

Art Therapy Using Sensory Stimulation for Low Functioning Developmentally
Disabled Adults

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Abstract

Through Art Therapy, sensory-focused activities can be used with low functioning developmentally disabled adults. Using a structured model to guide an Art Therapist when selecting and conducting activities that provide meaning and encourage participation is beneficial. Intense interaction between the Art Therapist and the low functioning developmentally disabled adult is necessary so that they feel valued and are able to communicate effectively through other means besides only language. Many low functioning developmentally disabled adults function on a sensory level, but do not have the opportunity to develop their senses. Using visual, auditory, tactile, olfactory, and gustatory stimulated activities will stimulate and activate a low functioning developmentally disabled adult's sensory system giving them more opportunities to use their senses and communication skills everyday enabling them to enhance their lives.

I. Introduction: Art Therapy, Population, Facility, Goals, Experiences

Art Therapy is a form of psychotherapy that uses the creation of art and reflection of the art processes and product allowing for emotional expression and healing through nonverbal means states Edwards (2004). An Art Therapist enables a client to break through barriers to self-expression using simple art materials and everyday objects. An Art Therapist will be influenced by the particular needs of the client when planning an activity. A client can be high functioning to very low functioning. Through exploration and sharing in a therapist-client relationship, a person who may experience illness, trauma, challenges in living, or may seek personal development can gain awareness of self and others, cope with symptoms, stress, and traumatic experiences; enhance cognitive abilities; and experience relaxation and pleasure by making art (Edwards, 2004). An Art Therapist can use sensory stimulation activities to enhance cognitive abilities, thought processes, range of motion, exploration of new things, communication, and the ability to stimulate memories. A low functioning developmentally disabled adult can benefit from using sensory stimulation with an Art Therapist.

I have spent a lot of time interacting with low functioning developmentally disabled adults at Pinewood Inc. as an Art Therapist intern over the past two years. I have enjoyed working with the low functioning developmentally disabled population more than any other. Using the education I received in the Graduate Art Therapy Program at the University of Wisconsin-Superior, I have developed an understanding and good rapport with the consumers at Pinewood Inc. I have researched and used specifically developed activities that have enabled the consumers to use their senses to enhance their awareness of themselves and the environment. Using sensory stimulation for low functioning developmentally disabled adults allows them to be

able to explore their environment, interact with people and objects, communicate, and use cognitive skills.

Pinewood Inc. is a community-based day training and habilitation program. Pinewood's in-house habilitation program provides a range of services to adults with low to high functioning developmentally and intellectually disabled consumers who may also have a secondary psychiatric or medical diagnosis or be medically fragile (Pinewood Inc, 2012). Located in Duluth, Minnesota, Pinewood Inc. is a private, non-profit charitable corporation (Pinewood Inc, 2012).

Pinewood's day habilitation program provides a range of services with the assistance and support of staff. Consumers that attend Pinewood Inc., participate in a variety of sensory, personal care, cognitive development, vocational, and socialization activities with staff (Pinewood Inc, 2012).

My goal of using sensory stimulation with the consumers at Pinewood Inc. was to stimulate the low functioning developmentally disabled adults through sensory stimulation, which is the impact the environment has on our minds and bodies as we receive information through our sensory organs: eyes, ears, skin, nose, and tongue (Smith, 2008). I wished to engage Pinewood's consumers in activities where they could use their sense of touch, sound, smell, sight, and sometimes even taste. I wanted to increase developmentally disabled adult's participation in activities; awareness of their environment and other people; interest in objects and people; interaction with other people; communication; understanding of their likes, dislikes, and interests; and increase their skills and self-esteem. I wanted them to have fun and enjoy themselves. With the knowledge I gained from my research of sensory stimulation, I was able to engage the low functioning developmentally disabled adults in activities where they used their

senses to interact with objects, communicate with people, increase their skills and confidence, and give them more opportunities to use these new skills everyday enhancing their lives.

II. Population Research

A developmental disability is a severe, chronic disability that begins any time from birth through age 22 and is expected to last for a lifetime (DDRC, 2014). Developmental disabilities may be cognitive, physical, or a combination of both (Stark County Board of Developmental Disabilities, n.d.). These disabilities can result in serious limitations in everyday activities of life, including self-care, receptive and expressive language, substantial intellectual deficits, learning, mobility, self-direction, social skills, health and safety, or being able to work or live independently (University of Minnesota, 2013). Developmental disabilities almost always result in a lifetime of dependence on publicly funded services which include an individually coordinated plan (Stark County Board of Developmental Disabilities, n.d.). Examples of developmental disabilities include: autism, fetal alcohol syndrome, congenital syndromes and conditions, metabolic disorders, prenatal and perinatal infections and significant medical problems, low birth weight infants weighing less than 2 pounds 10 ounces, postnatal acquired problems, behavior disorders, brain injury, cerebral palsy, down syndrome, mental retardation, and Spina Bifida (DDRC, 2014). Up to 60 percent of people with developmental disabilities, Keller (2003) attests, have also been diagnosed with epilepsy.

Many adults with low functioning developmental disabilities live in group homes that may have a non-stimulating environment. Because of their disabilities, they may not have had an opportunity to explore and interact with their environment (Fowler, 2007). The impact of an impoverished environment has also been studied in relation to children who lived in orphanages in Eastern Europe (Cermak and Daunhaur 1997; Lin et al. 2005). The studies highlighted the

‘critical importance of the environment for sensory integration’ (Cermak and Daunhaur 1997, p.500) and many of the children were observed to be ‘almost completely silent, engaging in self stimulating behaviors such as rocking, scratching or staring at their fingers’ (Cermak and Daunhaur 1997, p.500). (Fowler, 2007, p. 15).

Adults with low functioning developmental disabilities that have limited ability to communicate often have a decreased opportunity to develop their sense of touch, smell, sound, and sight. Our senses play an integral role in developing our personalities, skills, and knowledge (Fowler, 2007). An adult with development disabilities may have a range of disabilities that may include cognitive, learning, severe physical limitations, complex health needs, or epilepsy. These disabilities may prevent a person from using speech, pictures, signs, or spelling to communicate.

III. Sensory Stimulation Research

Sensory stimulation is the impact the environment has on a person’s body and mind when we receive information through our sensory organs and our brains interpret this input (Fowler, 2007). By providing a developmentally disabled adult an opportunity to experience sensory stimulation from their environment, they can actively interact with the environment, experience sensory stimulation, interact with new people and possibly develop a relationship with someone, and develop new capabilities (Fowler, 2007).

Adults with profound and multiple disabilities often operate on a sensory level. Developmentally, they are more interested in exploring the sensations they get from their bodies and environment, rather than trying to understand complex concepts (Fowler, 2007, p. 27).

One of the goals of providing sensory-focused activities is to give the opportunity for low functioning developmentally disabled adults to use their senses; to see, to touch, to smell, and to hear. An Art Therapist must support an adult to explore and interact with their environment and use their senses. The goal of providing sensory-focused activities is to stimulate and activate their sensory system. The effect on a developmentally disabled adult will be excitatory or inhibitory to the stimulation (Fowler, 2007). When reacting excitatory, the low functioning developmentally disabled adult will become more alert and attentive, whereas, if they react inhibitory, they will become more relaxed. Fowler (2007) states that when working with a developmentally disabled adult, the sensory environment that you provide must match the amount of sensory input they can process and cope with.

A structured model is necessary to guide an Art Therapist as to how and why a sensory activity is chosen (Fowler, 2012). The following framework is a guide to use when working with a developmentally disabled adult to choose an activity that will provide meaning and encourage participation:

- which sense they prefer and what types of engagement do they like to work with, objects or people;
- the sensory threshold;
- the level of understanding; and
- the level of communication (Fowler, 2007).

According to Fowler (2012), frameworks should be used as guiding principles for selecting and conducting activities. Karen Bloomberg and Denise West stated Fowler (2007)

created the Checklist of Communication Competencies, otherwise known as The Triple C. This communication assessment formed four communication stages (Fowler, 2007).

Level 1 is named the Reflexive Stage, which includes:

- sleeping a lot;
- looking at people or objects only in their field of vision;
- being internally focused;
- watching, but not reacting to objects or people; and
- behaviors being assigned meaning (Fowler, 2007).

