

# Chapter Eight

## Handwriting

**T**he purpose of writing is to convey information to others, express thoughts, record our thoughts for future use, keep records of activities, and record the thoughts of others. Handwriting should provide the writer with a smooth, rapid, and easy means of placing information on paper. If this information is to be meaningful to ourselves and others, it must be legible. Many elaborate methods have been devised to teach writing to children. Handwriting, however, still remains a problem in our culture. In this chapter, handwriting will be presented from a physiological and developmental viewpoint.

Adequate handwriting is the product of the following physical skills:

1. Gross to fine motor movement of the arm, wrist, and hand. It seems logical that before we ask a child to make fine motor movements, his ability to make gross motor movements should be developed.
2. Freedom of movement of the arm, wrist, and hand. Freedom of movement is movement that is unrestricted, natural, and done with ease.
3. Control of arm and hand movement to form letters and make proper patterns without restriction or tension.
4. Directional orientation to meet the demand of the situation, i.e., spontaneous left-to-right sequence of movement.
5. Finger dexterity to properly grasp the pencil.
6. Body balance that is not unduly altered by tension or does not interfere with performance.
7. Interweaving of the right and left halves of the body with the upper and lower sections of the body.
8. Kinesthesia, the ability to feel the patterns of muscular movement as unrestricted movement, is combined with controlled movement to make the forms that comprise our alphabet and words. Kinesthesia is the sensation of muscle-movement patterns developed in the muscles of the body, arms, hands, eyes, mouth, and face as we are engaged in an activity.
9. Writing to translate basic motor skills into meaningful muscle movement patterns resulting in the formation of a letter and then into combinations of letters representing words.

### Emphasis - Product or Process

The usual emphasis on a child has been that of producing a handwriting product that is neat and legible. Little emphasis has been placed on how a child uses his body to produce that product. The product of handwriting is important for ease of communication. The manner, however, by which the child produces his handwriting product is also important to him and his future. Many children may learn to write neatly and with precise clarity. As these children are observed while writing, you will notice that they distort themselves and become tense in order to create their writing product. The following distortions are frequently seen:

- Tilting of the head which interferes with two-eyed seeing.
- Very tense finger movements.
- Tightly drawn letters.
- Twisting of the body which results in unnecessary tension and body warping.
- Moving one eye out of the act by turning the head to one side.

- Combined distortions of body and head.

As a result of the warping of the body and undue tension while writing, a child can develop a visual problem, lose his ability to spontaneously express his creative forces, and learn to hate writing.

Many young men and women who never learned to write with ease and who must write to earn their livelihood, on examination show the following distortions:

1. Distorted body posture.
  - a. One shoulder higher than the other.
  - b. Hips rotated and out of line.
  - c. One leg functionally longer than the other
2. Difficulties in spatial orientation.
  - a. Loss of depth perception.
  - b. Difficulty in using both eyes as a team.
  - c. Focusing problems which prevent clear vision.
  - d. Seeing poorer with one eye than the other.
3. Subjective symptoms.
  - a. Headaches
  - b. Neck and shoulder aches
  - c. Dizziness
  - d. General discomfort
  - e. Irritation directed at themselves and their co-workers.

It is incongruous that when a person becomes an adult, he should maintain the same tension producing patterns that he developed while he was learning a skill. The habit of incorrect posture and resulting tension patterns while writing are the result of exposing children to writing before they have developed basic motor skills needed to produce a writing product. These negative habits may result from judgment and criticism of their writing product from the very first production made by a child. Negative judgment and criticism starts when a first grader's writing paper has red lines drawn over his manuscript writing or when a teacher superimposes the correct way of making the letters over the child's letters. Of course, it is the teacher's aim to help the child by providing him with a contrast with the way he has made the letters to the way they are supposed to be made. That is not, however, the way the child reacts. This method of correction only encourages the child to pull in tightly, both physically and emotionally, and to become resistive and angry. Should he decide to meet the challenge, he will do so by physically distorting himself. These distortions are carried throughout a person's lifetime because even after the skill of writing has been learned, no one then teaches him how to ease off and perform with less tension. When the emphasis is placed on the product only, inefficient habits are frequently built. It is these that are reflected in the body and interfere with performance throughout life.

