	3.291

Source: From "Table of Percentage Points of the t-Distribution." *Biometrika*, Vol. 32 (1941), p. 300.

\*Related values for Quality of Life-AD and Rosenberg Self-Esteem Scale t-test. For the Quality of Life-AD, actual value of  $t$  was 1.77. For the Rosenberg Self-Esteem Scale actual value of  $t$  was 2.48.



Table 7

*Rosenberg Self-Esteem Scale Pre- and Post-Test*

Participant	Attendance	Pre	Post	Difference
P1	3x	18	30	+12
P2	4x	17	18	+1
P3	4x	26	24	-2
P4	6x	23	25	+2
P5	8x	18	30	+12
P6	8x	21	29	+8
P7	8x	21	26	+5
P8	8x	19	19	0
Mean		20.38	25.13	
Standard Deviation		3.02		

*Note:* Scoring: For items 1,3,4,7,10: Strongly Agree=3, Agree=2, Disagree=1, and Strongly Disagree=0. For items 2,5,6,8,9 (which are reversed in valence, and noted with the asterisks\*): Strongly Agree=0, Agree=1, Disagree=2, and Strongly Disagree=3. Adapted from *Conceiving the Self*, by M. Rosenberg, 1979, New York: Basic Books.

Table 8

*Rosenberg Self-Esteem Scale Paired Differences t-Test, One Tailed Test*

Sample size ( <i>n</i> )	Degrees of freedom ( <i>df</i> )	t-test score for paired differences	t. <sub>.05</sub> (from t-table)	Significance ( $\alpha$ )
8	7	2.48	1.895	.025 (significant at both .05 and .025)

*Note:* See Table 6 for t-test values. For levels of significance at .05 or less, reject the null hypothesis.

Table 9

*Smiley Face Pre- and Post-Test by Activity*

Activity	Pre	Post	Difference
Hat Decoration	4.4	4	-0.4
Collage	4	4.5	+0.5
Embossing	4.1	2.9	-1.2
Painting	4.4	4.2	-0.2
Ceramics 1	4	4.5	+0.5
Ceramics 2	3.7	4.5	+0.8
Photography	3.9	4.6	+0.7
Printmaking	3.4	4	+0.6
Mean	3.99	4.15	

*Note:* Scoring ranges from 1 to 5 with higher scores indicating a better mood. Adapted from *Meet Me: Making Art Accessible to People with Dementia*, by F. Rosenberg, A. Parsa, L. Humble, and C. McGee, 2009, New York: The Museum of Modern Art.

Figure 1



Figure 1a: Placing with left hand



Figure 1b: Pounding with left hand



Figure 1c : Finished collage

Figure 2



Figure 2a: Painting with right hand



Figure 2b: Completed painting

Figure 3



Figure 3a: Using a roller



Figure 3b: Using a foam shape



Figure 3c: Using a sponge

Figure 4



Figure 4a: Design template



Figure 4b: Completed project

Figure 5



Figure 5a: Problem-solving with collage



Figure 5b: Completed collage



Figure 6

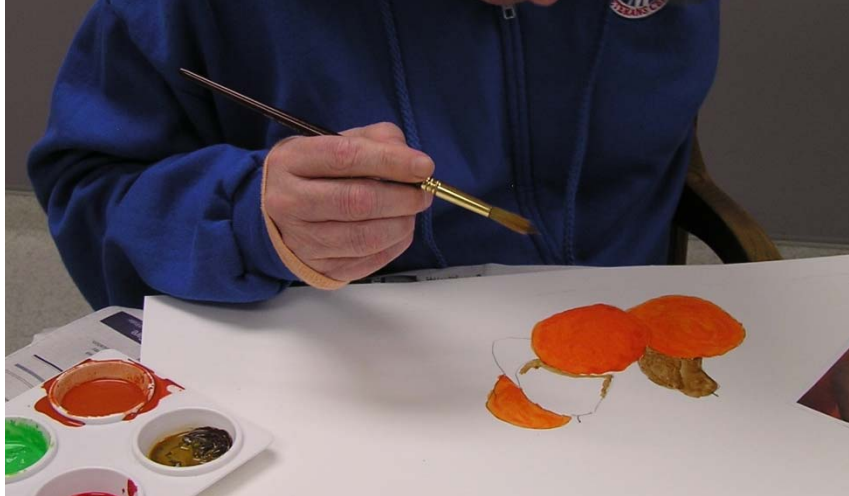


Figure 6a: Problem-solving converting three dimensions to two dimensions



Figure 6b: Completed painting

Figure 7



Figure 7a: Use of imagination



Figure 7b: Use of imagination



Figure 7c: Use of imagination  
*"Starfish Landing"*

## **Chapter Five: Discussion**

Results from this study suggest that the combination of visual arts activities improved quality of life for the participants. Specifically, the domains of quality of life that appear to be improved were: cognitive performance, motor skills, mood, self-esteem, communication, and increased social interaction. It is believed that this improvement in quality of life was a result of the pedagogical approach to applying the visual art activities along with the stimulating, novel, varied, and effort-filled challenge posed by the combination of different activities employed. This discussion will focus on the domains of quality of life that seem to have improved with the above mentioned visual arts activities.