Level 2 is named the Reactive Stage, which includes:

- reacting to different stimuli;
- behaviors being assigned meaning;
- being in the exploration stage;
- the ability to differentiate between different tones of voice, facial expression, and body language and reacting accordingly;
- not initiating interaction, but reacting to it; and
- responding to routines (Fowler, 2007).

Level 3 is named the Proactive Stage, which includes:

- reaching out to explore the environment;
- person and object interaction;

- recognizing objects that have meaning to them;
- liking a movement, and repeating it;
- using additional ways to interact with objects; and
- understanding cause and effect (Fowler, 2007).

Level 4 is named the Intentional Informal Stage, which includes:

- communicating intentionally using objects or people;
- recognizing people;
- using gestures;
- understanding commands; and
- engaging with objects (Fowler, 2007).

A way of communicating with a low functioning developmentally disabled adult is to use intense interaction. It is compatible to developmentally disabled adults who have very few communication skills. Fowler (2012) states the focus is the process of interaction not the outcome. The purpose is to spend time together and for the developmentally disabled adult to feel safe and engaged. This process demonstrates to the adult with a developmental disability that the Art Therapist enjoys spending time with them.

Adults with profound and multiple disabilities operate at a sensory level. An Art Therapist must provide meaningful sensory activities. Many developmentally disabled adults are unable to say what they like or dislike, but can communicate through vocalizing, making noises, body movements, or facial expressions. They can communicate what they like in terms of

sensory systems and sensory thresholds (Fowler, 2007). Being able to communicate with a developmentally disabled adult and recognizing how much they understand, the Art Therapist can use activities that have meaning to them. They can develop a relationship with each other where the Art Therapist understands and uses the language that the developmentally disabled adult uses, such as making specific noises, body movements, or facial expressions, and acknowledging their likes and dislikes (Fowler, 2007). Respectfully copying the developmentally disabled adult's sounds or reflecting certain movements can capture their attention because the Art Therapist is speaking their language (Fowler, 2007). The developmentally disabled adult senses the Art Therapist's feelings of determination, enjoyment, and excitement of their progress. A smile is a direct way of communicating to the developmentally disabled adult that the Art Therapist enjoys spending time with them. The following, affirms Fowler (2007), are the fundamental components of intensive interaction:

- hold the session in a place where the adult feels most comfortable;
- be relaxed and take your time;
- take turns with your action, movements, and sounds;
- be aware of body language and give the adult your full attention (adults can sense when they are not receiving your full attention);
- do not always lead the conversation, take turns; and
- create and repeat familiar and enjoyable routines

Respond to the low functioning developmentally disabled adult by:

- imitating;

- joining in;
- speaking to them;
- making non-speech sounds;
- being dramatic; and
- providing a story (be aware that this could be over stimulating for some) (Fowler, 2007).

During sensory-focused activities, there are many skills that can be taught, which include: being able to communicate with support people and with their peers as well; cognitive skills, such as cause and effect, color, number, and memory as stated by (Fowler, 2007).

Sensory activities can be explored in the community as well. Low functioning developmentally disabled adults can find meaning in experiencing sensory stimulation in another environment in addition to their group home or day center, such as a park, the grocery store, a friend or relative's home, or a movie theatre.

An Art Therapist can take the adult with a developmental disability to a garden to experience the smells, sounds, and the feeling of warmth of the sun shining on their skin. A developmentally disabled adult can engage in sensory experiences, for example, at a fabric store, where they can feel the different types of fabric and see the different colors and patterns of the fabric; perfume counters at a department store where they can smell the different perfumes; a hardware store where they feel the different types of materials, such as the wood handle and the cool metal of a hammer, or look at the many different colors of paint sample cards Fowler (2007) described. It must be taken into account the developmentally disabled adult's threshold for

stimulation, noise, crowds, walking, and amount of time being away from their day center or group home where they feel safe and comfortable (Fowler, 2007). Taking the developmentally disabled adult back again repeatedly to a place that they like and feel comfortable in, can allow for a relationship to be built with a person who works or frequents there declares Fowler (2007). For example, an adult with a developmental disability can learn the skills necessary to be able to request a coffee at a coffee shop on their own by communicating verbally, by indicating what they want by pointing to it, or with a 'community request card' with a picture or written communication on it asking for a coffee (Fowler, 2007, p. 31).