## **The Head Tilt**

When we observe a child while he is writing, we frequently notice the following:

1. His head will tilt to one side (the left side for the right-handed child; the right side for the left-handed child).
2. His head will be very close to the paper resulting in one eye being closer to the paper than the other.

3. His paper will be positioned to one side of his body's midline. The right-handed child positions his paper to the right of his midline; the left-handed child positions his paper to the left of his midline.

4. He holds his pencil close to the point.

The head tilt, sitting close to the paper, holding the paper to one side, and the tension created by this awkward posture is caused by improper grasp of the pencil. When the child holds his pencil close to the point he must tilt his head and move closer to the paper in order to see the point of the pencil as he writes. Looking at the point of the pencil or pen while writing is necessary to monitor writing in the following ways:

- Writing on the line
- Forming letters properly
- Spacing the letters properly
- Spelling the words correctly

Many adults do not believe that they look at the point of the pencil as they write. Find out what you do as you write by holding the pencil close to the point as you write your name and address on a piece of lined paper. Make sure that you write on the line.

What did you do with your head as you continued writing? How did it feel? Could you feel the tension build up in your neck, back, fingers, eyes? Where else did you feel tension? All adults working with children should put themselves in the child's postural position as he reads and writes to get the sensation of tension that is created in the child as he performs.

The child functioning with this undesirable physical process throws his visual system out of balance by using one eye at a different distance in space than the other. An ocular problem will develop as a result of the tension created in this unbalanced posture caused by holding the pencil too low. The child's visual system might do the following:

- Stop the use of one eye
- Become myopic on one side
- Harm binocular vision
- Develop astigmatism
- Restrict processing of visual data
- Develop combinations of ocular and visual problems

When you start children writing, observe how they sit, hold themselves, grasp their pencil, and position their paper. You will be shocked at the distortions and warps that you will see. Parents say, "I never noticed that before!" Teachers usually say that they have noticed the postural distortions as children read and write, but that they did not know its meaning or what to do about it.

To help a child who has a head tilt and holds his head close to the paper as he writes, have him hold the pencil at a position away from the point, just above the point line. The child may have other problems which cause the restriction of movement; however, helping him understand the need of holding the pencil at a higher place with his fingers will be a good start towards the correction of a problem.

## **Inner Language**

Handwriting is a personal expression of a fine motor skill. A child who cannot meet the exactness for clarity and neatness demanded by his teacher and his parents feels inadequate in this motor area, and will have to build a way of shielding himself from criticism. He will respond to this criticism of his handwriting by either closing off and not attempting to improve or by distorting himself to develop the perfection that will lead to approval.

Unfortunately, the demand for clarity supersedes the interest and concern about what the child is trying to say through his writing. Children, by and large, are more concerned with favorable recognition and approval of their thoughts. They equate this criticism of their handwriting with rejection of their thinking. The teacher and parent working with the child must be cautious to differentiate to the child the difference between a child's message in what he writes and the appearance of his handwriting. Sometimes the teacher can give the child two grades for his written work (if grades are necessary): one grade for the handwriting and one grade for the child's expression of his thoughts. When a child knows that you care about his thinking, he will be more willing to work on developing legible writing to more effectively communicate with you.

Postponing the demand for exact clarity and neatness until a child has developed the motor skills necessary for handwriting alleviates the child's need for distorting both his body posture and visual process or developing negative inner responses to learning. It seems incongruous that while a child is learning a skill he should be critically graded. Room for error and learning must be allowed a child in order for him to develop the skill that will become one of the most important tools in life. He must be taught to evaluate his product against a standard, not only as to its appearance, but also as to his method of production. In the beginning stages the child must be taught to be aware of his physical process so that he will know if he is constricting his body movement or if he is spontaneous and free in his movements while writing.

