



## SYSTEMATIC INTERVENTIONS TO IMPROVE HANDWRITING OF A MIDDLE SCHOOL LEARNER: A CASE STUDY

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### Abstract

Handwriting is a skill immensely useful in academic as well as non-academic fields. Yet it's overlooked in the school going children. Even though it seems to be a fairly simple and natural skill, time devoted to improving writing skill and right posture while practicing handwriting play important roles. This study breaks down the skill of handwriting into its smallest units and charts the learner's progress as she improves on each of those smaller units. Through this study the researcher aims at studying the impact of administering repeated interventions at regular intervals of time, on the handwriting of the learner.

*Keywords: Handwriting improvement, motor skill, child development, educational strategy, handwriting skill*

### INTRODUCTION

Good handwriting is a fundamental skill that holds immense importance in a student's educational journey. Firstly, clear and legible handwriting is essential for effective communication. Whether it is taking notes in class, completing assignments, or writing exams, having handwriting that others can easily read and understand is crucial. Illegible handwriting can lead to misinterpretations, misunderstandings, and even lower grades due to the inability of teachers and examiners to comprehend the content.

Furthermore, good handwriting promotes better cognitive development. The physical act of writing by hand engages multiple areas of the brain, including those responsible for motor skills, memory, and creativity. Research has shown that the process of forming letters and words by hand enhances neural connections and improves overall cognitive function. This, in turn, can positively impact learning abilities, memory retention, and critical thinking skills. In addition, having good handwriting fosters self-expression and self-confidence. When students can write neatly and legibly, they feel more confident in their ability to communicate their thoughts and ideas effectively. This confidence extends beyond the classroom, as good handwriting also plays a role in job applications, personal correspondence, and other real-world situations.

Moreover, good handwriting can contribute to better academic performance. Students with legible handwriting are more likely to receive higher grades on written assignments and examinations. Teachers can easily understand and evaluate their work, leading to fairer assessments. Additionally, neat and organized handwriting promotes better organization and structure in written work, enhancing the overall quality of the content. Lastly, good handwriting is a lifelong skill that extends beyond the academic realm.

While the digital age has brought about a shift towards typing and digital communication, the ability to write legibly and neatly remains an essential aspect of academic success. Handwriting not only serves as a means of communication but also plays a significant role in cognitive development, memory retention, and overall academic achievement. Thus it is necessary that good handwriting be cultivated among students from a young



and mouldable age where they can improve it with proper training. Teachers play a significant role in moulding the handwriting of students to the best of their abilities so that they are not only accepted but also admired for their clear and beautiful handwriting and communication. The teachers can also help students improve confidence in themselves and their writing skills along with developing a clear and organised conceptualisation of their work.

### **NEED OF THE STUDY**

This research has been conducted to identify the exact problems that are hindering the child from improving her handwriting. The child here has difficulty in maintaining proper position of the arm and pencil grip. She also faces problems with formation of letters, word spacing and letter spacing. This action research aims at bringing about a positive change in the child through various interventions.

### **OBJECTIVES**

This research has been conducted with the following objectives:

- to determine the type of problem the child is facing regarding her handwriting.
- to study the problem of bad and illegible handwriting among secondary school children.
- to recognize the pre-intervention status
- to analyse the relevance and effect of interventions in the post-intervention stage.

### **REVIEW OF LITERATURE**

One way in which researchers have tried to understand the process of improving handwriting is by trying to identify the basic unit that comprises a motor program in handwriting. Because letters are often learned as a single unit, individual letters may be the basic element. It is also possible that single strokes, combinations of strokes, or even combinations of letters are the basic unit (Hulstijn and van Galen, 1983).

A study by van Galen and Teulings (1983) provides further support for the proposition that there are separate stages in the handwriting process, and that letter form (and its allographic variations) is activated independently of scale factors such as size and slant. Galen and Teulings found that the reaction time for writing the letter "h" was sequentially increased by reversing the execution pattern (retrieval of an abstract motor program), increasing size (setting parameters for the program), and changing the angle of vertical strokes relative to the baseline from normal to proclined to reclined to inverted (an anatomical factor in initiating the motor program).

