

THE RELEVANCE OF CLAY AND THE REHABILITATION OF CHILDREN WITH LEARNING DISABILITIES

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ABSTRACT

The potentials in clay have gone beyond the production of beautiful pottery, clay-wares, jewellery and sculptures. Clay has become relevant for humanity and a non-chemical rehabilitation tool for children with learning disabilities. This paper exposes the relevance and potential contributions of clay in terms of the social, psychological, medicinal and educational benefits to humanity. Clay is a veritable tool in the rehabilitation of children with learning disabilities in psychotherapy, occupational therapy, medicine and culminating in ceramics as expressive therapy, healing trauma, anger, psychosis in community based rehabilitation, and children's education. The need to harness this environmentally friendly material (Clay) is simply inevitable and inexhaustible.

Introduction

The research published by Centre for Disease Control and Prevention (CDC), in collaboration with researchers from the Health Resources and Services Administration (HRSA) on "Trends in the Prevalence of Developmental Disabilities in U.S. Children, 1997–2008, show that there is a prevalence of developmental disabilities in U.S. children and in selected populations for a 12-year period. Developmental disabilities which Learning Disability is a part of are a diverse group of severe chronic conditions that are due to mental and/or physical impairments. People with developmental disabilities have problems with major life activities such as language, mobility, learning, self-help, and independent living. Developmental disabilities begin anytime during development up to 22 years of age and usually last throughout a person's lifetime.

Furthermore, the rise and insurgence of several diseases and psychological conditions has led many therapists, clinicians and researchers to seek alternative solutions from the client and his environment. Many of such findings have proven that returning to natural and

environmentally sourced materials is the best option for effective rehabilitation. Sherwood (2010) in her book 'The healing Art of Clay Therapy' carefully enumerates the potentials of clay over and above talk-based therapies she said that "Among the artistic therapies, clay therapy has substantial capacity to contribute to the therapeutic process" clay has been found to be excellent in geriatric and palliative care, amongst children with low level articulation, applications in family and abuse therapy.

The American Psychiatric Association (1994) noted that there is an epidemic of pain killers that kill faster than cocaine and heroin, and advocated for home based therapies. Clay has a huge significance in the field of rehabilitation, which benefits humanity and in particular children ranging from those with neurological disorders or acquired disabilities. In practice no occupational therapy model, based on its belief on human activity will exclude crafts and indeed bead-making. Occupational therapy has long used beads stringing as a bilateral fine motor task. Beading activities have been associated with children. Many of such materials are inexpensive and can be

assessed easily within the community. (Tubbs et al 1999)

The Benefits of Clay

The potentials or benefits of clay are categorised into the following three parts listed below,

Social and Psychological, Medicinal, and Cognitive benefits of clay

Social and Psychological benefits of clay

Acquired disabilities or those that are caused by injury or illness during life, tend to affect the sufferer in a number of ways. These people are the most likely to have anger issues, but fortunately, many can achieve some degree of rehabilitation in time. While the nature of these disabilities and their permanence varies, ceramics can be beneficial in a variety of ways. Moulding clay can be used to strengthen weakened limbs, while painting can have a calming effect. The intellectual aspects of art appreciation may also benefit patients by making them feel useful or knowledgeable. Ceramics may also help with memory, for those with neurological disorders Children with autism and spatial disorders can learn social skills through an art program that focuses on interaction. (Feizipoor 2005)

In addition, the clay work or clay-beads made by children will likely produce a forum for social interaction with friends, family and the general public as this may be a way through which this children can make contributions', gifts and souvenirs and if assisted by their families, make products of beautification and ornamentation like beaded curtains, jewellery, key-rings which will boost their self-esteem. Several pots or pottery of the past generation are associated with status enhancement.

Clay therapy is one version of play therapy where clay (or Play Doh) is used as a therapeutic tool. Thousands of therapists who currently employ clay therapy can attest to both the usefulness and the effectiveness of this new medium with children. Clay therapy is an extremely effective tool in gaining therapeutic relationship with the child. Clay therapy works for children in the process of cognitive reframing, attribution formation, and the impact of cognitive dissonance within the child. Existing social

psychological research makes an effort to gain further insight regarding the power of clay with children.

The research work of Patricia Sherwood 2010, Paul White 2008 and Tratnik 2009 show their various approaches to clay therapy, the therapeutic benefits of using clay for healing trauma, anger, etc. Tratnik (2007) extensively debates why clay therapy is effective in treating childhood trauma. White (2008) States that therapeutic play with children is an effective clinical intervention that has been successfully utilized by counsellors for many years. Various mediums of play therapy have been exercised ranging from free play to structured projects with great therapeutic success.

Cognitive Benefits of Clay

Arts and crafts that require some degree of physical dexterity can be used to assist those with physical disabilities to gain a greater degree of motor skills. Beading using a thick plastic cord and large pony beads can help the disabled person learn to use their hands together or as a sequence of movements. Moulding clay can be wonderful at helping those who have weak fingers, wrists and arm muscles or problems with grip. It is best to start with a soft clay and move up to denser or stiffer clay, so that the patient can gain strength over time.

Evidence of interventions using clay work or bead work respectively by occupational therapists to treat brain injuries, neck and back extension, and many other physical injuries, in fact, personal testimonies and anecdotal evidence of practitioners also point out the multiple benefits of these creative interventions, all relevant to rehabilitation. (Tubbs et al 1999)

The assessments and craft components chart by Tubbs et al (1999) show ceramics and cooking having the highest areas, because several occupational therapy assessment used over the years use clay work or Ceramics. Clay work is part of the complete evaluation chosen for Nelson Clark's clay test, the Azima, Carolyn Owens activity, Diagnostic test, Gillette, Goodman, Gross Activity, O'Kane Diagnostics and Shoemyen Battery. The child will normally smear, feel, squeeze clay and mould shapes

Harris (1963) O'Kane (1968) mentioned by Tubbs et al. Clay is also viewed and accepted as most unstructured of all projective assessment because of the efforts needed to control it, it is also quite useful for large groups. Its plastics nature allows a patient or child to make a mistake and correct it immediately.

Clay can achieve any wrist, hand or finger movement desired. Rolling clay uses the abdominals, elbows extensors and flexors. Fine motor control and coordination can be enhanced by scoring the clay in slabs or coil building or applying surface design such as sgraffito or painting with under-glazes. Shaping pots, beads, and jewellery are key components of ceramics in therapy. Tubbs et al (1999). Clay is also suited for the blind or partially sighted due to its tactile qualities. Ceramics and other crafts like needlework and dramatic arts are said to be a bridge to, and or components of day-to- day living experience (Hagerdorn 2001).

A child who does not learn addition in elementary school cannot understand algebra in high school. The child may try very hard to learn, but becomes more and more frustrated, and develops emotional problems such as low self-esteem in the face of repeated failure. According to Bradley, the most important educational challenge that children with Learning disabilities face is reading (dyslexia), because a child that cannot read has very little chance of success in school (Feizipoor 2005). A group of researchers believe that more than 25 percent of children's failures in elementary school are due to reading disabilities. Toosi (1999) as stated by Naderi and Saif Naraghi (1979), according to researchers' findings in different countries, the prevalence of dyslexia has been reported to be somewhere between 2% and 25% (Bahamin 2003 in Feizipoor 2005).

Feizipoor (2005) conducted a research on the effectiveness of Davis Dyslexia Correction Method (DDCM) in improving reading skills in Iran. The Davis method has two stages: **Orientation counseling**, which carries the same connotation as what teachers and psychologists know as "**concentration**". In this stage, this usually

takes about five days, by focusing and increasing his ability to control his attention span, the student can avoid the sense of disorientation when faced with tasks that require working with symbols (reading, writing, mathematics, etc.) The main exercises in this state are carried out by mental imagery. **Symbol Mastery**, which is a method in which the student uses clay to make the letters of the alphabet, and punctuation marks (question mark, exclamation mark, period, etc.) to make abstract words and creates a model to put meaning on these words and practice with them.