Research in neurology has indicated that the brain has an extraordinary ability to adapt and modify its functionality, even in the face of pathology such as Alzheimer's disease and dementia (Sacks, 2008; Cohen, 2005). It is also believed that challenging learning experience can stimulate the brain to increase neural activity and integrity (Fratiglioni & Wang, 2007; Cohen, 2006; Karp et al., 2006; Fritsch et al., 2005; Scarmeas & Stern 2003; Wilson, Barnes, & Bennett 2003; Schooler, & Mulatu, 2001; Glass et al., 1999; Hultsch et al., 1999). Creative art activities may stimulate multiple areas of the whole brain and aid the brain's process of circumventing pathology (Basting, 2009; Zeisel, 2009). In order to maximize these potential benefits, the visual art activities used in this study were designed to be increasingly challenging, varied and complex. The results suggest that cognitive performance was impacted by the rigorous nature of the visual art activities. As the visual art activities varied and became more difficult and complex, it was observed that participants were more engaged in cognitive activity, which included greater focus and attention, asking more questions, problem-solving, analyzing and reflecting upon their processes, using their imagination and recalling memories. These observations were also supported by results from the Quality of Life-AD which showed increases in the cognitive domains of "memory" and the "ability to do chores" or tasks.

During the course of this study, there were expressions of interest and enthusiasm by the participants at the mere sight of the art materials as they entered the room. In this manner, the materials and their properties seemed to naturally invite creativity. This engaging nature of the art materials and the activities may have contributed to the increased attention, focus, and concentration observed in this study. In addition, these improvements probably resulted from the rigorous challenge posed by the different activities. In order to control the varied aspects of paint flow, make form changes in clay, or coordinate the workings of their cameras, attention to subtle changes and nuances was required. In addition, as each art activity was new and different and incorporated greater levels of complexity, greater powers of observation, attention, focus and concentrated effort were necessary. These heightened powers of observation may have also contributed to a greater sense of awareness in the participants. It was observed that participants looked more alert as the activities progressed. They also asked more questions related to the time of day or season more often as the activities progressed, which may have indicated increased awareness of their surroundings.

Problem-solving skills, including analysis and the ability to reflect upon their processes, also seemed to improve over the course of this study. This may have also been motivated by their interest in the activities, which may have provided the necessary impetus to complete each task successfully. As stated by Zull (2002), a key condition for learning to take place is self-directed motivation. In addition, a sense of confidence gained by the completion of each task may have encouraged the use of more advanced problem-solving skills observed later in the study. Furthermore, the visual art activities provided a way for participants to observe their work so that instant feedback could take place. In this manner, thinking could be continually corrected and refined, which may also explain their increased ability to solve problems as they became more difficult and complex. It is also possible that increased problems solving ability was due to an adaptation of the brain resulting from the combination of art activities administered. As noted in the literature, creative art activities may help the brain to

effectively bypass areas of pathology and compensate for learning deficiencies (Basting, 2009, Zeisel, 2009).

Other cognitive benefits which were observed included the increased uses of imagination and memory. According to Cohen (2006), the creative arts provide ideal opportunities to exercise the imagination, which remains intact through much of the course of Alzheimer's disease and dementia. Although imagination involves a number of different cognitive processes it also includes many dynamic aspects. For instance, imagination involves creating an inner mental picture of what is possible, retrieving and utilizing knowledge, engaging emotion and aesthetics, and the skills to express what is imagined (Eisner, 2002; Steiner, 2001). Imagination also involves a sense of play, experimentation and risk-taking, in order to bring something new into being (Eisner, 2002). The varied materials used in this study seemed to stimulate inventiveness and may have contributed to greater use of the imagination as the qualities of each material were considered, contemplated and explored.

The use of memory also appeared to be enhanced by the visual art activities. Interestingly, Steiner (2004) suggests that imagination, which is stimulated through work in the arts, is intricately tied to memory. Again, this has to do with the mental processes which occur during the use of imagination. In order to imagine anything new, pictures are both created and re-created from what an individual has seen in the past. These pictures in the "minds-eye" are called up from memory. In this way imagination and memory are linked. Many of the artworks created during this study were described by participants as containing features of something from their past that they had remembered. For example, a depiction of a house created during one of the activities, was described by a participant as similar to a house he had previously owned. Memories seemed to also be triggered by the different materials used in creating each work of art. During the still-life painting project, participants expressed that the pears brought back memories of pear trees or the taste of pears. Similarly, memories were evoked about hickory bark, shells, and other objects that were incorporated into their

artwork. Certain subjects, such as birds, nature scenes, or sports, also seemed to spark the expression of specific memories.

Improved motor skills were another important domain of quality of life observed in this study. The stimulating and dynamic nature of the visual art activities may have been the reason for these improvements. As the review of the literature indicates, the visual arts may impact multiple aspects of human nature including physical, intellectual, emotional, aesthetic, and spiritual aspects of well-being (Sylwester, 1998). Steiner (2001) suggests that through the arts, body, soul, and spirit work as an integrated whole. The visual art activities used in this study required different aspects of eye-hand coordination and the use of fine motor skills in order to form, construct, arrange, and decorate works of art. In addition, the tangible contact with different types of objects and materials engaged not only the sense of touch and thinking, but also a feeling or appreciation for the properties of different materials and their inherent potential and results. In this manner, touch, fine muscle coordination, thinking, feeling and artistic sensitivity were engaged all at once, creating a situation where these different domains of well-being might work harmoniously together. In addition, working with their hands may have invoked a certain “muscle memory” of previous activity with certain tools or with the visual arts in general. This may explain why one of the participants was suddenly able to use his right hand to paint with a paintbrush, when he could not engage this hand at all during the previous activities. Since the activities were varied over the course of the study, this particular activity may have provided the necessary trigger to memory of a certain skill set for this individual.

