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# Art and Aphasia: A Literary Review and Exhibition

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Art and Aphasia: A Literature Review

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### Abstract

Communication makes interaction possible for exchanging ideas, feelings, concepts, and events. Aphasia, an acquired disorder, impacts language areas that are responsible for expression, comprehension, literacy, and symbolic understanding. Aphasia interrupts the mental process responsible for converting thought to language. Literature involving both traditional speech and art therapy is discussed. Once the aphasia disorder type is assessed, a speech language pathologist designs a therapy plan. Art, which has been used in therapy and research for rehabilitation, shares a connection with language and symbolic thought. Art aids in improving quality of life, adding to meaningful existence, and expressing ideas and emotions that the disorder restricts through language. Case studies evaluating the effect of aphasia on drawing abilities, use of drawing as a compensatory strategy to accompany speech, and the use of drawing as language are reviewed. In all of these contexts, research indicates that the use of art therapy in aphasia rehabilitation is beneficial.

*Keywords:* aphasia, art, art therapy

### Art and Aphasia: A Literature Review

Communication is essential to life. Aphasia is an acquired language disorder that affects comprehension and expression; it results from traumatic brain incident such as a stroke or head trauma from a fall. Over 5.5 million people living in the United States are stroke survivors (Levin, Scott, Borders, Hart, Lee, & Decanini, 2007). The National Institute of Neurological Disorders and Stroke reports over one million people in the United States are living with aphasia (“NINDS Aphasia”, 2014). Often the most devastating change in one’s life is the loss of communication, the most important aspect of social participation (Edwards, 2004). People rely on it to connect with other people emotionally, to share ideas, to express opinions, and to have independence. Art is a visual mean of communication that is attainable for people with aphasia. A growing use of art therapy treatments for aphasia is replacing the isolated use of traditional speech exercises to repair language. Long-time researchers Nancy Helm-Estabrooks and Albert Martin (2004) have found that “drawing, though often regarded as a form of artistic expression, has a highly practical function; it sometimes allows us to convey messages that cannot easily be conveyed by words” (p. 386). Research shows that drawing and language are linked (Gainotti, Silveri, Villa, & Caltagirone, 1983). To accommodate the linguistic and emotional needs of the growing elderly population, creative rehabilitation methods such as art therapy must be considered for treating aphasia. A review of the types of aphasia, typical aphasia therapies, and the benefits of implementing art therapy will be discussed.

### **Aphasia**

Aphasia is a language processing disorder; it does not affect perception, muscle activity, or hearing (Damasio, 1992). The disorder occurs from damage to the left cerebral hemisphere, which for most people holds the dominant language area. It affects the mental processes involved

in converting thought to language and the translation of grammar and symbols (i.e. words) that are heard or read. Besides direct influence on language, aphasia also affects one's ability to reason, make decisions, and be creative. Aphasia manifests in various forms. It affects language related to auditory stimuli, visual stimuli, text, and arbitrary symbols (Damasio, 1991). Many syndromes exist depending on which area in the brain is damaged, how the trauma occurred, the immediacy of receiving treatment, and patient background. Three main categories of aphasia are expressive, receptive, and global.

### **Expressive**

Broca's aphasia is an efferent, or expressive, communication disorder stemming from damage to the language areas of the frontal lobe (Basso, 2003). The primary characteristics in expressive speech are interruption or cease of function for motor planning and agrammatism, the inability to speak in grammatically correct sentences (Fundukian, 2011; Damasio, 1992). An individual with Broca's aphasia retains comprehension abilities while losing the capacity to produce speech fluently due to a difficulty using words to convey thoughts. Speech is described as telegraphic in which function words are deleted similarly to a message in a telegram. The tonality is flat, and pauses may outnumber words. Characteristic language includes single-word utterances, nonsense words, or short sentences produced with great effort and repetition (Basso, 2003). Depression is more common in those populations with Broca's aphasia because they are aware of their struggles (Damasio, 1992). Co-morbid disorders present obstacles to treatment.

### **Receptive**

A common form of receptive aphasia is Wernicke's aphasia, which is caused by damage to the temporal lobe (Fundukian, 2011). For most people, the left temporal lobe hosts the dominant area of language. Wernicke's aphasia is characterized by uninhibited motor

functioning and extreme deficits in comprehension of both spoken and written language (Fundukian, 2011). There is a great difficulty in naming and converting messages that are heard or read. For example, a person would speak in long, fluent sentences that would not correspond to a prompt or to any intended topic. Choice of appropriate sounds or words is inhibited, which makes speech unintelligible (Damasio, 1992).