It would be useful to write down all the different things that can be experienced in the wider community, and list them under the different senses attests Fowler (2007). This ensures that developmentally disabled adult's sensory preferences can be taken into consideration rather than places being chosen just because they are perceived as sensorial stimulating (Fowler, 2007, p. 30).

Having profound and multiple disabilities, low functioning developmentally disabled adults operate on a sensory level. They usually do not have the opportunity to develop their senses. They can be developed through visual, auditory, tactile, olfactory, and gustatory stimulation. An Art Therapist can provide sensory-focused activities to stimulate and activate a developmentally disabled adult's sensory system. Group homes and day centers should make it standard to employ an Art Therapist on their staff that will work with developmentally disabled adults to develop their senses, actively interact with their environment and people, and develop new capabilities.

IV. Art Therapy Sensory Stimulation Activities

Visual stimulation, the sense of sight, can come from objects inside of a low functioning developmentally disabled adult's day center or group home or from outside in the natural world. Smith (2008) asserts that visual stimulation increases attention span and concentration. Adults with developmental disabilities who are passive, states Smith (2008) may not purposefully look around and notice specific objects or they may not have the ability to understand what they are seeing in the distance, therefore, they benefit from stimulating objects being brought close to their face. Bright lights can be a great visual stimulator, but do not use flashing lights because they may be irritating to an adult with a developmental disability and can cause seizures (Smith, 2008).

Auditory stimulation, the stimulation of the sense of hearing, encourages the thought process. Smith (2008) testifies that it is an imperative to be able to decipher sounds. Language and communication skills can be developed through auditory stimulation (Smith, 2013).

A Bead Ball is made in bright colors as well as are the beads inside the ball. The movement of the beads cause an action that is stimulating to watch producing visual stimulation. As the beads move around inside the bead ball, they make an interesting sound producing auditory stimulation. This object combines both visual and auditory stimulation.



Smith. Barbara. 2013. Bead Ball. [Photograph]. Retrieved from

<http://www.barbarasmithoccupationaltherapist.com/whatissensorystimulation.html>

Smith (2008) describes that a plastic tube can be filled with interesting objects, such as bright small pieces of plastic, beads, jewelry pieces, or necklace chains; anything that is bright, shiny, and small. This object also produces auditory stimulation.



Smith. Barbara. 2013. Plastic Tube. [Photograph]. Retrieved from

<http://www.barbarasmithoccupationaltherapist.com/whatissensorystimulation.html>

A Tornado Tube can be used as visual stimulation. Smith (2008) shows that by filling clear soda bottles with water and adding food coloring, glitter, or shiny plastic confetti and attaching the two bottles with a small plastic piece that has threads on each side creates an object

that can use gravity to pass water from one bottle to the other creating a tornado effect. It will provide enjoyment for the developmentally disabled adult to watch the water swirl down into the lower tube. Smith (2008) attests that by placing the developmentally disabled adult's hand on the bottle, they can feel the movement of the water, which in itself is sensory.



Smith, Barbara. 2013. Tornado Tube. [Photograph]. Retrieved from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>

Music is a very powerful stimulation because it holds personal meaning associated with a developmentally disabled adult's past (Smith, 2008). Know the age of the developmentally disabled adult so that music from their era can be played attests Smith (2008) so that memories can be brought to them. Some music may be irritating to some developmentally disabled adults or they may not like the particular type of music being played, so being observant of the low functioning developmentally disabled adult's reaction is important so that they can have a positive experience from listening to music testifies Smith (2008).

Different types of objects that make sounds can be used. A “Groan Stick” can be purchased that makes a funny sound when it is moved up and down describes Smith (2008). A “Groan Stick” that makes animal noises can also be bought. Any object that produces a sound can be used to generate auditory stimulation for the developmentally disabled adult.



Smith, Barbara. 2013. Groan Stick. [Photograph]. Retrieved from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>

A recording of familiar environmental sounds that would stimulate a low functioning developmentally disabled adult’s auditory senses can be recorded, such as a phone ringing, children playing, a dog barking or a cat meowing, a familiar television show’s theme song, or the voices of familiar people in their lives (Smith, 2008).