Writers typically look at what they write as they compose, suggesting that handwriting benefits from vision (van Doorn and Keuss, 1993). Recent research has generally confirmed this observation, demonstrating that vision is an important, but not absolutely necessary, ingredient in handwriting control. When writing without vision, writing is slower as well as larger (van Doorn and Keuss, 1993; van Galen et al., 1989), more errors are made (Smyth and Silvers, 1987), alignment of words to the horizontal plane is more erratic (Smyth and Silvers, 1987), and habitual patterns for writing letters are simplified by reducing the number of pen lifts (Smyth, 1989).

In a study of the writing of 3- to 6-year-old children in France, Gombert and Fayol (1992) also found writing progressed from scribbling to refusals to write dictated text (level 6 in De Goes and Martlew, 1983), but they reported few instances of pictorial representations in children's writing. Although differences between the De Goes and Martlew (1983) and the Gombert and Fayol (1992) investigations, concerning the role of pictorial representation in writing development, may be due to the experimental tasks employed or even to cultural differences, a study by Dyson (1982) demonstrated that both writing and drawing are important ingredients in young children's early writing efforts.



Advice on posture, writing arm placement, and pencil grip are common in instructional materials on the teaching of handwriting. Children are encouraged to sit in an upright position, leaning forward slightly, with both forearms resting lightly on the desk and the elbows extended slightly. The hand is turned so that it rests on the third and fourth fingers. The pen is held between the thumb and the index finger, resting on the distal phalanx of the middle finger (tripod grip), about an inch above the point (Graham and Miller, 1980).

## **METHODOLOGY**

SI is a student of class VI. The subject SI has been identified and selected for interventions due to a number of problems that could be observed in her sample of handwriting. She has poor letter formation and has difficulty properly shaping letters, leading to inconsistencies in size, slant and spacing. This lack of uniformity makes her written work appear messy and disorganized, making it harder for both the writer and the reader to follow the content. She capitalizes common nouns and other words in the middle of the sentence in order to place emphasis. Her letters are half-formed and squished together due to lack of proper planning. Often alphabets with a loop such as 'a' or 'd' tend to lose their shape. The student writes words which are disconnected making a single word appear to be two different words.

### **Intervention 1**

The intervention was planned keeping in mind that the subject had difficulty making the proper strokes to form words. She was made to sit with the teacher trainee and given a worksheet. The teacher trainee made sure that the subject was comfortably seated and instructed to maintain an upright posture. The teacher trainee set a timer to measure how much time was required to complete a worksheet where she had to trace different strokes that are necessary in proper formation of alphabets.

### **Post Intervention Phase 1**

The subject was able to trace the strokes but found it difficult to follow the lines due to her posture and position of arm. She was slow in following the curve of letters because she lacked confidence. The subject required 17 minutes to complete one worksheet. The next day she was made to sit with the teacher trainee and shown how to place her arm so that her posture would better facilitate writing.

### **Intervention 2**

The intervention was planned keeping mind that the subject had difficulty in writing the capital form of letters in cursive writing. She was made to sit with the teacher trainee and given a worksheet. The teacher trainee set a timer to measure the time required to solve a worksheet where she had to copy out capital letters in cursive. The subject tried to maintain a good posture as she was taught. The position of her hand seemed to have improved.

### **Post Intervention Phase 2**

The subject was able to write 12 letters of the alphabet properly at one go. The subject required 15 minutes to complete one worksheet. The next day the subject was made to sit with the teacher trainee where she was shown how to form the particular alphabets. The remaining letters required more than two attempts for her to perfect.

### **Intervention 3**



The intervention was planned keeping in mind that the subject had difficulty in writing the small letters in cursive writing. She was made to sit with the teacher trainee where she was given a worksheet. The teacher trainee set a timer to measure the time required to solve a worksheet where she had to write small letters in cursive. The subject was focussed on improving the time she was taking to complete the worksheet.

### **Post Intervention Phase 3**

The subject was able to write 18 letters of the alphabet properly at one go. The subject required 10 minutes to complete one worksheet. The next day the subject was made to sit with the teacher trainee where she was shown how to form the particular alphabets. The remaining letters required another attempt for her to perfect.

### **Intervention 4**

The intervention was planned keeping in mind that the subject had difficulty in writing whole sentences in cursive handwriting. She was made to sit with the teacher trainee where she was given a worksheet. The teacher trainee set a timer to measure the time required to solve a worksheet which had a few sentences in cursive. Short sentences with easy words were chosen so that the subject did not have to get distracted by complexity of words. She was given a worksheet with only three sentences so that she had enough time to focus on formation of the alphabets and letter spacing.

