

Effects of Montessori Painting on an Older Adult with Dementia

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ABSTRACT

Montessori learning has been associated with innovative education for young children (Bruck, 2001). In 1995, the idea was piloted to use Montessori principles in recreation programs for people residing in assisted living and nursing homes across the nation. While this new treatment option seems beneficial, there is little research to provide evidence of its effectiveness in lessening the debilitating symptoms associated with dementia. The intention of this study was to determine if a Montessori painting intervention would increase memory for a person with dementia. An in-depth series of twice weekly pre-test/intervention/post-test sessions were used during an eight-week time span. The results showed that 75% of the time the participant had increased memory during the post-intervention test.

INTRODUCTION

Dementia is a debilitating disease that currently affects an estimated 4.5 million individuals. It is characterized by a continuous decline in mental and physical health (Orsulic-Jeras, et al, 2000). It is vital to have activity-based cognitive interventions to lessen maladaptive behaviors and increase the quality of life for these individuals. It is believed that even after a diagnosis of dementia, individuals retain a personality and various skills that can be supported and held onto for years (Zinn, 2005).

Activity interventions are a common and useful tool to aid in lessening decline and preventing negative behaviors. However, these activities can often be difficult or abstract, preventing potential benefits. It is important to research the benefits of a simplified, structured Montessori activity. Montessori style activities are designed to capture residents' strengths and interests through participation in enjoyable and stimulating activities that enable them to retain their capabilities and knowledge without becoming overwhelmed (Bruck, 2001).

Painting was the chosen intervention for this research as it is relaxing and there are many varieties and skill levels from which to choose. It is to be hoped that the results of research like this can produce programs that can help individuals with dementia by lowering maladaptive behaviors to increase quality of life.

METHODOLOGY

In Menorah Park Center for Senior Living in Beachwood, Ohio, Montessori-based principles played an active roll in the Alzheimer's/Dementia unit (Zinn, 2005). "[One] of the more advanced activities is a game that combines the memory skills of the game Concentration with boards like those used in a game of bingo" (Zinn, 2005, p. 25). The Montessori approach provided persons with dementia a "no-pressure, failure-free, self-directed approach" to activities and leisure. It uncovered the skill and personality that remained within, and individualized each activity to an appropriate level.

The methodology for this research was simple and concise. Montessori principals break the activity down into simple steps, making it easy to understand. Montessori programming uses intervention principles "...including extensive use of external cues and reliance on procedural/implicit memory rather than declarative/explicit memory" (Orsulic-Jeras, et al, 2000).

This philosophy creates a no-fail atmosphere where the activity intervention is more effective and considerably more enjoyable for the participant.

The design of this research was a series of twice-weekly 50-minute sessions with the participant. Each session consisted of a ten-minute pre-test, a thirty-minute Montessori painting intervention, and a ten minute post-test. The pre-test and post-tests that were conducted used a Memory™ matching game. The 72 cards in the game were divided into two sets. The first set of 36 cards was used for the pre-test and the second set of 36 cards for the post-test. The cards contained simple pictures such as a dog, bird, crayons, bicycle, sun, and hot dog.

The causal style of research was chosen for this study because it focused directly on the treatment effects of one participant and provided the researcher with very accurate and specific findings. The projected outcome was that the post-test time for matching the 18 pairs would be less than the pre-test time.

Participant

The participant for this research was a resident of a local assisted living facility. The participant was an 89-year old Caucasian female who had a medical diagnosis of dementia, a prerequisite for this research study. Her selection for the study was based on the informed opinion of the Certified Therapeutic Recreation Specialist (CTRS) for this facility. The participant was a retired schoolteacher whose past interests included music and art/craft activities. The dementia behaviors of the participant included confusion, decreased concentration, decreased alertness, memory decline, and loss of interest in activity.