A shaker of some sort like a plastic package secured with duct tape, small juice bottles, or a plastic tube can be used to hold items, such as bells, marbles, or pennies describes Smith (2008). These objects can produce great sounds when shaken. Have the developmentally disabled adult hold the shaker and shake the object so that they can create the sound and so that they can also feel the movement of the objects (Smith, 2008). If the adult with a developmental

disability cannot hold the shaker themselves, place their hand on the object while gently shaking it reveals Smith (2008).



Smith. Barbara. 2013. [Shaker.] [Photograph]. Retrieved from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>



Smith. Barbara. 2013. [Shaker.] [Photograph]. Retrieved from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>

Many adults with a developmental disability have a limited range of motion. Because many live in group homes and spend their days at a day center, they have minimal opportunities to explore new things through their sense of touch. Tactile stimulation, the sense of touch, is felt through a person's skin. Information is received through fingertips, arms, legs, face; basically all

over the body (Smith, 2008). The information received through the skin informs the body of texture, temperature, and other touch-sensations. Developmentally disabled adults can explore different types of tactile stimulation just by going outside and feeling the wind, snow, rain, or the warmth of the sun. This will enable them to discover and process meaning of their environment.

Tactile stimulation can be utilized by moving or squeezing an object in a developmentally disabled adult's hands, laying their hands on different types of surfaces, or giving or receiving a hug (Fowler, 2007).



Smith, Barbara. 2013. Tactile Ball. [Photograph]. Received from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>

An Art Therapist can use fabrics, such as satin, fur, or velvet described Smith (2008) on a developmentally disabled adult's arms or legs to feel the sensation of the different textures of the fabrics.



Smith, Barbara. 2013. Furry Bag. [Photograph] Received from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>

Olfactory stimulation, the sense of smell, encourages memory and thought processes. To stimulate the sense of smell, an Art Therapist can put a spice, a piece of cut up fruit, a flower, or an old blanket that has been stored away under an adult with a developmental disability's nose to use olfactory stimulation to jog their memory describes Fowler (2007). The olfactory sense affirms Fowler (2007) is the strongest sense for triggering memories. When a person smells an odor, they are taken back to the time and place they originally smelled that odor; triggering a memory. This in particular works well with a person with dementia or Alzheimer's. According to Byron (2013), "Just as eyesight and hearing fade with age, so too does the sense of smell, experts say." Smelling different odors can trigger memories, but they can also work as an exercise that can sharpen the sense of smell. Gustatory stimulation is the sense of taste. When using olfactory stimulation, gustatory stimulation can sometimes go along with it during a session.



Smith. Barbara. 2013. Smelling Scents. [Photograph] Received from

<http://www.barbarasmithoccupationaltherapist.com/whatisensorystimulation.html>

V. Practicum Experience

Taking the information I learned in my research of sensory stimulation and applying it when working with low functioning developmentally disabled adults at Pinewood Inc. through my practicum, provided the following examples and results.

1. Squishy Object with Tentacles

A squishy rubber object with tentacles was introduced. The directive was to pick up the object and hold, touch, feel, and move around the object. The goal of this activity was to provide a deep sensory activity that would stimulate and activate tactile and visual senses.

Scott picked up the squishy object with tentacles. He squished it in his hands, used the tip of his finger to feel the



tips of the tentacles, and then stretched the object out. He then took hold of a tentacle at the top of the object and spun it around



fast causing the tentacles to stand straight out as it turned. He then held a single tentacle from each end of the object and again spun it around.

Ryan picked up the squishy rubber object with tentacles. He stretched it out and squeezed it multiple times. He rubbed it across his chest and up and down his arms. He also rubbed it on both of his cheeks.