### **Global Aphasia**

Global aphasia is a syndrome in which all aspects of language are severely affected (Basso, 2003). According to Basso (2003), speech is sparse and the use of “stereotypic utterances (“tan”, “lelo”) or to a few different syllables” is all that comprises verbal output (p. 34). The use of deliberate speech is severely reduced. Automatic responses, such as curse words and ‘I don’t know’, are maintained (Damasio, 1992). Verbal comprehension is limited to contextual questions about the person’s life or commands for action, such as asking the person to open their mouth or smile. Literacy comprehension is nonexistent, and writing is diminished to the point of needing assistance to trace a signature. Deliberate speech is minimal and many physical problems (hemiplegia) commonly accompany the diagnosis (Damasio, 1992).

### **Typical Therapy Practices**

There is no single rule book outlining typical aphasia therapy practices because of the individualistic nature of the disorder. Certain elements are common among practices, including the role of interaction. The therapist functions as both teacher and conversational partner for the patient as they mend or reconstruct language. A speech therapist is objective in treatment as opposed to a family member or friend who, in longing for their loved one to return to past functioning, cannot help making comparisons. The speech therapist knows who the person with aphasia is now, without bias (Shadden & Toner, 1997). Aphasia therapy is based on interaction

between therapist and client; the inclusion of the patient's wants and interests is necessary when designing therapy plans to foster language generalization throughout various settings (Basso, 2003). For meaningful daily life, the focus of therapy must emphasize more than just fixing language deficits. Therapy must also be "life-enabling" and "life-sustaining" (Shadden & Toner, p. 301).

### **Accessibility of Art Therapy**

Specifically related to aphasia, the benefits of art therapy are observed in many ways. Art is accessible for diverse groups of people because it can be adapted to fit specific needs. The various media used can include challenging materials that require supplemental training, or simple objects with which people are familiar. A program called Photovoice used photography because it is an artistic medium that many people know (Levin et al., 2007). It was used with rural Chinese citizens and people with disabilities; participation required a person to simply learn how to operate a camera.

The flexibility of art also caters to people who experience changes in abilities. A common effect of stroke that accompanies aphasia is hemi-paresis, which causes people to use their non-preferred hands in life activities (Sacchett, 1999). Use of an art medium such as photography requires little motor control and the equipment is adaptable to accommodate the needs of the photographer. A person with aphasia would likely benefit from the use of a medium such as photography because it is both familiar and simple to use. Most people do not have previous artistic talent; training to use materials may be necessary addition to the patient's goals. In congruence with speech goals, Lyon and Helm-Estabrooks (1987) found that "even when a drawing is disordered, it has the advantage of being a fixed point of reference that can be altered or enhanced to promote the communicator's intent" (p. 65). Speech only exists momentarily

through hearing it (Lyons, 1995). Writing, though also permanent, requires linguistic knowledge that may not be accessible for a person with aphasia.

Public interest in holistic healthcare and non-Western methods has allowed art therapy to be used. The American Art Therapy Association (2013) defines art therapy as:

... a mental health profession in which clients, facilitated by the art therapist, use art media, the creative process, and the resulting artwork to explore their feelings, reconcile emotional conflicts, foster self-awareness, manage behavior and addictions, develop social skills, improve reality orientation, reduce anxiety, and increase self-esteem. A goal in art therapy is to improve or restore a client's functioning and his or her sense of personal well-being.

Psychologist Margaret Naumberg related art therapy to psychoanalytic theory, saying that the images serve as symbolic speech between the therapist and client. Her research emphasized this relationship and the communication fostered from art (Edwards, 2004). Art is the communication of ideas beyond words, or, words that can accurately express emotion, desires, needs, or intentions of the artist. In the book *Fundamentals of Art Therapy*, author Shaun McNiff describes his experience with art therapy clients, saying, "people always had a need to talk about what they do...by describing interpretation as dialogue, there is an implied respect for the image" (1988). He explains that there is a difference between labeling an image and finding the meaning; labeling gives the impression that the therapist assumes more knowledge over it, rather than a shared exploration between therapist and client.

Art therapy is shown to improve communication skills in rehabilitation therapy for stroke survivors (Kim, Kim, Lee, & Chun, 2008). It provides a sense of achievement when a client is able to accurately convey his or her meaning through a piece, even more so if the message was

not possible to relay in words. The patient's contact with both linguistic and non linguistic methods of communication helps the patient conceptualize and pair symbolic meaning through expression (Kim, Kim, Lee, & Chun, 2008).

