

## **Dysgraphia: The Causes and Solutions**

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### **Abstract**

If art is one of the most important factors in the transmission of culture, it can firmly be said that handwriting is the best and brightest work of art that will remain for the future. In the modern world, people are connected together by handwriting and writing and make themselves known by it. Therefore, all human beings should be familiar with the basics of correct writing and express their intentions with good handwriting according to the acceptable norms and standards. Correct, beautiful, and legible writing should be trained in the first stages of education.

**Key words:** Dysgraphia, Handwriting

### **Introduction**

It is believed that most people are lazy in writing and often prefer something that is free from the task of writing. It can be said that writing is the highest and most complex form of communication that is learned in the latest stage of language skills series.

The listening, speaking, and reading are in fact a prerequisite for writing. In practice, writing deals with a few very specific skills including the ability to keep the subject in mind, setting the issue as words, drawing the graphical form of each letter and word, using correct tool for writing, and having enough visual-motor memory. Among the basic academic skills, writing has been called the most tangible skill. The difference between writing and other communication skills is the written document which remains.

### **Handwriting and its benefits**

Handwriting is generally the storage of information. The data are written objectively and everyone can use it in every time and place. From the benefits of handwriting we can refer to the limited amount of data that human memory can hold and the unlimited amount of data

that can be stored in written form. Thus, humans are not only able to learn the knowledge of their ancestors, but also they can use them to achieve new discoveries and new conclusions.

*Approaches related to writing disorders:*

In contemporary psychology literature, there are theoretically four approaches about the origins of writing disorders: A - Transition approach, B- Social-emotional approach and theories of personality, C- Neuro-psychophysiology approach, D- The approach of situation and mental state at the time of writing.

In Transition approach, the creation and evolution of writing in children and its problems are examined. Jooriagr (1960) and his colleagues determine three stages for the development of writing in six to eleven years old normal children. The first period (six to seven years old) is the pre-calligraphy (preliminary drawing of letters and lines) stage. The second period (seven to ten years old) is the stage of general equilibrium in calligraphy (dominance of hand movements and removing the major problems). After the eleven years old period, writing reaches to equilibrium.

*Dysgraphia and pre-writing skills:*

The shortcomings of writing are related to the visual - motor coordination and dysgraphia. Many children cannot take advantage of the skills of writing by hand, because they have not learned the pre-writing skills. These skills include understanding the relationship between the upper and lower of body, recognition a variety of sizes and shapes, correct pencil grip, and correct paper position.

Factors affecting bad handwriting:

1 - There are errors in the writing by hand:

- A) Excessive deviation to left
- B) Excessive deviation to right
- C) Writing with pressing hardly the pencil
- D) Excessive faded writing
- E) Excessive italic writing
- F) Excessive spacing

2 - Family related factors:

Calligraphy is a skill that must be learned. If a child lives in an artist and talented family, he will not suffer from bad handwriting.

3- Factors related to student:

For appropriately writing, the child should physically and mentally be health.

A - Dysfunction of the hand and fingers due to orthopedic injuries:

- A healthy child should be able to grip the pen with three thumb, pointing, and middle fingers. If for any reason, there is a dysfunction of finger, there will be bad handwriting.

- The right median nerve damage can cause the disability of the thumb and will disrupt the writing.

- Sores on fingers

- Limitation of motion in the joints of the wrist, fingers, elbow, and arm

- Lesions in the elbow, forearm, and arm

- Burns, fractures, and bruises

- Fingers dysfunction due to neurological disorders

*B - Psychological factors and its impact on writing:*

Neurological conditions can cause muscle cramps in children. In other words, child's hand muscles contracts after writing a few lines and he will not be to write anymore. In this case, symptoms such as Paratony (contraction of a muscle and then lack of its relaxation) and

anxiety-related reactions may be seen in writing. Also, restlessness, hyperactivity, and short attention and concentration span are factors that affect the handwriting of students.

C - Left Hand:

The bad handwriting of these children is due to not seeing the words.

D – Poor seeing condition:

Due to poor seeing condition, children get close to the paper.

The various forms of bad handwriting:

The bad handwriting of students has different forms including:

- Large and small handwriting
- Improper spacing between letters and words
- Messy writing
- Tilted writing of letters and words
- Getting out of the line

How can we reduce the problems of writing?