The goal of providing a deep sensory activity was met that stimulated and activated tactile and visual senses. Scott reacted excitatory to this activity. He used his visual sense more so than his tactile sense. He looked at the squishy object and was stimulated by the bright color

and tentacles. Scott was stimulated by the movement of the object which he created himself showing that he understood cause and effect. While Scott reacted excitatory to this activity, Ryan reacted inhibitory. Ryan continuously stretched and handled the squishy object and then rubbed it on his arms, chest, and cheeks showing that the squishy object with tentacles stimulated his tactile sense. He found the squishy object comforting and it felt good to hold it in his hands and to rub it over his body. The activity was successful. Both Scott and Ryan liked the squishy object with tentacles, but for different reasons. This activity stimulated their sensory needs. No changes to this activity are necessary.

2. Rubber Balls

Two soft plastic balls were laid on the table. The directive was to pick up the balls and hold, touch, feel, and move them around. The goal of this activity was to provide a deep sensory activity that would stimulate and activate tactile and visual senses. Scott threw one of the balls up in the air and caught it. He set up chairs approximately six feet apart facing each other so that we could sit across from each other. We sat and tossed the ball back and forth. We then began to toss both balls at the same time, one directly after the other. The goal of providing a deep sensory activity was met that stimulated and activated his visual and tactile senses. Scott reacted excitatory to this activity. He used both gross motor skills and fine motor skills which involved coordination and balance that develops with practice and increase use of muscles. The activity was very successful and past expectation. No changes to this activity are necessary.



3. Shakers

Several shakers were made using a long plastic tube with deep ridges in bright colors. They were filled with marbles and the ends taped together with duct tape forming a circle allowing the marbles to be able to move throughout the tube. The shakers were handed out. The goal of this activity was to provide a deep sensory activity that would stimulate and activate tactile and auditory senses.

Darin responded to the shaker by saying, “Oh, what’s in that?” He was asked what he thought was in it?” He guessed marbles. He began to shake the shaker. He tried many different ways of holding it. He shook the shaker with one and two hands in all directions. He put his arm through it and moved his arm around causing the shaker to move around his arm and hear the marbles move around. He put both of his arms through the hole and moved his hands in a waving motion. He also held the circular shaker as if it was a steering wheel and said, “Look, I’m driving.” When asked to put the shaker on his head and move his head so he could feel the marbles move around in the tube, he put it on his head, but was unable to move his head around. He clapped with excitement with the shaker on his head and asked for everyone to look at him.



Tina grabbed a yellow shaker and began to feel it and hold on to it and began to tip it back and forth causing the marbles to roll up and down the tube. She then began to tap it on the table with one hand creating the marbles inside to bounce and make a shaking sound. She repeatedly tapped the shaker on the table the same way and at the same speed for the entire session, which was approximately one and a half hours. When encouraged to put the shaker on her head, she slid the shaker over her head and sat it around her neck like a necklace. She moved the section of duct tape around to the back of her neck. She took it off from around her neck and again began to tap it on the table the same way she did before.



Ori did not participate at first. When I sat with her, she chose an orange shaker. The shaker was put into her right hand, which she had the most control of. She expressed that she would need help. I gently pushed her right hand up so that the shaker was no longer touching the tray of her wheelchair. I asked her to shake the shaker. She forcefully shook the shaker four



times with a concentrated look on her face. She shook the shaker hard causing her to have a muscle spasm. She continued to hold the shaker in her right hand throughout the session. She was encouraged to try to shake another shaker in her left hand, which she had limited control of. I was unable to help her hold the shaker with her left hand because her fingers were unable to bend around the shaker to be able to hold it.

The goal of providing a deep sensory activity was met that stimulated and activated tactile, auditory, and visual senses. Each member of the group liked the way the ridges on the tube felt in their hands. They used both gross motor skills and fine motor skills which involved coordination that develops with practice and increased use of muscles. They each used their auditory sense listening to the marbles move around in the shaker. They used their visual sense when choosing the color of shaker they wanted. The activity was successful. They used the shakers for one hour. Darin had an excitatory reaction and was very active during this activity. He moved the shaker in many different ways. Tina had an inhibitory reaction. The activity relaxed her; the repetitive movement and sound of the shaker was soothing to her. Ori had an excitatory reaction. She became very excited when she was shaking the shaker so much so that she was had muscle spasms. Ori has atrophy so this activity provided her to use her gross and fine motor skills that helped to increase her range of motion. This activity was successful. When doing this activity in the future, it should be stressed to associate different sounds the marbles make when the shaker is moved in different ways teaching the skill of cause and effect. Shakers of different sizes can be used so that a developmentally disabled adult with atrophy can more easily grab hold of it if needed.