Art is deliberate and intentional. The difference between fine art and art therapy is the intent and reception. McNiff says, "the artist 'gives soul'" to art by expressing it and perceiving the depth within a work of art (1988). This understanding of abstract concepts is essentially the same to the use of language. The distinction comes from the ability of art to transcend verbal language. The complexity of human experience cannot be entirely reduced to words (Edwards, 2004). Drawing accesses language without relying on linguistic symbols. Drawing as a substitute for language relies on the ability of the patient to produce recognizable content for a communicative partner. Therefore, accuracy and completeness are not required for it to be effective; in augmentative contexts, "the emphasis is not on *drawing, per se*, but on communicating" (Lyons, 1995, p. 35).

Use of art therapy can make a difference in rehabilitation that is not achieved by other methods. In a collection of studies covering multiple rehabilitative medical settings, no considerable changes were noted in the progress of patients until art therapy was introduced. While many other therapeutic support were in place, such as family involvement and medications, cognitive advancement were not noted until the artwork made during art therapy (Kim , Kim , Lee, and Chun, 2008).

Because people's disorder etiologies and personal characteristics affect their lives differently, aphasia therapy does not entail general protocols for all people; individualized therapy plans must be created by an interdisciplinary team using in-depth information about the patient's condition and wants (Damasio, 1992). Therapy involves improving the patient's

speech, but in the sense of effective, not necessarily accurate, communication. Lyon (Sacchett, 2002) observed two approaches: use of drawing as language and use of drawing to supplement language. The main difference is the communicative role of the person with aphasia. Using drawing as the main mode of communication places responsibility on the person with aphasia to produce quality depictions for autonomy as a communicator. Augmented drawing relies on the drawer producing images that the communicative partner can interpret regardless of drawing skill. This method shares the communicative responsibility between the partners, rather than solely on the person with aphasia.

### **Art and Aspects of Language**

By addressing the need to convey more aspects of human experience, art is a useful therapeutic choice. Drawing is often considered a visual art, and is categorized separately from language. Visual images are used along with language by normal adults in planning and execution of activities in daily life (Lyon & Helm-Estabrooks, 1987). The core areas of language are syntax, semantics, and pragmatics.

#### **Syntax.**

Syntax is the form of language, which includes grammatical structure. Art creates access to communication that navigates the use of this area. Unlike other non-verbal communicative methods that are sequential and involve transitions to develop, art is a fixed representation (Sacchett, Byng, Marshall, & Pound, 1999). People will not be distracted by improper sentence structure; instead, they will view the art subjectively with different expectations. Art becomes a therapy for language by using different modalities to communicate.

**Semantics.**

Semantics is the content of language, which refers to conveyed meaning. It includes lexicon, or the words and symbols a person uses. Knowledge of semantics allows a person to understand figurative language beyond a literal context. Semantic knowledge is the foundation for the representations of things in one's mind, which include "color, shape, relative size, and other characteristics that distinguish one item from another" (Kim , Kim , Lee, and Chun, 2008, p. 387). Drawing has been found to improve semantic functioning in people with aphasia. Drawing includes the skills of refining used to see both the whole structure and details of an object; these are similar to the skills used in word selection (Farias, Davis, & Harrington, 2006). There are many common links between semantic language abilities and drawing abilities. For example, people with more semantic understanding also have better drawing skills (Gainotti, Silveri, Villa, & Caltagirone, 1983).

In a study by Kaczmarek (1991), a Polish painter was struck with a stroke in his left brain. He became hemiparetic and aphasic. Prior to his stroke, he created paintings rich with symbolism; after his stroke, he retained his motor abilities to paint, but his work was devoid of the symbolic nature it once possessed. He underwent a year of combined speech therapy and art therapy that incorporated symbolic processing of other art forms, such as music and poetry. His grasp on symbolism returned, though it was less than what it was before his stroke. Expectations of complete recovery and return to normal functioning are common hopes for patients and loved ones. A study by Laska, Hellblom, Murray, Kahan, and von Arbin (2001) showed a high rate of recovery for a majority of participants. Younger participants showed a higher rate of recovery, and the greatest improvements occurred in the first three months following the stroke. While

complete recovery may not be possible for all patients, counseling by speech language pathologists and healthcare team members should remain positive and realistic.

### **Pragmatics.**

The final component, pragmatics, is the use of language, pertaining to social and personal use. Language is the means by which people connect to each other. The Photovoice project provided participants connections to other members. The photos they took were shared with their social groups. This exercise of control allowed them to choose what and with whom they would share their photos (Levin et al., 2007). Pachalska (1991) wrote about the efficacy of group therapy for people with aphasia. Group therapy is beneficial because it offers a safe environment for interaction without social penalties. Effects of aphasia often instill feelings of embarrassment and frustration by the interactions between people with aphasia and conversation partners. Pachalska identified that the goals of group therapy served communicative, psychological, and social functions; methods for group therapy are dependent on the needs of the group. For an aphasia group, the context would focus on communication in a holistic method. People can connect sincerely with others whose lives were affected in similar ways.

### **Effects of Lateralization**

Recent evidence has shown that right versus left hand dominance may also play a role in the development and treatment of aphasia. Right-handed people typically develop language areas in the left hemisphere, while left-handed people show language area development in both hemispheres (Fundukian, 2011). Because the language areas cover many regions of the brain, left-handed people are more likely to develop aphasia. Although, this also gives left-handed people a better recovery because the language abilities are being recovered from both sides of the brain (Fundukian, 2011). Drawing may be beneficial to the rehabilitation of people with aphasia

because it activates areas in the right hemisphere, as opposed to traditional therapy that uses routes in the linguistic left hemisphere (Farias, Davis, & Harrington, 2006).

### **Effects on Artistic Rendering**

Damage to different parts of the brain affects drawing skills. According to findings about brain lateralization, images are constructed in the left brain, like the final product, whereas the right brain contributes to general configuration. It is a difference of ‘seeing the forest through the trees’. Therefore, Lyon and Helm-Estabrooks theorized that people with aphasia with brain damage to the left hemisphere may produce drawings that reflect a working right brain with simplified details and recognizable forms (1987). People with right brain damage would then produce drawings indicative of proper left functioning showing details, no outer form, and a lack of spatial awareness (Lyon & Helm-Estabrooks, 1987). Compared to people with left hemisphere damage, those with right hemisphere damage also drew larger drawings very quickly without models (Swindell, 1988).

Damage to the left brain, for example, could affect semantic knowledge in choosing the correct colors to use in a drawing (Lyon & Helm-Estabrooks, 1987). Swindell (1988) found that people with left hemisphere damage showed simpler drawings with an absence of detail and use of a model. If the patients had any art experience before onset of brain damage, especially in left hemisphere damage, there was a quick rate of spontaneous recovery; there were no significant changes to the drawing skills of people with right hemisphere damage.

Drawing is also thought to provide more connections to the right hemisphere. As a self-cuing strategy for word retrieval in people with aphasia, simply making a depiction of the intended word allows the person to say it (Farias, Davis, & Harrington, 2006). These connections are important because the speech processing occurs without use of the damaged brain regions.

### **Art as Compensatory Strategy**

Current research explores the use of drawing as alternative communication for people with aphasia. Drawing is often used as a support to communication, rather than the predominant mode. A person with aphasia must have retained what graphic skills they had, or be able to acquire them to use drawing this way (Lyon and Helm-Estabrooks, 1987). Research by Farias, Davis, and Harrington (2006) evaluates the usefulness of drawing compared to writing as compensatory strategies for naming activities. They proposed that drawing would improve the participants' naming abilities. They proposed that drawing could serve as a useful strategy for accessing semantic information related to the structural elements of the object. It was theorized that the increased attention associated with drawing an object would get rid of the distractions, leading to improved naming. Writing served as the control because it is a common compensatory technique, it activates the left hemisphere, and it involves graphic output. The quality of drawings produced was theorized to correlate with better naming, showing increased activity via MRI scans of the right hemisphere. Participants included 22 people ages 44-78 with lesions in the left hemisphere. They were given altered tests from the Reading Comprehension Battery of Aphasia asking participants to name 30 images by answering when asked, by writing the answer, and by drawing. The drawings were evaluated using similar standards based on recognition from an unbiased viewer. Results showed that participants' naming progressed from use of drawing as opposed to writing. It is proposed that drawing cues the participants with fewer processing obstacles because one can begin drawing without knowing the name of the object. Analysis of MRI scans comparing the activation of different semantic areas in healthy individuals revealed stronger activity in a variety of areas in both hemispheres; writing produced less activity and a concentration in left hemisphere. Based upon these findings, people with aphasia may benefit

more from drawing as a cuing strategy than from writing because it involves more areas of the brain.

In a case study with Jack, a 75 year old retired IBM manager, and 26 year old Bonnie, a TV station employee, drawing was used in the facilitation of turn-taking (Lyons, 1995). Bonnie was a community volunteer who interacted with Jack to improve his communication. She learned to let Jack say his message using his limited verbal skills and gesture, than asked general questions. If still confused, she would ask Jack to draw the main idea of his message. After that, she drew what she gathered, and he could edit wherever necessary. It was better to make their interactions form a connection with effective communication before trying to make it efficient. Jack's reported feeling more comfortable and less frustrated by his disorder (Lyon, 1995).

### **Drawing as Language**

Art practices have been outlined that provide expressive modes for emotional and social connections between people with aphasia and the world around them. Drawing has been found to be the most effective and efficient art modality used for communication in daily life. The main goals for the patient are using drawing to consistently and effectively communicate with recognizable drawings that can be understood by both familiar and new people. In a study evaluating therapy for people with aphasia, a group of people were asked to draw objects (Sacchett, 1999). The drawings were then shown to strangers (who received training on what to look for in the drawing) who rated their understanding of the image content.

### **Communicative Drawing Program**

A program created by Helm-Estabrooks and Martin (2004) called the Communicative Drawing Program, "a 10-step approach to teaching people with aphasia (PWA) who have severely restricted ability to communicate needs, thoughts, questions, and stories through speech

and writing, to communicate instead through drawing” (p. 385). Candidates for the program must have the inability to communicate through speech or writing, the ability to draw with a pen, visual acuity skills, cooperative behavior, and willingness to participate and use drawing. The most clinically-relevant therapy practice, the most expensive technology, and the most intense schedule of training are invalid if the participant does not want to use it.

Drawing requires many skills. One must have an “internal representation” of the intended message, understanding of symbolic meaning (i.e. semantics), use of images, and the ability to be flexible when carrying out communication in different environments with different people (Helm-Estabrooks & Martin, 2004). One must be prepared to converse with both her husband at the dinner table to request a plate be passed, and to the young store clerk who is helping her find an item in the market. Besides being flexible, one must also be creative in representing thoughts that are more complex than nouns. One needs also to understand how another person may interpret their drawings to ensure it expresses what is intended. This includes the means to self-monitor and make changes when necessary. The participant must be able to implement the use of drawing for communication, which includes having a plan to use it. All of these skills are addressed in the CDP to meet the diverse needs of those with aphasia.

### **Strategies**

Both of the strategies listed above require specialized training for the patient and the communicative partners. Patients need certain strategies to maintain and improve their communication outside of the clinical setting. These strategies include making corrections to a drawing and omitting, distorting, or substituting certain details for clarity (Lyon & Helm-Estabrooks, 1987). If a concept is complex or reflects a narrative, simplify the task by segmenting the message. Above all, people must practice turn-taking skills. The biggest lesson is learning to wait for the person with aphasia to relay their entire message. If able, people will use

multi-modal communication, including speech, writing, gesture, and drawing, using all available modes. Next, the participant identifies the general theme, and asks general questions to clarify. If incorrect, the participant may request that the patient draw the most important parts of the message; in response, the participant will draw what they understand to be the most important elements.

Lyons (1995) has reported that his own patients have corrected his drawings, even those unable to produce their own, in order to accurately express their intended message. He shares that although this method requires time, “sustained use of drawing, like other conventional forms of communication, ultimately depends on the mutual benefit and pleasure it brings to all participants in the communiqué” (Lyons, 1995, p. 47).

### **Conclusion**

The relationship between art and communication spans more than the disabling effects of aphasia. People can communicate effectively using the non-linguistic mode of art. It allows them to track development, interact with others, and regain independence. Possible areas for future research include the studies of MRI scans of people with aphasia writing and drawing to observe any similarities with that of neurotypical people. Evaluating the efficacy of electronic drawing tablets versus paper or whiteboard provides opportunities to learn about the change technology plays in the lives of the new elderly population. Art is not often regarded as a field of research; this thinking could potentially block access to explore the brain in innovative ways. According to the American Museum of Natural History, use of symbolic thought is one of the key aspects of humanity that is unique from other life. Art and language are manifestations of symbolic meaning and reasoning. A combined use of art, holistic health, and speech language pathology would unite disciplines based in symbolism to more effectively study disorders that affect it.

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