The mood of the participants also showed improvement during this study. The Smiley-Face Mood Assessment indicated higher mood states after each art activity, with the exception of the embossing activity. This exception may have been due to the additional challenge of the embossing activity for participants with motor skill problems. In general, mood was observed to improve for each participant after each art activity and in some individuals, even dramatically. Various reasons for uplifted mood were

observed ranging from aesthetic appreciation to personal satisfaction and increased social interaction. These results suggest that mood is highly dependent on the individual and their particular needs at the time of each art activity and that many varied and diverse aspects of their experience seemed to precipitate an enhanced mood.

It was not surprising that self-esteem improved for the participants but the high degree of improvement was not anticipated. This highly significant result, indicated by the Rosenberg Self Esteem Scale ( $\alpha=.025$ ), survey results, and comments made by the participants, suggests that the educational approach was advantageous for creating an environment where a sense of personal worth and self-esteem flourished. The activities used in this study were designed to promote learning and the successful completion of tasks, which seemed to promote high degrees of self worth. Self-esteem was probably also affected by the fact that the artwork produced was purposeful and meaningful to each individual as well as to others. A sense of pride and accomplishment seemed to be invoked as the participants viewed and admired their final works of art. Some of the participants described how their pieces would be given as gifts to family members or asked if their work could be displayed. The different types of activity not only gave multiple opportunities for success, but also provided uses for the completed works of art. As an example, one man wore his hat out on an excursion from the facility. In this way, the activities were not only learning exercises, but also served meaningful purposes.

Communication and social interaction also increased over the course of this study. While verbal communication difficulties were not apparent, it was evident that some individuals were quieter than others. It is possible that the sense of quietness observed for these individuals may have indicated a reluctance to communicate due to language difficulties. In general, more conversation and questions about procedures took place as the activities progressed. This may have been due to an increasing familiarity and ease with the researcher or the activities. It might have also resulted from the dynamic and engaging nature of visual art activities which provide alternative

contexts for the use of language and communication. Sabat (2001 ) notes that when diagnostic tests for individuals with dementia measure attention, memory or use of language as single functions, a person with dementia may be judged as deficient in these areas. However, when conversation with individuals with dementia occurs within the actual context, remaining abilities in one or more of these areas can help compensate for losses. In other words, it may be that the enhanced attention, use of imagination, memory, and other cognitive functions that were stimulated by the visual activities used in this study may have helped to compensate for language difficulties.

Social interaction increased over the course of this study. Creative social activity can be a critical component of well-being for individuals with dementia. Cohen (2005) suggests that social engagement through the arts is a major factor contributing to better health, lower stress levels, and reduced mortality in the elderly. Socialization was encouraged in this study by having the participants work together as a group. Although each individual created their own work of art, the close proximity to others who were working with the same materials and similar projects provided opportunities for the participants to learn from each other and share in each other's creations. In this way, there was some collaboration which arose spontaneously among the participants which may have contributed significantly to the nature of their interactions with each other. In addition, the art activities fostered greater social interactions between family, friends, and caregivers at the facility, as the participants shared their works of art with others.

Finally, it is important to note that while specific domains of well-being may have been more pronounced for certain individuals, it seemed that all of the participants in this study benefited in some way which improved their quality of life. The Quality of Life-AD self-reporting instrument showed that out of thirteen dimensions of quality of life, "life as a whole" showed the largest increase from pre-to post-test. This was supported by the researcher's observation that quality of life improved for all of the participants in this study, although specific gains in domains such as motor skills, mood, cognitive performance, etc., depended on the individual. Results suggest that the visual



arts administered in the combination and learning context used in this study may dramatically improve the quality of life for individuals with dementia in terms of both specific domains and overall assessment of quality of life.

Furthermore, this study suggested that the multiple dimensions of quality of life that were impacted may have had a compensatory effect on other domains where improvement was needed. As described, increased focus and concentration may have contributed to a greater sense of alertness and awareness, and improved motor skills may have been due to any number of driving motivations or triggers of memory. The integrative effect of art activities on multiple domains of well-being seemed to impact the participants in this study. Cognitive performance seemed to be enhanced which may have reflected greater brain integrity. In addition, positive social interaction was encouraged by the activities, which appeared to also improve their quality of life. While more research is necessary to continue to explore the effectiveness of visual art activities on different domains of quality of life, it is clear that the visual arts applied in a learning context provide one of the most beneficial and dynamic avenues possible for improving quality of life for individuals with Alzheimer's disease and dementia. As expressed by individuals in this study with comments such as "I love this art," "We are getting really good at this," and "I'm selling mine," as well as their requests to display their artwork at the facility or complete more works of art, it is evident that visual art activities provide a valuable means for enhancing well-being and improving many different domains of quality of life.

## Chapter Six: Conclusion

After selecting participants for this study and before it began, I was told that one of the participants had become very adept, at one time in his past, at making pottery. There was also an individual in the group of participants who was a published author and a theologian. During the course of this study, as I got to know these different individuals, I discovered that in addition to learning about some of their experiences in fighting wars such as World War II, the Korean War, and Vietnam, the creative parts of their past were often shared with me.