The philosophy behind this stage is that the student can create a three dimensional image of the word that is incomprehensible to him. This way, the student initially makes the shape and pattern of the word using clay, and then he creates a mental picture of the meaning of the word, and he turns that picture into three dimensional, visual image using clay. After the student becomes aware of the word and its meaning, he pronounces the word aloud and uses it in different sentences. This way, the dyslexic individual obtains the ability to understand the meaning of the word in both verbal and non-verbal forms. (Davis 2002)

Medicinal Benefits of Clay Medicinal benefits of clay

Clay is known to have many uses in promoting health in plants, animals and humans. Bentonite, Montmorillonite, Pascalite, as well as other types of healing clays, have been used by indigenous cultures before recorded history. Therapeutic clays provide 100% natural detoxification for Arsenic, Environmental, Aluminium, Dental Amalgam, Smoker's Drug, Copper & Lead, Mercury, Formaldehyde, Radiation and more. (Knishinsky 2006)

He further suggest that when eating clay one can expect well-regulated bowels, Relief from constipation or diarrhoea, no more indigestion, no more ulcers, digestion of food and drink, a surge in physical energy, less "wandering pain" all over the body, clearer skin, whiter and brighter eyes, more alertness and clear-headedness, emotional uplift, Less tension, Enhanced grouch and

tissue repair of gress and skirt, stimulated immune systems and higher resistance to infectious agents. The use of clay for medical care is what he also calls 'clay therapy'

Clay is noted to be of great benefit to any gastrointestinal disorder. It binds with and removes body toxins in the stomachs small intestine, and colon. Clay has often been referred to as internal mouthwash. That is because taking the clay will help to relieve the digestive tract, supporting elimination and binding the poisons that may be the cause of the unpleasant smell. This collection of the poisons is likely the root of bad breath. Try taking one teaspoon of clay per day added to a full glass of water. Clay is recognized worldwide as a treatment for diarrhoea. In China, clay was used for many centuries as a cure for summer diarrhoea and cholera. In fact, as early as 1919, clay proved an invaluable medicine in the cholera epidemic that swept through China. During World War II, French soldiers ate clay to combat dysentery. Research has shown that Smectite clay has antiviral properties. Kaolin is the mineral clay in Kaopectate to relieve intestinal diarrhoea and bowel stress. (Wolfe 2006)

The research work of Ran Knishinsky(2006), quoting Dr. Cohen, and David Wolfe, all confirm that clay is beneficial for healing allergies, hay fever, Anaemia, Hepatitis, Cirrhosis, Acne, Eczema, Itching, Hives, Circulatory problems, Haemorrhoids, Arthritis, Rheumatism, Chronic Fatigue Syndrome, Gum Disease, Headaches, Syphilis and additional uses like water purification, algae control, soil regeneration, mildew control. Studies show that the use of volcanic ash clay internally goes back to the Indians of the high Andes Mountains, tribes in Central Africa and the aborigines of Australia.

Clay Bath: Specially formulated clay baths have proven to be able to literally pull pollutants out like a magnet, getting rid of years of toxic accumulation in just one bath. These clay baths have been scientifically proven to release toxic metals and chemicals from the body.

Clay: A veritable tool for the Rehabilitation of Children with Learning Disabilities

According to Anthony et al (1981) philosophically, rehabilitation is directed at increasing the strengths of clients so that they can achieve their maximum potential for independent living and meaningful careers. Various intervention strategies are employed to circumvent and alleviate learning problems; while no completely satisfactory solutions have found the desired effectiveness, the field of Art and Education, however, have extensive studies which reveal success on the impact of clay as therapy, and overall development. Notable are the studies of Lowenfield, Schuster and Swanson et al., (1983) which have proven that fine motor skills are an early prerequisite to the successful completion of such school tasks as drawing, cutting, pasting, printing, or writing.

Characteristics of Learning Disabilities

These characteristics below can provide clues or suggest that a child has learning disabilities. Schuster (1985) pointed out that no child will exhibit all symptoms listed, however, having a cluster of them suggest a likelihood of having a learning disability.