## **Finger Writing**

When a child has not developed adequate hand, eye, and body skills needed for ease in writing, he may still produce "nice" handwriting by restricting movements to his fingers as he writes. Many children with "nice" handwriting have learned to do so by executing the letters with tight finger movements, restriction of peripheral vision, and drawing of the letters with their fingers rather than as a product of a free flow of arm and hand movement. Their posture is unbalanced and the letters usually appear small and dark from the pressure applied on the pencil. Writing as a product of restricted function and tension defeats the purpose of cursive writing. The child will respond to this restriction of movement by manifesting difficulty in other areas because restriction in one area of performance carries over into other areas of performance.

## **Helping the Child Who Is Already Writing**

To help a child who is already writing, it is necessary to make him aware of his process as he writes: how he sits, where he holds his pencil, how he holds his head, whether or not he is aware of his surroundings (peripheral vision), and the tension that builds up in his hands and body. In order to do this you must have the child give you a writing sample, which is done as follows:

- Have the child sit at his desk.
- Give him a blank sheet of lined paper.
- Give him a soft pencil.
- Ask the child to write his name and address on the paper.

When he finishes, ask him if he saw the room around him as he wrote; where he held the pencil; did he move his fingers, hand, wrist, or arm as he wrote; how close he got to the page; and whether or not he had both eyes looking at the paper.

He is to repeat the writing sample as follows:

- Hold the pencil higher
- Sit in balanced posture
- Aim both eyes at the paper
- Maintain peripheral awareness of his surroundings as he writes.

Have him compare the two products. He will probably note that the second sample is larger, lighter, and shows more space between the letters. Explain that the reason for the change in his writing was because he did it with less tension. Ask him if he thinks that he should work so hard at writing that his energy is consumed in the mechanics of writing leaving little energy for thought processes. Does he think that the mechanics of writing should require little energy and effort thereby leaving the bulk of his energy for thought? The answer is self-evident.

If necessary, have the child repeat the two ways of writing; that is, his habitual tension producing habit pattern and the new pattern without tension. The child will not change unless he can appreciate the need to change; therefore he must feel and see the difference himself. The need to change must be conveyed to him in terms of how he uses energy. It seems wasteful to purposely use more effort than is necessary to do a job. It is also important to keep thought processes open and free to function. In addition to freeing thought processes with proper writing, the child can be told that he will not have to work as hard, his fingers will not get tired, and he will be able to write for longer periods of time without fatigue.

When the child recognizes the difference between the way he writes and how we want him to write, and is willing to change his process, have him practice the activities that follow.

## **Developing Ease in Writing**

The following activities will help a child develop legible handwriting done with ease. These activities also set the stage for effective spelling and reading.

### **Setting the stage for the child**

The following points are to be discussed with the child:

1. Proper grasp—Hold the pencil or chalk about one inch from the point so that you can easily see the point with both eyes.
  - a. When working on the chalkboard, the chalk is to be held horizontally with the tips of the index, middle, ring, and little fingers on the top, the tip of the thumb underneath, and the thumb and index finger pointing toward the chalkboard.
  - b. When working with paper, the pencil is to be held between the thumb, index, and middle fingers with the top of the pencil resting in the crotch of the hand. (Refer to pictures.)

2. Sloped surface for desk work.

Unfortunately, writing is usually done on a flat surface which causes a child to develop tension in the neck and shoulders. A 20 degree sloped board has been recommended from the research done by Dr. D. B. Harmon and the Winter Haven Lions Club project in perceptual training. The slope board is discussed in the chapter on posture, and, if possible, should become a part of the child's armamentarium.

3. Make all movements free, natural, and unrestricted.
4. Feel your arm and hand move and watch your hand as you form the letters and words.
5. Point your eyes at the writing surface and be aware of your surroundings. Maintain a good peripheral visual field while doing the procedure. Do not restrict awareness of your surroundings.
6. Maintain proper posture.