It was anticipated that the ceramics project would be most interesting to the individual who had previously been an accomplished potter. This indeed turned out to be the case. During the ceramics activity, which took place in the fifth week, a pronounced change occurred in his alertness, awareness, and in his demeanor. Before the ceramics project was even described, he was already working with the clay. Although it was obvious that he could recall some of his previous skills, he was also eager to learn whatever else he could to make a successful ceramic piece. In addition, he was much more joyful, playful, and communicative and he interacted more with the other participants than previously. The staff members also remarked about his transformation. In fact, during this activity he showed no evidence of *any* problem or disability, and seemed to “come alive” before our eyes. Although the art activities during the following weeks were different, this participant was observed to sustain a greater sense of awareness and involvement, although not to the same degree as during the ceramics project. Gardner (1999) believes an individual becomes more enthused about learning when the material to be learned is connected to the aptitude of that person. This may have been the reason for the improvements observed for the described potter.

James McKillop, in his book, *Opening Shutters – Opening Minds* (2003), describes a similar phenomenon that occurred as he took up photography after a diagnosis of dementia. After a period of what he describes as being “deeply depressed and unable

to function,” a mentor offered to help him to learn more about photography. Although he had taken photographs of his family before he had dementia, he soon became interested in learning to take photographs in a different way, in order to convey a sense of mood. The beautiful photographs, from close ups of dandelions to street scenes, to magnificent mountain and sea vistas, are a testimony to not only what he accomplished, but in his words, to the belief that individuals with dementia can learn new things and improve their quality of life. In the preface he writes:

I hope that when you have finished looking through the book you took a picture away with you. Not one which is in the book but rather an image, that a person with dementia can still be valued and [be] creative and not trapped within their condition. I trust I have opened your eyes and shown that a person with dementia can relearn forgotten skills, as well as learn new ones (preface).

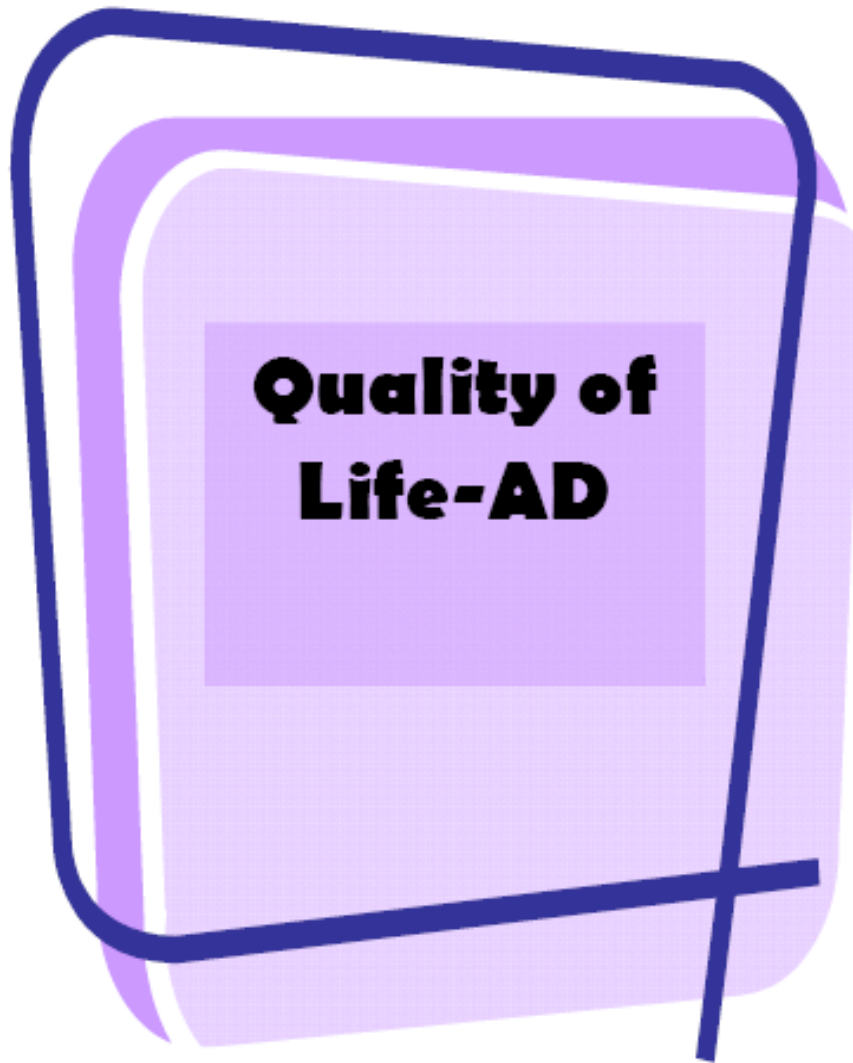
Like Mckillop, the picture I would like for you to take from the present investigation is that the visual arts can not only help individuals with dementia re-learn forgotten skills or learn new ones, but may also improve their quality of life in many different and individual ways. The results from this study suggest that the educational approach to visual art activities was highly effective in enhancing the quality of life for the participants, resulting in improvements in cognitive ability, enhanced mood, motor skills, self-esteem, communication, and social interaction. Although the improved domains of quality of life were observed to be unique to each individual, overall quality of life improvement was also reported by the participants in addition to specific domains. The results from this study indicate that it is possible for individuals with dementia to learn new skills and tasks as well as re-learn older ones, and in so doing, improve their quality of life. What is necessary is the appropriate approach, as was used in this study, to pursuing the creative arts in ways that are novel, varied, challenging, interesting, purposeful, as well as meaningful to them.

