

## INTERVENTION AND PLACEMENT OF CHILDREN WITH HANDWRITING DISABILITIES OF DYSGRAPHIA

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### Abstract

*Dysgraphia as a specific learning disability affects the child's ability to write legibly and cannot express themselves in writing, and also affect their ability to read and do simple arithmetic (mathematics). However, handling students with dysgraphia in a class room needs a specific strategies, which depends on the learning problem, the teachers need to place more emphasis on individualized instructions, its effective in diagnosing handwriting disabilities. The student with dysgraphia requires more than just minor adaptations to educational materials or instructional assessment methods .The student with dysgraphia is working on outcomes other than the prescribed outcomes of the curriculum or student with dysgraphia is working on the regular outcomes with little or no adaptations, but receives 25 hours or more of remedial help from someone other than the classroom teacher to meet the expected learning outcomes. Some students, although not identified as having dysgraphia require adaptations and remedial help from someone other than the classroom teacher. It is not a requirement that these students have an IEP. In this case, it is good practice to put in place a learning plan to document specific needs of these students. An IEP is a documented plan developed for a student with a special needs that summarizes and records the individualization of a student's education program.*

**Keywords:** Intervention, placement, children with handwriting, Disabilities of Dysgraphia

### Introduction

Learning disability is a common name for a significant difficulty in writing (dysgraphia), arithmetic (dyscalculia), reading (dyslexia), and attention deficit hyperactivity disorder (ADHD) Maiwada (2011). children with learning disabilities show normal or above normal intelligence, in combination with pronounce difficulties in learning one or more basic educational skills (most often reading) in consideration o one specific learning disability ie handwriting disorder (dysgraphia). Despite the fact that the actual act of writing involves a number of very distinct skills, include the ability to keep One idea in mind, to formulate the idea in word to plan the correct graphic form for each letter and word correctly, manipulate the writing instrument and to have sufficient visual and motor memory (Learner, 1976). Many learning disable students dislike writing and language activities and avoid them when possible.

However, Marentette (2011), revealed dysgraphia as a deficiency in the ability to write primarily in terms of handwriting but also in terms of coherence. It occurs regardless of the ability to read and is not due to intellectual impairment. He further, explains that dysgraphia is a transcription disability, meaning that it is a writing disorder associated impaired handwriting, orthography in the storing process of written words and processing the letters in those words and finger sequencing (movement of muscles required to write). Dysgraphia often over laps with the other learning disabilities such as speech impairment, attention deficit disorder or developmental co-ordination disorder. Wright and Wright (2008) suggest that diagnosing dysgraphia and related learning disabilities (LD) is important,

since without diagnosis children may not receive early interventions or specialized instruction in all the relevant skills that are interfering with their learning of written expressions. considering that many schools do not have systematic instructional programmes in handwriting and spelling. It is also important for the educational programme planners to determine whether the child with dysgraphia may also have dyslexia and require special help with reading or oral and written language.

Academic learning disabilities however are mainly experience in form of formal reading, handwriting, spelling and arithmetic difficulties, despite the opportunities and manifestation of potential to learn. According to Kirk S. A.(2011), the term is said to include reading disabilities, spelling and written expression disabilities, handwriting disabilities and arithmetic disabilities.

### **The Concept of Dysgraphia**

Dysgraphia is of Greek origin. Berninger & Wolf say, *dys* is a prefix that means ‘impaired.’ *Graphia* is a base word that means ‘letter form,’ ‘hand’, or ‘making letter forms by hand.’ students with dysgraphia, therefore, are impaired in letter writing skills.” According to Hendrickx & Salter (2009) Dysgraphia, also known as disorder of written expression is a difficulty in writing which does not reflect the general intelligence and ability of the person. It is rarely seen in isolation and is usually accompanied by other conditions. It is generally thought to be a motor coordination difficulty, but there can be associated difficulties with processing and sequencing, such as letter formation, confusion of letters, particularly ‘b’ and ‘d’, for example, and also with other fine motor skills issues, such as tying shoelaces. Deuel (2006) defines dysgraphia as a specific learning disability in the area of written expression.

Dysgraphia has long been considered one of the identifying features of children who have serious learning problems. Despite being used in this manner for many years, dysgraphia itself is a disabling condition that is poorly understood. For instance, as commonly defined dysgraphia is a disorder in which a person is unable to produce a legible handwriting (Houck, 1984; Lerner, 1985). Unfortunately, a more precise definition is lacking because there is little agreement regarding both the cause of the disorder and the characteristic features of dysgraphic 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 (DSM IV – American Psychiatric Association, 1994). The term dysgraphia, which is one component within the broad definition of disorders of written expression, refers to illegible handwriting and spelling errors (Deuel, 2001).