Sitting in a balanced posture and working at the proper distance from his paper will allow a child to use both eyes to see the point of the pencil at a relatively equal distance. He also will have more freedom of movement in his hand and arm and his peripheral vision will monitor his production. This will result in handwriting showing less tension which will be seen as better letter formation, lighter letters because

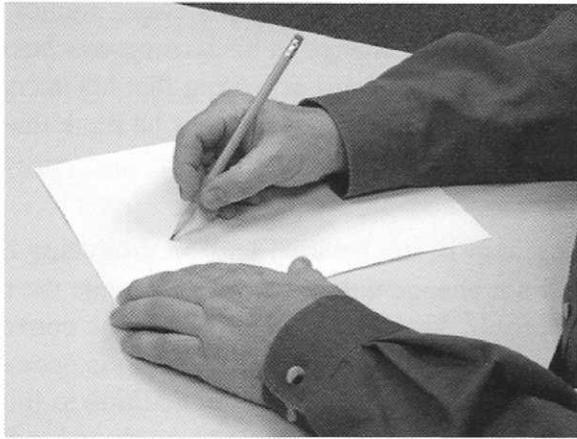


Figure 1

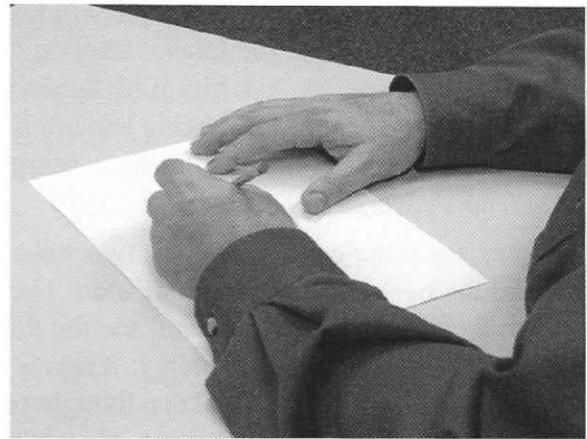


Figure 2

he will not press as heavily on the pencil, and larger letters. Handwriting improves as body tension decreases.

The right-handed teacher must be careful not to expect a left-handed child to hold his paper the same way as right-handed children. Many left-handed children write backhanded because they try to meet the demand of holding their paper in the same orientation as a right-handed child. As a result, the left-handed child who writes this way develops cramps in the wrist and fingers as he writes because his posture is not natural as he attempts to meet the demand of incorrect paper placement and position.

**Proper posture for writing breaks down into the following factors:**

a. Position of paper

The Right-Handed Child

- (1) The top of the paper is angled with the top to the left.
- (2) The paper is held so that the upper left-hand corner of the paper is to the left of the child's midline.
- (3) The line drawn from the upper right-hand corner to the lower left-hand corner of the paper points to the child's midline. (See Figure 1)
- (4) The child's right hand should be held straight with pencil, wrist, and forearm in line with each other.

The Left-Handed Child

- (1) The top of the paper is angled with the top to the right.
- (2) The upper right-hand corner of the paper is to the right of the child's midline.
- (3) The line drawn from the upper left-hand corner to the lower right-hand corner of the paper points to the child's midline. (See Figure 2)
- (4) The child's left hand should be held straight with pencil, wrist, and forearm in line with each other.

b. Position of Hands

The position of a child's hands, as he holds his paper, sends signals of spatial orientation to the focusing and convergence mechanisms of the visual system. When the child holds his non-writing hand at the top of the paper as he writes, accurate spatial clues are projected to his muscular system matching the spatial information being received by his eyes and he functions in an alert and relaxed manner.