## **Chapter Seven: Further Study Suggested**

This research suggested that a combination of visual art activities improved quality of life for persons with Alzheimer's disease and dementia. However, while this study was successful in attaining the goals that were set, this research raised other issues and questions that should be addressed:

1. It would be beneficial to repeat this study with all females as well as with both genders to see if there are any differences in results.
2. A multi-site study involving a number of groups from different nursing homes or day centers, and control groups that participate in alternate recreational activities might make the results more generalized to a broader population.
3. In addition to the Quality of Life-AD scale, it would be advantageous to have short tests to measure cognitive performance such as memory, problem-solving ability or other factors given before and after the combination of art activities.
4. The specific combination of art activities could be modified to include some collaborative art projects. Ideas for collaborative projects would be a group mural or a group mosaic project. The shared efforts to complete a work of art might increase opportunities for social interaction, contributing to further increases in quality of life.
5. An intergenerational project could be implemented as one of the art activities. This might provide an interesting dimension to the art activities and potentially affect many quality of life domains.

Appendix A  
Quality of Life-AD



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Appendix A  
Quality of Life-AD (continued)

**Brief Descriptive Information about the Quality of Life-AD Measure**

**References:**

Logsdon, R.G., Gibbons, L.E., McCurry, S.M., & Teri, L. (1999). Quality of life in Alzheimer's disease: Patient and caregiver reports. *Journal of Mental Health & Aging*, Volume 5, Number 1, pages 21-32.

Logsdon, R.G., Gibbons, L.E., McCurry, S.M. & Teri, L. (2002). **Assessing quality of life in older adults with cognitive impairment.** *Psychosomatic Medicine*, 64, 510-519.

**Description:**

The QOL-AD is a brief, 13-item measure designed specifically to obtain a rating of the patient's Quality of Life from both the patient and the caregiver. It was developed for individuals with dementia, based on patient, caregiver, and expert input, to maximize construct validity, and to ensure that the measure focuses on quality of life domains thought to be important in cognitively impaired older adults. It uses simple and straightforward language and responses & includes assessments of the individual's relationships with friends and family, concerns about finances, physical condition, mood, and an overall assessment of life quality.

Caregivers complete the measure as a questionnaire about their patients' QOL, while patients complete it in interview format about their own QOL. The measure consists of 13 items, rated on a four point scale, with 1 being poor and 4 being excellent. Total scores range from 13 to 52. It generally takes caregivers about 5 minutes to complete the measure about their patients; for patients, the interview takes about 10 to 15 minutes to administer. Detailed instructions for interviewer administration are available.

Scoring is straightforward- the sum of all items; patient and caregiver reports can be evaluated separately and/or combined into a single score if desired. Patients with MMSE scores of 10 or higher can usually complete it with no problem; below that caregivers can continue to complete it as proxies indefinitely.

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Appendix A  
Quality of Life-AD (continued)

<b>Quality of Life: AD</b> (Interview Version for the person with dementia)				
Interviewer administer according to standard instructions. Circle responses.				
1. Physical health.	Poor	Fair	Good	Excellent
2. Energy.	Poor	Fair	Good	Excellent
3. Mood.	Poor	Fair	Good	Excellent
4. Living situation.	Poor	Fair	Good	Excellent
5. Memory.	Poor	Fair	Good	Excellent
6. Family.	Poor	Fair	Good	Excellent
7. Marriage.	Poor	Fair	Good	Excellent
8. Friends.	Poor	Fair	Good	Excellent
9. Self as a whole.	Poor	Fair	Good	Excellent
10. Ability to do chores around the house.	Poor	Fair	Good	Excellent
11. Ability to do things for fun.	Poor	Fair	Good	Excellent
12. Money.	Poor	Fair	Good	Excellent
13. Life as a whole.	Poor	Fair	Good	Excellent

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Appendix A

### Quality of Life-AD (continued)

#### Instructions for Interviewers

The QOL-AD is administered in interview format to individuals with dementia, following the instructions below. Hand the form to the participant, so that he or she may look at it as you give the following instructions (instructions should closely follow the wording given in bold type):

**I want to ask you some questions about your quality of life and have you rate different aspects of your life using one of four words: poor, fair, good, or excellent.**

Point to each word (poor, fair, good, and excellent) on the form as you say it.

**When you think about your life, there are different aspects, like your physical health, energy, family, money, and others. I'm going to ask you to rate each of these areas. We want to find out how you feel about your current situation in each area.**

**If you're not sure about what a question means, you can ask me about it. If you have difficulty rating any item, just give it your best guess.**

It is usually apparent whether an individual understands the questions, and most individuals who are able to communicate and respond to simple questions can understand the measure. If the participant answers all questions the same, or says something that indicates a lack of understanding, the interviewer is encouraged to clarify the question. However, under no circumstances should the interviewer suggest a specific response. Each of the four possible responses should be presented, and the participant should pick one of the four.

If a participant is unable to choose a response to a particular item or items, this should be noted in the comments. If the participant is unable to comprehend and/or respond to two or more items, the testing may be discontinued, and this should be noted in the comments.

As you read the items listed below, ask the participant to circle her/his response. If the participant has difficulty circling the word, you may ask her/him to point to the word or say the word, and you may circle it for him or her. You should let the participant hold his or her own copy of the measure, and follow along as you read each item.

**1. First of all, how do you feel about your physical health? Would you say it's poor, fair, good, or excellent? Circle whichever word you think best describes your physical health right now.**

**2. How do you feel about your energy level? Do you think it is poor, fair, good, or excellent?** If the participant says that some days are better than others, ask him or her to rate how she/he has been feeling most of the time lately.

**3. How has your mood been lately? Have your spirits been good, or have you been feeling down? Would you rate your mood as poor, fair, good, or excellent?**

**4. How about your living situation? How do you feel about the place you live now? Would you say it's poor, fair, good, or excellent?**

**5. How about your memory? Would you say it is poor, fair, good, or excellent?**

**6. How about your family and your relationship with family members? Would you describe it as poor, fair, good, or excellent?** If the respondent says they have no family, ask about brothers, sisters, children, nieces, nephews.



Appendix A  
Quality of Life-AD (continued)

7. **How do you feel about your marriage? How is your relationship with (spouse's name). Do you feel it's poor, fair, good, or excellent?** Some participants will be single, widowed, or divorced. When this is the case, ask how they feel about the person with whom they have the closest relationship, whether it's a family member or friend. If there is a family caregiver, ask about their relationship with this person. If there is no one appropriate, or the participant is unsure, score the item as missing. If the participant's rating is of their relationship with someone other than their spouse, note this and record the relationship in the comments section.
8. **How would you describe your current relationship with your friends? Would you say it's poor, fair, good, or excellent?** If the respondent answers that they have no friends, or all their friends have died, probe further. **Do you have anyone you enjoy being with besides your family? Would you call that person a friend?** If the respondent still says they have no friends, ask **how do you feel about having no friends—poor, fair, good, or excellent?**
9. **How do you feel about yourself—when you think of your whole self, and all the different things about you, would you say it's poor, fair, good, or excellent?**
10. **How do you feel about your ability to do things like chores around the house or other things you need to do? Would you say it's poor, fair, good, or excellent?**
11. **How about your ability to do things for fun, that you enjoy? Would you say it's poor, fair, good, or excellent?**
12. **How do you feel about your current situation with money, your financial situation? Do you feel it's poor, fair, good, or excellent?** If the respondent hesitates, explain that you don't want to know what their situation is (as in amount of money), just how they feel about it.
13. **How would you describe your life as a whole. When you think about your life as a whole, everything together, how do you feel about your life? Would you say it's poor, fair, good, or excellent?**

**SCORING INSTRUCTIONS FOR THE QOL:**

Points are assigned to each item as follows: poor=1, fair=2, good=3, excellent=4.

**The total score is the sum of all 13 items.**

## Appendix B

### Rosenberg Self-Esteem Scale

#### Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The scale is a ten item Likert scale with items answered on a four point scale - from strongly agree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and Seniors from 10 randomly selected schools in New York State.

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.*	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.*	I feel I do not have much to be proud of.	SA	A	D	SD
6.*	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with	SA	A	D	SD
8.*	I wish I could have more respect for myself.	SA	A	D	SD
9.*	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

Scoring: SA=3, A=2, D=1, SD=0. Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self esteem.

The scale may be used without explicit permission. The author's family, however, would like to be kept informed of its use:

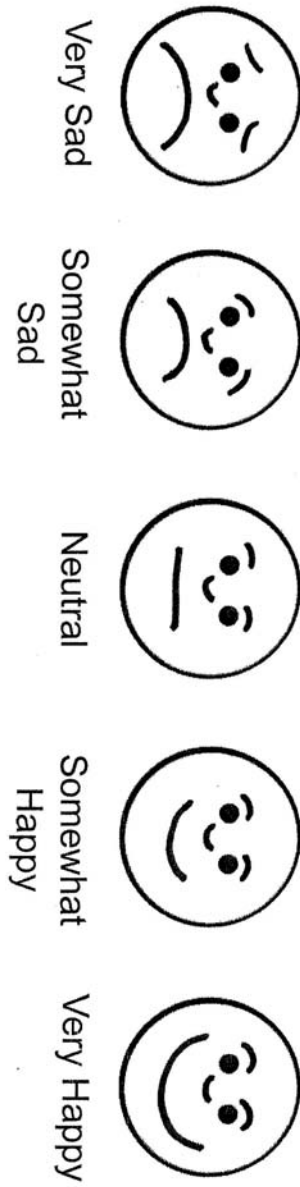
The Morris Rosenberg  
Foundation c/o  
Department of  
Sociology University of  
Maryland  
2112 Art/Soc Building  
College Park, MD 20742-1315

#### References

References with further characteristics of the scale:

Crandal, R. (1973). The measurement of self-esteem and related constructs, Pp. 80-82 in J.P. Robinson & P.R. Shaver (Eds), Measures of social psychological attitudes. Revised edition. Ann Arbor: ISR.

Appendix C  
Smiley-Face Mood Assessment



Please circle the face that best describes how you are feeling right now.