### **Types of Dysgraphia**

Dysgraphia is often but not always accompanied by other learning disabilities such as dyslexia or attention deficit disorder and this affects the type of dysgraphia a person might have. According to Duell (1995) she identified three types of dysgraphia as

1. Dyslexic dysgraphia
2. Motor dysgraphia
3. Spacial dysgraphia

1. Dyslexic dysgraphia; people with dyslexic dysgraphia have illegible spontaneously written work, their copied work is fairly good, but their spelling is usually poor. Their finger tapping speed (a method for identifying fine motor problem) is normal, indicating that the deficit does not likely stem from cerebral damage.

2. Motor dysgraphia; motor dysgraphia is due to deficient in fine motor skills, poor dexterity, letter

formation may be acceptable in very short sample of writing but these requires extreme effort and an unreasonable amount of time to accomplish and cannot be sustain for a significant length of time, as it can cause arthritis like tensing of the hand. Overall their written work is poor to illegible even If copied by sight from another document and drawing is difficult. Oral spelling for these individuals is normal, and their finger tapping skill is below normal. These shows that there are problem within the fine motor skills of these individuals People with developmental coordination disorder may suffer from dysgraphia, writing is often slanted due to holding a pen/pencil incorrectly.

3. Spacial dysgraphia; a person with special dysgraphia has a defect in understanding a space, they will have illegible spontaneously written work, illegible copied work and problem with drawing abilities. They have normal spelling and normal finger tapping speed, suggesting that this subtyping is not fine motor based.

### **Causes of Dysgraphia**

Dysgraphia is biologically based disorder wit genetic and brain bases, more specifically it is a working memory problem. In dysgraphia individual fail to develop normal connections among different brain regions needed for writing. People with dysgraphia have difficulty in automatically remembering and mastering the sequence of motor movements required to write letter or number. There are seven causes of dysgraphia according to (Davis, 2003)

1. Brain damage
2. Physical illness or deformity
3. Intentionally poor penmanship
4. Inadequate instruction
5. Disorientation
6. Multiple mental images
7. Inadequate natural orientation otherwise known as dyspraxia

1. Brain Damage :it can occur because the brain is starved of oxygen at birth or through near drawing, sustained high temperature head injury or stroke. It will show if this was the cause of poor handwriting. An individual can heal and can do much given time, it can also be delayed, love can be stimulating, an over whelming atmosphere is not good for them, but faith in the child or adult can gradually bring much achievement.

2. Physical illness or Deformity: It can also be due to a birth, accident or illness, nerve damage can lead to control their hands.

3. Intentionally Poor Penmanship: This is not necessarily related to dyslexia, many, if not most people are likely to be dyslexia, poor spelling, punctuation or grammer may intentionally use poor handwriting in an effort to hide this facts.

4. Inadequate instruction: if a student has never been given any instruction in penmanship, this may lead to dysgraphia, in some cases some children don't have problem of teaching themselves how to write once they are ready to do so

5. Disorientation: ability to disorientate or altering focus in order to include the imagination in the thinking process is one of the advantages of thinking and learning style of the dysgraphic individual

6. Multiple Mental Images: some dysgraphys have an amazing ability to produce exact what they see, even if they con not achieve the perfection they see in their minds eye, they have an exact picture that they are trying to copy.

7. Inadequate Natural Orientation Otherwise Known as Dyspraxia: this means that at some time very early in a person's life much earlier than might happen with most dysgraphia, they began to

disorientate, individuals never being total sure of where physical reality is found as a result. Their own natural orientation will be in an unfavorable place. They have poor coordination they may have perceptual or speech difficulties, difficulty in telling left from right and with crossing of the midline of the body with hand or foot.

Beminger V & Wolf J (2009) Outline the following as the underline cause of dysgraphia;

1. Sequencing problem
2. Attention deficit hyperactivity disorder (ADHD)
3. Auditory processing weakness
4. Visual processing weakness
5. Poor Nutrition: this affects all areas of a child's growth and development, including poor performance in the class room, therefore key nutrients (calcium, potassium and vitamin C are all vital).

### **Characteristics of Dysgraphia**

According to Duell (2006) Children's who have dysgraphia however, exhibited some characteristics and it may be in early age school children or in older age or adult. Some of these characteristics in children include

1. Difficulty holding crayons, pencils and markers correctly. These children may display awkward grasps on writing and drawing tools and may have difficulty changing their grasps, even with help.
2. An awkward body position while writing. A child may be very tense and may clamp his or her fingers down hard on the pencil.
3. Difficulty or inability to draw simple lines and shapes.
4. Difficulty recognizing letters, both written and spoken.
5. Avoidance of writing and drawing activities.

As children get older and the demands of school assignments increase, the symptoms of dysgraphia become more apparent. Some symptoms often seen in school aged children include;

1. Illegible handwriting. Letters may not be formed correctly, may be poorly aligned, or may be spaced awkwardly.
2. A mix of upper and lower case letters.
3. Unfinished sentences or words omitted from sentences.
4. Saying the words out loud while writing.
5. Concentrating so hard on what is being written that the content of the writing is lost. A child may spend 30 minutes writing 3 sentences and may be unable to report what he or she has just written.

Accommodation, Modification and Remediation of Dysgraphia.