Interventions

The fact that there is a rise in developmental disabilities or learning disabilities calls for concerted interventions by all stakeholders requiring our collective efforts. The World Health Organization (WHO) estimates that one out of four people will have a mental or neurological disorder at some point during their life time. Children and adolescents comprise a third and half of the population in low and middle income countries, (CBR Guidelines 2010)

There is the need for policy aimed at enhancing and enabling the disabled people. "According to the United Nations, the term 'equalization of opportunities' means the process through which the various systems of society and the environment, such as services, activities, information and documentation are available to all, particularly to persons with disabilities. It further states that creating a veritable means of livelihood for persons with disabilities is a worldwide demand. Means of

livelihood is a function of skill and education, employment opportunities, the socio economic values, culture and health status". It is important to strengthen the child's self-confidence, it is so vital for healthy development, and to also help parents and other care givers better understand, how to cope with the realities of living with a child with learning disabilities by providing "Clay care"

Although the National policy on education (1997 and 2004) provide for education for all children in Nigeria regardless of their handicapping conditions, yet many of these children are excluded and marginalized. Ihenacho (2007) opined that developing a new curriculum in liaison with tertiary institutions will foster higher expectation for persons with learning disabilities. Therefore, the need for a well-structured (Ceramics) instructional material for implementation by the Individual Education Program (IEP team) i.e. Teachers, Parents, Therapists and Clinicians) in Nigeria is imperative.

Research world over shows that developed countries have resources at their disposal which have benefited their citizens with learning disabilities. Many of such developed nations have long intuitively understood that the crafts help rehabilitate brain function (Tubbs and Drake 2007). The need to establish partnerships and, through such partnerships, develop and be

part of the direct experiences, to alleviate these problems and pressures of people with learning disabilities, their families and other caregivers is urgently required.

Conclusion

The National Survey of Persons with Disabilities 1996, principal report (2002) by the Federal Ministry of Women Affairs and Social Development refer to persons with Learning Disabilities as mentally retarded. In terms of educational attainment, 70.76 percent of persons (aged 6 and above) with disability never attended a formal school, this is an indication that the persons liing with disabilities are highly disadvantaged compared to other members of the society. Several mentally retarded need vocational rehabilitation but cannot access such service due to non-availability of such programs in their schools or communities.

Rehabilitation of all people especially children with learning disabilities is a cardinal issue in clinical and social care services for people with learning disabilities and it has become abundantly clear that there is no one discipline that has the skills to address the complexity of issues that arise in childcare and support. Interdisciplinary and inter-agency work is therefore essential in the field of research. Therefore Ceramists should rise up to the occasion. 'It is time for 'Ceramics in Rehabilitation'.



Plate I Clay therapy 'hands'
Source: The healing Art of Clay Therapy



Plate II Clay therapy 'The hand'
Source: The healing Art of Clay Therapy



Plate III Edible Clay
Source: Photograph by the researcher



Plate IV Clay Bath
Source: www.claybath.au

Table 1 Common Types of Learning Disabilities

Name	Type of Disability	Features
Dyslexia	Difficulty processing language	Problems reading, writing, spelling, speaking
Dyscalculia	Difficulty with Mathematics	Problems doing math problems, understanding time, using money
Dysgraphia	Difficulty with writing	Problems with handwriting, spelling, organizing ideas
Dyspraxia(Sensory Integration Disorder)	Difficulty with fine motor skills	Problems with hand–eye coordination, balance, manual dexterity
Auditory-Processing Disorder	Difficulty hearing differences between sounds	Problems with reading, comprehension, language
Visual-Processing Disorder	Difficulty interpreting visual information	Problems with reading, Mathematics, Maps, charts, symbols, pictures

Source: Gina, K., et al www.medicinenet.com

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Table 2.Characteristics of Learning Disabilities

Type	Characteristics
Mixed dominance	Not preferring the right or left hand
Directional confusion	Difficulty in telling right from left
Difficulty in sequencing	Inability to remember series of things in order, such as telephone numbers, or tell events as they happened.
Difficulty with time or time relationships	Not being able to tell time or understand "30 minutes from now"
Poor motor control	Awkward, clumsy, not colouring inside lines or writing on lines.
Short attention span	Loose interest quickly, thoughts move from one thing to another rapidly.
Poor handwriting	Cannot remember how letters are formed, have difficulty in copying correctly.
Distractibility	Train of thought easily broken, cannot tune out small distractions.
Behaviour problems	Frustrations due to inability to live up to his or her own or other peoples' expectations or complete assignments.
Reversals	Tendency to read from reverse other, for example saw for was, b for d, p for q.

Source: Schuster, C. S. (1985) *The Church ministering to exceptional Persons: Jesus Loves Me*

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