Appendix D  
Participant Assessment Survey

**PARTICIPANT ASSESSMENT**

(Complete at the end of the project)  
Alzheimer's and the Arts

Resident's Name: \_\_\_\_\_ Person Completing Form: \_\_\_\_\_

Date: \_\_\_\_\_ Facility: \_\_\_\_\_

Please describe any changes in this individual's physical or mental status which may have affected his/her ability to participate in the arts program (note any illness, hospitalizations, time away from your facility or other unusual occurrences):

**Overall, how did this person respond to the arts program?**

0	Did not participate	1	Limited participation	
2	Some participation	3	Moderate participation	4 Full participation

Comments:

**Were you aware of any of the following for this individual?**

	<u>Not at all</u>	<u>A few times</u>	<u>Frequently</u>
Sessions improved his/her mood	1	2	3
Sessions improved his/her behavior	1	2	3
He/she resisted attending	1	2	3
Left before end of session	1	2	3
Fell asleep during sessions	1	2	3
Became agitated during sessions	1	2	3
Was interested in sessions	1	2	3
Was unable to participate due to physical disability	1	2	3
Appeared happy or content during sessions	1	2	3
Interacted socially with others during sessions	1	2	3

Permission to photocopy and use this evaluation form should be requested from: Linda Boise, Legacy Family Support Services, 1015 N.W. 22nd Ave. Portland, Oregon 97210 (503) 229-7348.

Appendix E  
Arts Session Evaluation

**ARTS SESSION EVALUATION**  
**Alzheimer's and the Arts**

Facility: \_\_\_\_\_ Person Completing Form: \_\_\_\_\_

Date and time of session: \_\_\_\_\_

Activity: \_\_\_\_\_ Program length: \_\_\_\_\_

Artist: \_\_\_\_\_

Number in attendance: \_\_\_\_\_ How many participated in the activity: \_\_\_\_\_

1. How would you rate today's program?

	LOW				HIGH
Participation by residents in activity	1	2	3	4	5
Activity was creative and interesting	1	2	3	4	5
Activity encouraged socialization	1	2	3	4	5
Activity enhanced self-esteem	1	2	3	4	5
Activity was appropriate for residents	1	2	3	4	5
How would you rate the artist on their effectiveness in working with this group	1	2	3	4	5

2. Would you recommend having this activity again? \_\_\_\_ Yes \_\_\_\_ Possibly \_\_\_\_ No

3. Describe any noteworthy positive reactions by the residents (any "magic moments"?)

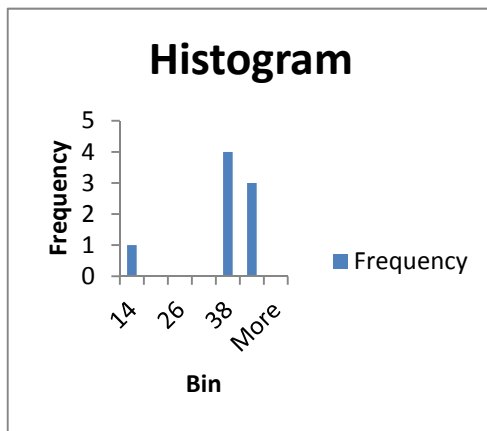
4. Describe and difficulties experienced by any residents:

5. Anything else? (Write on the back of the page if necessary)

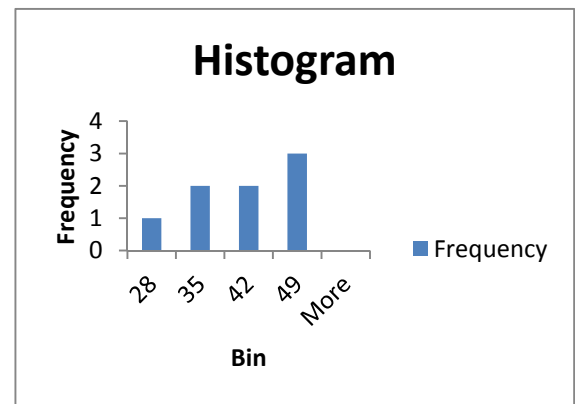
*Permission to photocopy and use this evaluation form should be requested from: Linda Boise, Legacy Family Support Services, 1015 N.W. 22nd Ave. Portland, Oregon 97210 (503) 229-7348.*

Appendix F  
Quality of Life-AD Test for Outliers

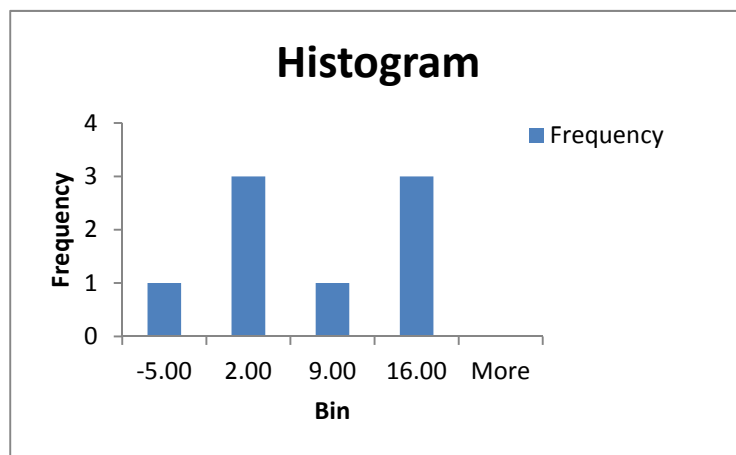
QOL-AD			$x_1$	$x_2$	$Q_1$	$x_3$	$x_4$	Med	$x_5$	$x_6$	$Q_3$	$x_7$	$x_8$		IQR	1.5(IQR)
PRE			14*	33	34	35	36	37	38	40	40	40	42		6	9
POST			28	34	34.5	35	39	40.5	42	44	45	46	47		10.5	15.75
POST-PRE			-5	-2	-1	0	1	2.5	4	12	12.5	13	14		13.5	20.25