If a child is identified having dysgraphia he requires: Accommodation, modification and remediation.

Accommodation, that is to reduced the impact that writing has on learning or expressing knowledge without substantially changing the process or the product. Modification change the assignment or expectations to meet the students individual needs for learning and remediation provide instruction and opportunity or improving handwriting.

Accommodations, when considering accommodating or modifying expectation to deal with dysgraphia, consider changes in;

a. The rate of producing written work

\*Allow more time for written task including note taking, coping and test

\*Allow the student to begin project or assignment early

\*Include time for student schedule being a library assistant or office assistant that could also be used for catching up or getting ahead on written work, or doing alternative activities related to the material being learned.

\* Encourage learning keyboarding skills to increase the speed and legibility of written work

\* Have the students prepare assignment papers in advance with required headings (Name, Date etc)

b. The volume of the work to be produced

\* Instead of student to write a complete notes, provide a partially completed outline so the student can fill in the details under major headings (or provide the details and have the student provide the headings).

\*Allow the student to dictate some assignment or test (or part of tests) a 'scribe' train the scribe to write what the student says verbatim (I am going to be your secretary) and then allow the students to make changes, without assistance from the scribe.

\*Remove 'neatness or spelling (or both) as grading criteria for some assignment, or design assignment to be evaluated on specific parts of the writing process.

\* Allow abbreviations in some writings (such as b/c for because ) Have the student develop a repertoire of abbreviation in a notebook. These will come in handy in future note taking situations.

\* Reduced coping aspects of work for example, in math, provide a work sheet with the problems already on it instead of having the student copy the problems.

c. The complexity of the written work, change the complexity.

-Have a writing binder option. This 3-ring binder should include

\*A model of cursive print letters on the inside cover (this is easier to refer to than one on the wall or blackboard)

\*A laminated template of the required format for written work. Make a cut-out where the name, date and assignment would go and model it next to the cut-out. Three hole punch it and put it into the binder on top of students writing paper and copy the heading information on the holes, then flip the template out of the way to finish the assignment . He can do this with worksheets too.

Sample templates, dysgraphia sample templates

-Break writing into stages and teach student to do the same. Teach stages of the writing process (brainstorming, drafting, editing and proofreading, etc) Consider grading these stages even on some one sitting written exercises, so that points are awarded on the short essay, brainstorming and a rough draft as well as the final product. If writing laborious, allow the student to make some editing marks rather than copying the whole thing, on a computer the student can make a rough draft, copy it and then revise the copy, so that both the rough draft and final product can be evaluated without extra typing.

\* Do not count spelling on rough draft or one sitting assignment

\* Encourage student to use a spell checker and to have someone else proofread his work, too. Speaking spellcheckers are also recommended, especially if the student may not be able to recognize the correct word.

d. The tools use to produced the written work should be changed.

\*Allow student to use cursive or manuscript, whichever is most legible.

\*Allow students to use paper writing instrument of different colours.

\*Consider teaching cursive earlier than would be expected, as some student find cursive easier to manage, and this will allow the student more time to learn it.

\*Encourage primary teachers to use paper with the raised lines to keep writing on the lines.

\*Allow older student to use line width of their choice. Keep in mind that some student use small writing

to disguise aits messiness or spelling though.

\*Allow students to use graph paper for math, or to turn lined paper side was,to help with lining up colums of numbers.

\*Allow the students to use writing instrument that is most comfortable. Many students have difficulty writing with ballpoint pens, preparing pencils or pens which have more friction in contact with the paper. Mechanical pencils are very popular let the student find a favourite pen or pencil

\* Have some fun grips for everybody, no matter the grade, sometimes high school kids will enjoy the novelty of pencil grips or even big primary pencils.

## Conclusion

Dysgraphia is a specific learning disability that can be diagnosed and treated. Children with dysgraphia usually have other problems such as difficulty with written expression. It is important that a thorough assessment of handwriting and related skill areas be carried out in order to plan specialized instruction in all deficient skills that may be interfering with a student’s learning of written language. For example, a student may need instruction in both handwriting and oral language skills to improve written expression. Although early intervention is, of course, desirable, it is never too late during the school age years to intervene to improve a student’s deficient skills and provide appropriate accommodations.

## Recommendations

1. Teachers should be aware of the existence of dysgraphic pupils in their class room, they should be careful sitting arrangement and make sure the pupil copy their exercises, notes and home works. Teachers should be careful in identifying pupils according to the specific symptoms of dysgraphia among primary school pupils, teachers should put more emphasis in tasks like copying notes, drawing and or painting.(fine motor skills).

2. It is recommended that, individualized educational plan should be used that is one on one teaching to overcome the problem of dysgraphia among primary school pupils, teachers should also seek the assistance of specialist (special education teacher) in handling pupils with learning disabilities and providing special services and or advice on how to handle learning disabled pupils.

3. Providing adequate writing materials and good class room arrangement, teachers should be monitoring and evaluating their progress in writing and that gender does not play any role in the academic achievement of primary pupils with dysgraphia.

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