### **Post Intervention Phase 4**

The subject was able to write all three sentences but faced difficulty in formation and spacing of letters in 6 words. The subject required 12 minutes to complete one worksheet. The next day the subject was made to sit with the teacher trainee where she was shown how to write those words properly in cursive.

### **Intervention 5**

The intervention was planned keeping in mind that the subject had difficulty in writing whole sentences and capital letters in cursive handwriting. She was made to sit with the teacher trainee where she was given a worksheet. The teacher trainee set a timer to measure the time required to solve this particular worksheet. The worksheet had three sentences with slightly complex words. The subject showed improvement in positioning of hands.

### **Post Intervention Phase 5**

The subject was able to write all three sentences but faced difficulty in formation and spacing of letters in 5 words. She required 10 minutes to complete one worksheet. She also did not cross all 't's and faced difficulty in spacing the letters of the words. The next day the subject was made to sit with the teacher trainee where she was shown how to write those words properly in cursive.

### **Intervention 6**

The intervention was planned keeping in mind that the subject had difficulty in writing fully formed letters when the passage was dictated and no visual reference was provided. She was given the visual aid earlier, so that she could follow the curves of the letters and mimic them. Now that she showed improvement in letter formation, the visual aids were removed and a short passage was dictated to her. She was made to sit with the teacher trainee who dictated a small passage of 3 sentences and the subject was asked to write in cursive



employing all the techniques that were taught to her. A timer was set to measure how much time the whole activity required.

### **Post Intervention Phase 6**

The subject was able to write all three sentences but faced difficulty in formation of letters in three words. She made sure to cross all 't's and the spacing of letters seem to have improved. She had an improved posture with better grip on the pen. She however required longer to complete this exercise because of the absence of visual cues. She required 15 minutes to complete the activity.

### **RESULTS AND DISCUSSION**

The process of improvement of handwriting requires multiple factors and variables to be kept in mind while tracing the progress of the subject. One of those variables is the time taken to complete the worksheet or activity. The subject in the first intervention required 17 minutes to complete a worksheet. For the second intervention she required 15 minutes, 10 minutes for the third intervention, 12 minutes time for the fourth intervention, 10 minutes time for the fifth intervention and 15 minutes time for the sixth and last intervention. The time taken fluctuated with the difficulty level of the worksheet.

The subject however showed a steady improvement in her handwriting. In the first intervention, 16 letters of the alphabet were not formed properly and appeared to be squeezed together. In the second intervention it was 14 letters that were not formed correctly, in the third intervention it was 8 letters, in the fourth intervention it was 6 words, in the fifth intervention it was 5 words, in the last intervention it came down to 3 words.

### **LIMITATIONS**

The research covered a majority of factors that determine one's handwriting but there are a few limitations to this study. The internal psychological factors of the subject was never taken into account. It has been proven across studies that mental state of a person highly affects their handwriting and body posture.

Secondly, the subject might have been affected by external factors which might have made her physically uncomfortable. There might be internal factors like hunger affecting her progress because most of the interventions were carried out during the lunch break.

Thirdly, the subject might need help to improve in some other domain of her skills for example time management. The interventions allowed her time to write very small portions of text. But in real life scenarios like exams the subject will not receive such flexibility.

Fourthly, not enough time was given to see proper improvement in handwriting keeping the time factor in mind. The study did indicate an improvement in handwriting but it offers no indication that the child will be able to maintain the newly gained skill when there is a time crunch.

Lastly, the subject's attitude towards schoolwork and learning in general was never measured. This factor can have a significant impact on her handwriting.

### **CONCLUSION**

This study was a major learning experience for the teacher trainee because it provided an opportunity to work closely with a child and work towards identifying the problem and actively helping them in improving



themselves. The teacher trainee learnt a lot about how to identify a child who is facing problems in a classroom situation involving at least fifty other students. She also gained experience in researching topics and applying them to help benefit the subject. Even though multiple challenges like time constraint were there, the trainee was able to bring about a positive change in the child.

## RECOMMENDATION

The subject can be given a set time for each activity to see if she can maintain the same handwriting even as she got lesser and lesser time. The subject can be counselled into understanding why she needs to improve her handwriting and made to realise how it will determine major events in her life like career and employment. Instead of giving multiple kinds of worksheets, the subject should be allowed to completely master one kind of worksheet, for example, Capital letters in English before moving on to a new kind, for example words in English.

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