The interventions for reducing the writing problems can be divided into two general categories:

1. Medical and pharmaceutical intervention
2. Social- educational psychology intervention.

Teaching strategies to help children develop their writing skills

The following exercises illustrate techniques that can be useful in helping children to learn writing:

1 - On-board exercises: These exercises create the necessary skill before you start writing. Lines and geometric shapes of letters and numbers can be drawn with free movement of shoulder muscles, arms, hands, and fingers on the board.

2 – Improving the writing with other devices: drawing or writing by finger on the ash tray or on the sand, flour, clay, and etc. can be used for improving the movement of fingers.

3 – Position of body: To prepare for writing, children should sit in a comfortable chair. Their desk must have proper height. The child's feet should touch the ground. He must be able to place both his forearms on the table.

4 - Position of paper: the paper should be parallel with the edge of the desk.

5 - Pencil grip: Many children who have writing disorder do not know how to grip correctly the pencil. It should be placed between the thumb and middle finger; the index finger is placed on the pencil.

6 - Patterns and templates: the geometric shapes of letters and numbers can be provided as cardboard or plastic models.

7 - Drawing from the Model: copying from various forms by using thin or transparency papers.

8 - Drawing between the lines: Force children to draw parallel lines with different shapes. These two parallel lines can be the plot of a letter. In this case, putting the arrow to show the direction and the spelling of letters will be helpful.

9 – Dotted line: Draw a simple scheme. Then, draw the same scheme as dotted line alongside it. Ask the children to complete scheme by connecting the dots together.

10 - Lined paper: initially, start with paper that has no line. Then, use a paper that has open and distant lines. It may help the child to write letters correctly.

11 - Standard lines: for children who get out of the line in writing, the top and bottom of lines can be taped.

12 - Letter from the simple to difficult: for teaching the letters, those letters which are easier should initially be learned.

13 - Verbal instructions: providing guidance on writing exercises can help some of the children.

14 - Words and sentences: After learning to write simple letters, children should try to write words and sentences.

*Four types of educational interventions can be used for eliminating the dysgraphia:*

- A- Self-learning: it includes speaking loudly at the time of writing and directing him/herself through speech. Loorya pointed out that children develop their behavior by speech; they pass through four stages:
  1. Directing behavior by adults
  2. Directing behavior by loudly speaking with him/herself and connecting the words with action
  3. Directing behavior by slow speaking and whisper
  4. Directing behavior by speech therapy
- B- Self-monitoring: in this case, children are asked to pause after each word to see if they have gripped the pen correctly. Otherwise, he should correct it based on his/her evaluation. This is actually getting feedback from himself.
- C- Relaxation and refreshment: The child will be asked to write five minutes, then play and engage in desired activities for ten minutes. Since the stress at the time of writing increases the fatigue of children, the rest intervals will help the child to calm and refresh him/herself.
- D- Mental - movement exercises: this exercise includes the way of gripping the pen and keeping the thumb half-open. The child tries to grip the pen correctly and in the best status.

## **Conclusion**

Handwriting and calligraphy is one of the traditional Iranian arts. It has existed for a long time in this land and its beauty has fascinated the viewers. The beauty and decorative aspect of calligraphy is only one of the dimensions of this art. The good and readable handwriting is another dimension that is necessary in developing society. According to the studies conducted about young adults, unfortunately, this has been neglected by them. Bad handwriting is one of the problems among the students in the schools. In addition, bad handwriting is common in Iranian society.

In order to solve this problem, some suggestions are provided at the following:

- Caring about handwritten assignments
- Employing highly qualified and trained teachers in the schools who are interested in and familiar with the art of calligraphy.
- Explaining the importance of the role of calligraphy to students.
- Teaching the calligraphy in the elementary school along with other initial trainings to children.
- Preparing appropriate art books for students.
- Emphasizing the importance of calligraphy in critical occupations such as medicine, judgment, university professors, etc.
- Employing the calligraphers for teaching the art courses in schools.

- Continuous communication between calligraphers and schools to improve and develop the handwriting and calligraphy.
- The education officials should pay attention to make academic the art of calligraphy.

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