4. Guess That Smell

Different types of smells were introduced: flowers, vanilla extract, oregano, sage, cinnamon, watermelon, chocolate, and a candle. The goal of this activity was to provide a deep sensory activity that would stimulate and activate olfactory and gustatory senses.



When Ray liked a smell, he smiled or kissed the object. When he didn't like a smell, he reacted by rubbing or crinkling his nose, sneezing, coughing, or vocalizing with a sound that he did not like the smell, or by hitting himself in the head. When he tasted an item, he either did not respond or expressed himself by making a sound positively or negatively.

When Bill did not like a smell, he reacted by moving his whole body away or his head away or stating that he did not like it or said a word expressing himself. When he liked a smell, he stated that he liked it. After smelling a spice, whether he like it or didn't like it, he communicated with me further about how the spice was used and a memory was triggered when he spoke of his mother cooking turkey

Both had an excitatory reaction to this activity. They had different reactions. This activity expressed likes and dislikes of specific smells and tastes. Both of their senses of smell and taste are functioning. When doing this activity in the future, I will try a wider range of smells and tastes, but no strong spices. I will try smells that may trigger more memories, such as a smell of an old blanket, a cedar smell, or a light smelling lotion.

5. Groan Stick

The directive is for the groan stick to be picked up, held, touched, felt, and moved around to discover the sound it makes and how and when the sound is made. The goal of this activity was to provide a deep sensory activity that would stimulate and activate auditory, tactile, and visual senses. Scott picked up the groan stick and began to move it. Right away it made a sound. He immediately began to giggle for a long time. He investigated as to why it made the sound. He stated that it was the small piece inside that went back and forth. Scott had an excitatory reaction, and he thought the sound was very funny. He liked the groan stick very much. The activity was a success. No changes to this activity are necessary.

6. Tornado Tube

The directive for this activity was to watch the bottles of water make a tornado and to feel the movement of the water. Two soda bottles and a tornado tube were used for this activity. A drop of blue food coloring was put in the bottles of water along with some gold sprinkles for a visual effect. The goal of the activity was to provide a deep sensory activity that would stimulate and activate visual, tactile, and auditory senses. When I shook and moved the bottles fast for a group, their attention was grabbed. They watched intently as the water bubbled and the tornado began to spin. Mike put his hands on the bottle and felt its movement. He became very excited and smiled and jumped up and down. The rest of the group watched quietly. In another room, I showed Ryan. His attention was heightened when he first saw the two bottles of water. When the tornado started spinning, he began to smile and touch the bottles. After working with Ryan for over a year and a half, this was the first time I saw him smile in reaction to an activity. He repeated my movements of





shaking and moving the bottles. He held the bottle by the yellow connector and moved it around and touched and scratched the bottom ridges of the bottles. He licked the connector and bottom ridges. Mike and Ryan had an excitatory reaction, and the group did not have a reaction either way. The activity was very much a success for Mike and Ryan. As for the group, they were not interested. No changes to this activity are necessary.

7. Opera

The directive was to listen to a different type of music, opera. The goal was to stimulate the auditory sense and possibly a memory. The CD was played. At first, Bill did not react. When asked if he like the opera music, he repeated the word opera. He began to say, "Mix 108," over and over, which is the music station played in the room everyday. After a couple of minutes, Bill began to hit his head. He hit his head repeatedly with more force each time. The CD was stopped. He reacted excitatory. The change in the music was very upsetting to Bill and appeared to upset his feeling of comfort and safety of his usual music and routine. When his station was not turned back on, he began to hit himself in the head out of frustration. This activity was not a success. This activity can be repeated, but a discussion with staff would be necessary to know the stimulation threshold and likes of the consumer.

IV. Conclusion

Using Art Therapy to stimulate and activate the sensory system of low functioning developmentally disabled adults will enrich their lives by helping them use their senses to receive information and interact with their environment and other people.

Adults with low functioning developmental disabilities have a limited ability and opportunity to develop their visual, auditory, tactile, obligatory, and gustatory senses through their environment or other people.