PRE



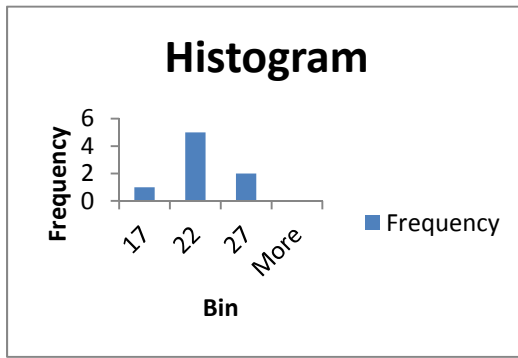
POST



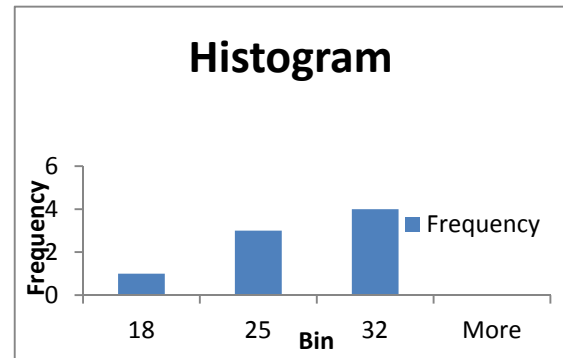
POST-PRE

Appendix G  
Rosenberg Self-Esteem Scale Test for Outliers

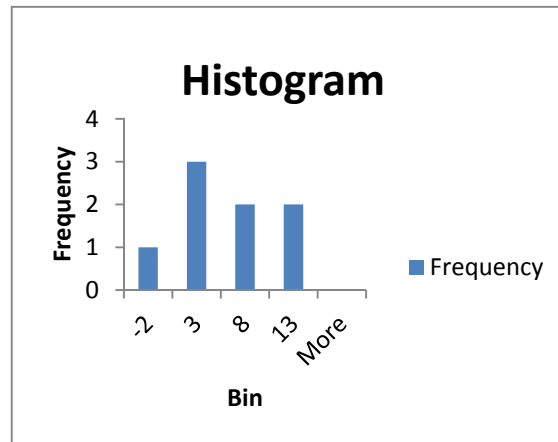
RSE		$x_1$	$x_2$	$Q_1$	$x_3$	$x_4$	Med	$x_5$	$x_6$	$Q_3$	$x_7$	$x_8$		IQR	$1.5(IQR)$
PRE		17	18	18	18	19	20	21	21	22	23	26		4	6
POST		18	19	21.5	24	25	25.5	26	29	29.5	30	30		8	12
POST- PRE		-2	0	.5	1	2	3.5	5	8	10	12	12		9.5	14.25



PRE



POST



POST-PRE

Appendix H  
Gallery of Works: Hat Decoration

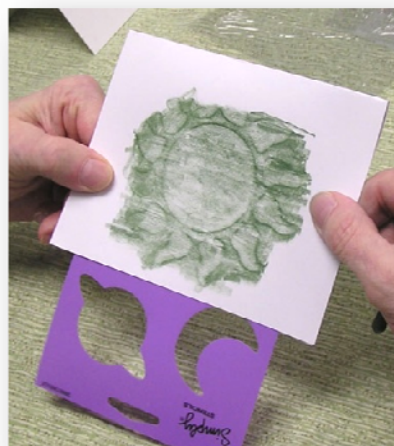




Appendix H  
Gallery of Works: Collage



Appendix H  
Gallery of Works: Embossing



Appendix H  
Gallery of Works: Painting





Appendix H  
Gallery of Works: Ceramics

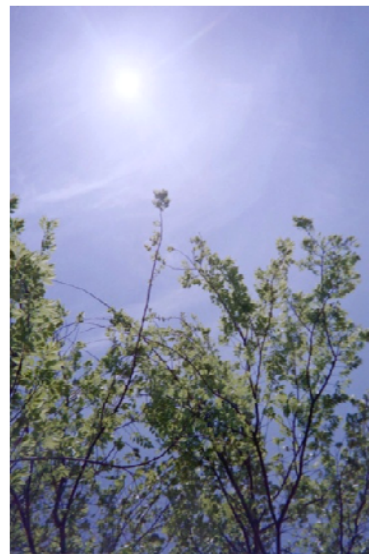


Appendix H  
Gallery of Works: Painting Ceramics





Appendix H  
Gallery of Works: Photography - Emphasizing Lines and Composition



Appendix H  
Gallery of Works: Photography – Emphasizing Pattern





Appendix H  
Gallery of Works: Printmaking





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