When the child holds his non-writing hand at the bottom of the paper, his muscular information will not match his visual clues, causing conflict between the balancing system of his body and his visual system. The convergence mechanism of the eyes will follow the body's signals that the material is closer and call for increased convergence of the eyes. This causes the focusing system to react by providing increased focal power. The result is increased and unnecessary convergence and focal power while writing, causing additional tension. Additional tension results because the counterbalance effect of the non-writing hand is placed on the writing hand.

The writing hand now has two jobs to do:

- (1) Form the letters.
- (2) Support the body to keep it from falling.

Tension is reflected in the child's handwriting as increased pressure on the pencil which is seen as darker and smaller letters and cramped writing.

c. Position of the Hips and Thighs

The child is to sit in his chair with his buttocks pressing into the back of the chair. He is to lean forward and rest his weight on his thighs and hips.

The child who slouches in his seat (thrusts his hips forward) places himself in a tension producing situation.

d. Position of the Feet

The feet should be flat on the floor, pointing slightly outward.

e. Position of the Head

The child's head should be positioned so that each eye is equally distant from the paper. When working on a slope board, the child's head automatically becomes parallel to the work surface. The distance of the child's head from the paper should be equal to the Harmon Distance; that is, the distance from the child's nose to the paper should equal the length of the child's forearm measured from his elbow to first knuckle.

## Training Activities

The chalkboard activities described in the chapter on Training Activities are to be done as readiness or pre-writing activities before the child starts working with letters. These activities set the stage for handwriting by developing the fundamental skills for movement that a child will need to construct letters and words. Specific activities for letter and word formation are to be done after the child has learned to do those activities which develop the feeling for movement, control of movement, and visual monitoring of hand activity. The activities for letter formation start at the chalkboard and when proficiency is demonstrated, then the same activities are to be done at a desk.

The following activities for letter formation apply to both manuscript and cursive writing:

### At the chalkboard

(At this stage, do not have the child make his letters between or on lines.)

1. Make a large letter (about 8 to 10" high) on the chalkboard. Use upper and lower case letters.
  - a. Have the child trace around the letter as if he were actually writing it.
  - b. Have the child move his whole arm in a smooth flow. He is not to inch his way along the letter.
  - c. Have the child develop the sensation of the natural muscle movement for the letter by guiding his arm in the pattern of the letter, emphasizing the natural flow of movement.

2. When the child gains proficiency and smoothness in his movements, make the letters smaller (in stages) until they assume a normal size for the chalkboard.
3. When you see that the child is able to make the letters in smooth, easy, and natural movements, have him make the letters between lines. The lines are to be separated far enough so that the child can still use his whole arm to make the movements. As the child's proficiency increases, make the lines closer together.
4. When the child has mastered all of the above, have him reproduce a letter on command. Have him make the letters larger or smaller.
5. Have the child combine the letters into familiar words and practice the feeling of the movement patterns.

### **At his desk**

When the child has mastered the chalkboard, have him repeat the same procedures at his desk using paper and pencil.

1. Have the child become comfortable and secure when making movements with a pencil on paper by doing the following:
  - a. Have him make large circles and vertical, horizontal, and diagonal lines repeatedly until he gets the feel of it.
  - b. Emphasize proper posture, pencil grasp, and the feeling of ease of movement.
2. Move the child's hand in the pattern of the letters and words. Once he feels the pattern, the same way he did at the chalkboard, he should take over on his own. Use upper and lower case letters starting with large size letters (about six inches) and work down to usual size.
3. Start with unruled paper and then use ruled paper to serve as a control for the size of the letters.
4. Emphasize awareness of peripheral vision. As he is engaged in all activities, at the chalkboard, and at his desk, he is to maintain awareness of his surroundings.
5. Keep competition out of the picture. Do not give rewards to those children who are more proficient.

The development of a skill takes time. What we are proposing takes much more time and possibly inconvenience than routine or usual techniques of teaching handwriting; however, we must never lose sight of the fact that the skill we are teaching must last a lifetime. When something is to last a lifetime, the preparation of its foundation must take longer in development. If we are not willing to take the time, then we must no longer complain about the product.