

**Construction of a Training Program as a Phoniatrie
Approach for Remediation of Egyptian Dysgraphic Children.**

*Thesis Submitted for the Partial fulfillment of doctoral Degree in
Phoniatrics*

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List of Contents

<i>Title</i>	<i>Page</i>
Acknowledgement	ii
List of Content	iii
List of Tables	v
List of Figures	vi
List of Abbreviation	vii
Introduction	1
Aim of the work	3
Review of literature	4
Definitions of Dysgraphia	5
Facts and Statistics	11
Anatomy and Physiology of Writing	12
Pencil grip	23
Characters of Dysgraphia	30
Causes of Dysgraphia	32
Classification of Dysgraphia	38
Factors affecting handwriting performance	40
Assessment of Dysgraphia	47
Intervention of Dysgraphia	52
Subjects & methods	86
Results	100
Discussion	108
Conclusion & Recommendation	120
Summary	122
References	125
Appendix	138
Arabic summary	

List of Tables

<i>Table Number</i>	<i>Title</i>	<i>Page</i>
1	Frequency percentage distribution of dysgraphia disability scale	100
2	The score of the Dysgraphia Disability Scale for each child pre and post training.	101
3	Comparison of total mean scores between pre and post training results of dysgraphia disability scale	102
4	Comparison of total mean scores between the pre training and post training results regarding the handwriting subtest in the dysgraphia disability scale	102
5	Comparison of total mean scores between the pre training and post training results regarding the Fine motor function subtest in the dysgraphia disability scale	103
6	Comparison of total mean scores between the pre training and post training results regarding the Proprioceptive function subtest in the dysgraphia disability scale	103
7	Comparison of total mean scores between the pre-training and post training results regarding the perceptual motor function subtest in the dysgraphia disability scale	104
8	Comparison of total mean scores between the pre training and post training results regarding the drawing pattern subtest in the dysgraphia disability scale	105
9	Comparison of total mean scores between the pre training and post training results regarding the Finger tapping speed subtest in the dysgraphia disability scale	105

10	Comparison of means and correlation between selected demographic data (age & gender) and total score of DDS.	105
11	Comparison of total mean scores between pre and post training results of the Wahibi test for difficulty in reading and writing	106
12	The score of the Wahibi test for difficulty in reading and writing pre and post training.	106

List of Figurers

<i>Figure Number</i>	<i>Title</i>	<i>Page</i>
1	Visual Pathway	13
2	The central auditory pathway	15
3	General functional areas of the left cerebral cortex, lateral aspect	17
4	Inverted homunculus	18
5	Primitive grips	25
6	Transitional grips	26
7	Mature grips	28
8	Four grasp patterns	29

List of Abbreviations

<i>ADHD</i>	Attention Deficit Hyperactive Disorder
<i>BOT-2</i>	The Bruininks-Oseretsky Test of Motor Proficiency-Second Edition
<i>DCD</i>	Developmental Coordination Disorders
<i>DDS</i>	Dysgraphia Disability Scale
<i>DQ</i>	Dynamic Quadripod
<i>DT</i>	Dynamic Tripod
<i>LD</i>	Learning Disabilities
<i>LQ</i>	Lateral Quadripod
<i>MHA</i>	Minnesota Handwriting Assessment
<i>VMI</i>	The Beery Developmental Test of Visual Motor Integration
<i>WISC IV</i>	The Wechsler Intelligence Scale for Children

Introduction

Learning disability is a general term that describes specific kinds of learning problems. A learning disability can cause a person to have trouble learning and using certain skills. The skills most often affected are: reading, writing, listening, speaking, reasoning, and doing math. Other terms are used to describe certain difficulties as dyslexia which refers to difficulties in reading, dysgraphia which refers to difficulties in writing; and dyscalculia which refers to difficulties in math. All of these are considered learning disabilities (*National Dissemination Center for Learning Disabilities, 2011*).

Learning disabilities (LD) vary from person to person. One person with LD may not have the same kind of learning problems as another person with LD

Researchers think that learning disabilities are caused by differences in how a person's brain works and how it processes information. Children with learning disabilities are not dumb or lazy. In fact, they usually have average or above average intelligence. Their brains just process information differently. There is no cure for learning disabilities, they are life-long. However, children with LD can be high achievers and can be taught ways to get around the learning disability. With the right



help, children with LD can and do learn successfully (***National Dissemination Centre for Learning Disabilities,2011***).

Dysgraphia is a learning disability that affects writing, which requires a complex set of motor and information processing skills. Dysgraphia makes the act of writing difficult. It can lead to problems with spelling, poor handwriting, and putting thoughts on paper. People with dysgraphia can have trouble organizing letters, numbers, and words on a line or page. This can result partly from visual-spatial difficulties which is trouble processing what the eye sees and language processing difficulty which is trouble processing and making sense of what the ear hears (***National Dissemination Centre for Learning Disabilities,2012***).

There is no enough research for dysgraphia and dysgraphic children face many problems and need help for academic achievement that's why this research was done.



Aim of The Work

To construct an Arabic training program for remediating Arabic speaking dysgraphic children, to be used as an adjuvant part of the therapy program for Learning disabilities.