Site

The research was conducted at the assisted living facility where the participant resided. Fourteen of the sixteen sessions (87.5%) were conducted in a conference room setting, which was well lighted and quiet. The door remained open approximately six inches. The participant sat at the far end of a long table with her back to the window and the researcher sat to her right. Two of the sessions were not conducted in the conference room due to scheduling conflicts. Session three was conducted in a small, open library located in the main area of the facility. Session sixteen was conducted in the sunroom, which was closed and had several windows and patio-style décor.

Materials

One Memory™ game	One roll wax paper
Paper toweling	One screen
Fifteen acrylic paints of various colors	Foam paints
Ten paintbrushes of assorted size	Three foam paintbrushes
One bottle acrylic sealer	One 2x6" stencil
Pen and paper	Stained glass paints
Suction cups	Masking tape
Ceramic dog figurine (two)	Ceramic cat figurine (two)
Wooden tray (two)	Crayola™ No-Mess finger-paints
Heart shaped paper-mache box (two)	Dog sun catcher (two)
Square paper-mache box (two)	Wooden cross (two)
Foam door hanger (two)	Stained glass butterfly (two)
Butterfly sun catcher (two)	Flower sun catcher (two)
Sandal shaped paper-mache box (two)	Ceramic magnets (two sets of three)
Ceramic bird figurine (two)	Vinyl gloves

Procedure

The CTRS, participant and the participant's Power of Attorney (POA) were asked to sign an Informed Consent Form. The primary researcher completed online Informed Consent training and received approval from the UW-L IRB to begin the study.

The researcher arrived at the facility at 9:00 am every Monday and Wednesday for eight weeks to set up the room. The participant was transported to the room for the session, which began promptly at 9:30 am. The researcher kept the two sets of Memory™ cards separated, one for the pre-test and one for the post-test. The cards were face down in a six by six square of 36 cards. They were placed carefully to ensure that two of the same pictures were not side-by-side. Each set was placed on a sheet of waxed paper either labeled "1" or "2" for pre- or post-test. The pre-test cards were brought out from behind a curtain, and the game was explained to the participant. When the researcher began the timer, the participant was allowed to begin searching for matches. The participant turned two cards face up, and if they did not match, the participant turned them both back over. Upon making a match, the participant set the two matched cards aside. On occasion the participant would begin turning one card over at a time, in which case the participant was reminded to turn two cards over at a time.

After the pre-test was completed, the model and unfinished painting project for the day were brought out. The craft projects used included: a wooden tray, wooden cross, finger painting, watercolor painting, sun catcher, stained glass foam cross, paper Mache box, and ceramic figurines.

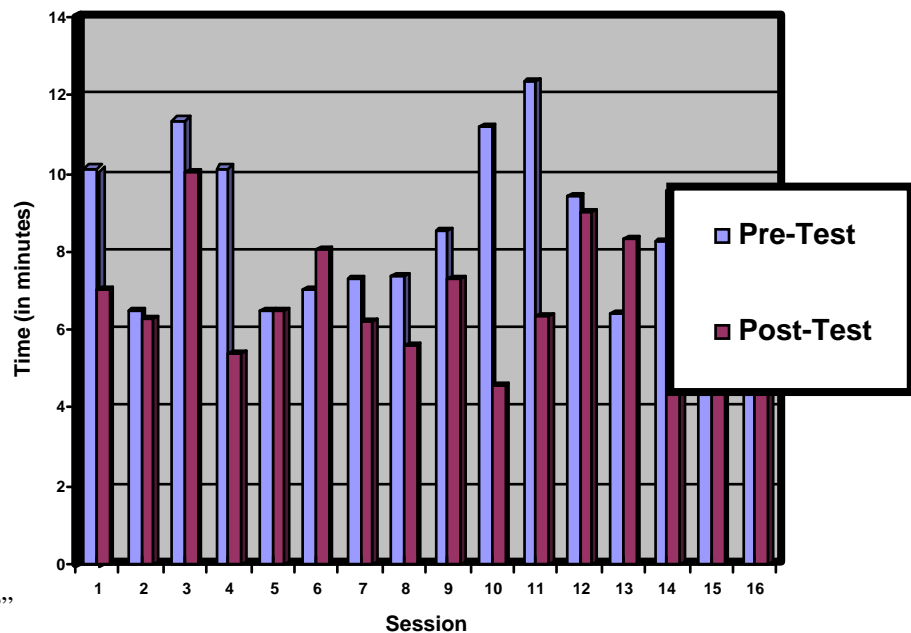
Each project was explained in the same manner. The first step of the project was explained, and the accompanying paint color, one brush, and palette were brought out from behind the curtain. The timer was set for 30

minutes. During each session, a craft project was made with the participant. A second project was always prepared in case the first project was completed too quickly so that the 30 minutes of intervention was consistent. Throughout the session and immediately after, the researcher took notes about the participant's behavior and actions, as well as the surroundings (i.e. room, weather, interruptions).

At the end of 30 minutes, the painting supplies were put back behind the screen, and the post-test cards were brought out. The matching game was explained again, and the timer was set for ten minutes. When the entire session was completed, the researcher escorted the participant back to her room. After the participant left the room, the researcher cleaned up the supplies and left the day's project in a safe place to dry until the next session.

RESULTS

This study was designed to see if a Montessori painting intervention would improve memory for an older adult with dementia. The results of this research were positive. In twelve of the sixteen sessions, 75% of the time, the participant showed increased memory during the post-test, as demonstrated by a faster time. While going through session notes, there was a recurring theme: "Seems more alert during post-test" ... "Seems to be concentrating better [during post-test]" ... "Has asked fewer questions [during post-test] – less confusion?"



DISCUSSION

For this research, I modified the Montessori activity conducted by Zinn (2005) by dividing a Memory™ game into two sets of cards. I chose the Memory™ game because it would test the memory to remember where each picture was, and would require a certain level of attention and alertness to complete the test. I believed this game was similar to the one Zinn used, and was adapted to the functioning level of the research participant while still embracing the Montessori principles. In the Montessori method, tasks are broken down into small steps, and utilize guided repetition and progression from simple to complex tasks (Orsulic-Jeras, et al, 2000). These principles are vital to maintain strengths and personality for a person with dementia.

Since dementia is a condition of declining mental abilities, especially memory, I believed it was most important to test if this skill could be retained through Montessori interventions (Odenheimer, G.L, Wieland, D, 2006). Through this research, I learned that one's memory is not a sole skill, but is affected by other areas such as concentration, confusion, and alertness. By using the Montessori principles, I created an activity that was not only relaxing and satisfying to the participant, but by embracing the self-directed Montessori approach, I provided her with an activity suited to her ability that would consistently provide a sense of success and satisfaction. With this sense of accomplishment came increased alertness, since she was involved and truly enjoying the painting project.

By breaking the project down into manageable steps, there was less confusion for the participant. She seemed to understand the steps easily, and asked very few questions throughout the session. Through this decrease in confusion came a decrease in agitation – another debilitating – and common – symptom of dementia. By decreasing these maladaptive behaviors, her memory and concentration had a chance to prevail, by demonstration of her faster post-test times.

During the four sessions where the post-test time was slower than the pre-test time, it was noted that the either the weather was cold and dreary, or there was some type of staff or resident interruption.

This research study raised several important questions and opened doors to further research ideas. Would a different intervention create a different response? Is concentration affected by memory, or is memory affected by

concentration? Does a change in the activity location make a difference in memory performance? Does sunny and warm versus cloudy and bleak weather play a role in alertness? Does the type of intervention also affect concentration? (i.e. Participant concentration: How can I get the brush to cover this spot with paint?) If an activity is repeated often enough does it transfer from short to long-term memory? Do situational distractions (music, staff/resident interruptions, illness) affect the severity of dementia-related behaviors? Could the 1:1 attention be the main benefit factor?

By conducting this research, it is hoped that the door will be opened to the creation of new and beneficial activities for persons with a medical diagnosis of dementia.

RESOURCES

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