When providing sensory-focused activities, a structured model should be used to guide an Art Therapist to choose the right activity for an adult with a low functioning developmental disability. An Art Therapist must look at the sense a developmentally disabled adult prefers, whether they like to work with people or objects, their sensory threshold, their level of understanding, and their level of communication. A framework, such as the Checklist of Communication Competencies (Triple C), is used to assess the communication level of the developmentally disabled adult you are working with: Level 1, the Reflexive Stage; Level 2, the Reactive Stage; Level 3, is the Proactive State; and Level 4 is named the Intentional Informal State.

Using intensive interaction with a developmentally disabled adult will demonstrate to them that they are valued, safe, and engaged. An Art Therapist must provide meaningful sensory activities. The fundamental components of intensive interaction is to hold the session in a comfortable place, be relaxed and take your time, be aware of body language, give the developmentally disabled adult your full attention, take turns leading the conversation, and create and repeat familiar and enjoyable routines. Respond to the developmentally disabled adult by imitating, joining in, communicating, making sounds, being dramatic, and providing a story.

Using visual, auditory, tactile, olfactory, and gustatory stimulation can teach many skills that include being able to communicate with support people and with their peers, cognitive skills, and range of motion. It can also teach the developmentally disabled adult how to comfort themselves, and know their likes and dislikes.

During my practicum at Pinewood Inc., I worked with low functioning developmentally disabled adults using sensory stimulation. Using sensory stimulation opened up a new way to interact with this population through Art Therapy. Using sensory stimulation activities enables communication through learning their body language, gestures, sounds, recognition, reactions, likes and dislikes, and responses.

References

- Bryon, Ellen. (2013, February 20). *Uncork the Nose's Secret Powers*. Wall Street Journal. Retrieved from <http://online.wsj.com/news/articles>
- Developmental disabilities DDRC Resource Center. (2014). *What is a Developmental Disability?*. Developmental Disabilities DDRC Resource Center. Retrieved from <http://www.ddrcco.com/resources-and-training/definition-of-developmental-disability.php>
- DiMatties, M. (2004). *Understanding Sensory Integration*. Retrieved from <http://www.Idonline.org/article/5612/>
- Edwards, D. (2004). *Art Therapy Creative Therapies In Practice*. London: Sage Publications Ltd.
- FamilyEducation. (2000-2014). *What Is Sensory Integration?*. Retrieved from <http://school.familyeducation.com/sensory-integration/parenting/56288.html>
- Fowler, S., & Scope. (Victoria). (2007). *Sensory Stimulation: Sensory-focused Activities for People with Physical and Multiple Disabilities*. London: Jessica Kingsley Publishers.
- Keller, S. (2003). *Neurologic care in adult MR/DD; one physician's perspective: part I; the beginning*. Retrieved from University of Wisconsin-Superior website: <http://go.galegroup.com/ps/i.do?id=GALE%7CA109123732&v=2.1&u=superior&it=r&p=ITOF&sw=w&asid=72cfb5ef415eeb5b6bd035af0d7fbc9>
- NIH National Institute on Alcohol Abuse and Alcoholism. (2000). *Fetal Alcohol Exposure and the Brain*. Alcohol Alert, 50, 1. Retrieved from <http://pubs.niaaa.nih.gov/publications/aa50.htm>
- Pinewood Inc. (2012). *History. Client Services*. Retrieved from <http://www.pinewoodinc.com/index.html>
- Smith, B. (2008). *What is Sensory Stimulation?*. Retrieved from <http://www.barbarasmithoccupationaltherapist.com/whatissensorystimulaiton.html>
- University of Minnesota. (July 26, 2013). *About Developmental Disabilities*. University of Minnesota Institute of Community Integration. Retrieved from <http://ici.umn.edu/welcome/definition.html>

Scientific Psychic. (2014). *Anatomy and Structure of Human Sense Organs*. Retrieved from <http://www.scientificpsychic.com/workbook/chapter2.htm>

Stark County Board of Developmental Disabilities. (n.d.). *About Developmental Disabilities*
Retrieved from <http://starkdd.org/aboutdevelopmentaldisabilities>