Review of Literature

Dysgraphia

Handwriting is a skill that school-age children are required to master. Even with the increased use of computers and tablets, handwriting remains an important skill, because the motor action of creating letters on paper has been found to increase the memory of letters beyond that attainable with keyboarding alone. **James (2010)** found that the creation of letterforms augmented the visual processing of letters in preschool children. Thus, the importance of learning to manually form or draw letters cannot be underestimated. (*Schwellens et al, 2013*)

Dysgraphia is a specific learning disability that affects written expression, that can appear as difficulties with *spelling, *poor handwriting and *trouble putting thoughts on paper. Dysgraphia can be a language based, and/or non-language based disorder. (*Felder et al, 2008*)

Many people have poor handwriting, but dysgraphia is more serious. Dysgraphia is a neurological disorder that generally appears when children are first learning to write. Experts are not sure what causes it, but early treatment can help prevent or reduce problems. Writing requires a complex set of motor and information processing skills. Not only does it require the ability to organize and express ideas in the mind. It also requires the

ability to get the muscles in the hands and fingers to form those ideas, letter by letter, on paper. (*Rosenblum and Livenh-Zirinski, 2008*)

Dysgraphia that is caused by a language disorder may be characterised by the person having difficulty converting the sounds of language into written form (phonemes into graphemes), or knowing which alternate spelling to use for each sound. A person with dysgraphia may write their letters in reverse, have trouble recalling how letters are formed, or when to use lower or upper case letters. A person with dysgraphia may struggle to form written sentences with correct grammar and punctuation, with common problems including omitting words, words ordered incorrectly, incorrect verb and pronoun usage and word ending errors. People with dysgraphia may speak more easily and fluently than they write. (*DSF,2015*)

Definitions of dysgraphia through literature

Brown (1981) considered dysgraphia as specific learning disability.

Hamstra-Bletz and Blote (1993) defined dysgraphia as a disturbance or difficulty in the production of written language that is related to the mechanics of writing.

Disorders of written expression are defined as a combination of difficulties in an individual's ability to compose written text that are manifested by illegible handwriting, letter shape distortions, dysfluent writing, spelling errors and difficulty in written expression of ideas that cannot be attributed to disabilities in reading or oral expression. The term dysgraphia, which is one component within the broad definition of disorders of written expression, described as 'writing skills that are substantially below those expected for the person's age, measured intelligence and age appropriate education' (*American Psychiatric Association, 1994*).

Cratty (1994) found that 30–40% of the surveyed children with learning disability had handwriting difficulties.

Johnson, (1995) stated that dysgraphia is a common complaint among children with learning disability (LD), appearing with or without other academic difficulties.

Cavey (2000) used the term dysgraphia to describe a specific disability in writing that is more severe, and more resistant to remediation, than the general difficulties encountered by other weak writers.

The diagnostic and statistical manual of mental disorders DSM-IV. (*American Psychiatric Association, 2000*) refers to dysgraphia as a 'disorder of written expression'.

Meese (2001) describes dysgraphia as handwriting problems, specifically, a partial inability to remember how to make certain alphabet or arithmetic symbols.

Dysgraphia can also be found in children suffering from developmental coordination disorder (DCD) which is a motor skills disorder that affects five to six percent of all school-aged children. The ratio of boys to girls varies from 2:1 to 5:1 DCD occurs when a delay in the development of motor skills, or difficulty coordinating movements, results in a child being unable to perform common, everyday tasks. By definition, children with DCD do not have an identifiable medical or neurological condition that explains their coordination problems **5-6%** of school-aged children are affected by Developmental Coordination Disorder (DCD), these children are frequently described as "clumsy" or "awkward" by their parents and teachers, children with DCD have difficulty mastering simple motor activities, such as tying shoes or going down stairs, and are unable to perform age-appropriate academic and self-care tasks. Some children may experience difficulties in a variety of areas while others may have problems only with specific activities. Children with DCD usually have normal or above average intellectual abilities. However, their motor coordination difficulties may impact their academic

progress, social integration and emotional development. (*Sugden et al, 2006*).

The term is sometimes used to describe illegible handwriting, but it covers all problems with written language, including clarity, accuracy and spelling. Dysgraphia is a frequent accompaniment to dyslexia (*Berninger et al, 2008*).

Children with impaired handwriting may also have attention-deficit disorder (ADHD)—inattentive, hyperactive, or combined inattentive and hyperactive subtypes. These students will often have trouble with writing and handwriting. This is because the students “also have difficulty organizing and sequencing detailed information. In addition, ADHD students often process information at a very rapid rate and simply do not have the fine - motor skills needed to ‘keep up’ with their thoughts. Children with this kind of dysgraphia may respond to a combination of explicit handwriting instruction plus stimulant medication, but appropriate diagnosis of ADHD by a qualified professional and monitoring of response to both instruction and medication are needed. (*The International Dyslexia Association, 2008*).

According to (*The International Dyslexia Association, 2008*) dysgraphia is the condition of impaired letter writing by hand, that is, disabled handwriting and sometimes spelling Student’s handwriting may be impaired in: