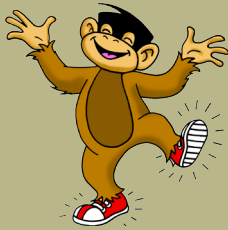


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# Handwriting Resource Book

Manuscript/Cursive

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# INTRODUCTION

Teachers and parents have shown an increasing interest in improving the quality of handwriting. Two of the major problems facing those searching for ways to improve handwriting are the lack of expertise and the limited availability of validated instructional materials. While we all might not agree with the label "national disgrace" that has been applied to the problem (Enstrom, 1970), there is certainly a feeling of inadequacy on the part of many concerned teachers. These teachers feel that their training has not equipped them to conduct a quality handwriting program.

A major reason for the lack of current instructional resources in handwriting was the move to teaching approaches which stressed the integration of handwriting instruction within curriculum areas. The emphasis shifted from writing as a product to writing as a process. "Traditionally, transcription skills (e.g., grammar, punctuation, spelling, handwriting) served as the focus for both regular education classroom teaching and experimental inquiry" (Lynch & Jones, 1988, page 74). But, as stated earlier, that focus shifted from the mechanics to the cognitive processes involved in planning, generating, and revising text. At the same time that this de-emphasis on specific handwriting lessons in the elementary schools has been occurring, there has also been a de-emphasis on handwriting instruction in teacher training programs (Nelli, 1982). As a result, Farris (1991) noted the following:

The decreased emphasis on handwriting in the elementary curriculum has raised ire among not only parents who are concerned with legibility but also junior and senior high teachers who simply cannot read their students' handwritten papers. Such sentiments have been echoed as well by the public at large (page 312).

Schools face credibility problems if they cannot deliver effective instruction in such a highly

visible, basic skill area as handwriting.

Today's teachers are facing new problems that affect handwriting instruction, such as the increasing number of special education students in the regular classroom. It is no longer sufficient for a teacher to be experienced in good developmental instructional procedures. He or she must also be well versed in effective corrective methods in order to handle students with learning difficulties.

Without adequate background in the field of handwriting instruction, a teacher could subscribe to misconceptions and malpractices of major and minor proportions. Inappropriate practices range from using handwriting practices left over from pen and ink days to assuming that the left-handed student can "work it out by himself in time." Assumptions that cursive is naturally faster than manuscript, that manuscript has to be taught first, and that tracing is an important method of handwriting instruction are three common misconceptions.

The following chapters will present instructional methods that have a firm base in research. Many of the practices presented have been field-tested in regular classrooms and with students with disabilities. While no promise is made to make the task of handwriting instruction easy, it is possible for a teacher to reduce unnecessary corrective instruction by following appropriate and well-sequenced instructional procedures.

## The Goal of Handwriting Instruction

Modern handwriting instruction should not be confused with the penmanship drills of previous years. Penmanship drills were often more concerned with the development of a highly ornate and consistent form of handwriting. While the end product was often admired, it was, for many, difficult to attain and left little room for individual expression. Today instructional practices are more pragmatic and individualized. We want handwriting to be functional, i.e., we stress legibility and speed. Brown (1977) has noted:

. . . the primary goal in teaching penmanship is to produce efficiently a free flow of ideas or easily read thoughts onto paper with a minimum of attention to the mechanics of the art (pages 2-3).

The chapters which follow use this goal as a frame of reference. The techniques that are advocated are designed to be consistent with this goal and the research literature. Where the research is inconclusive, the authors have relied on many years of experience with students of all ages, abilities, disabilities, and on the advice of many talented teachers.

# CHAPTER 1

## Handwriting Instruction Techniques and Procedures

It is important that the basic methodology we use to instruct and assess handwriting has strong support in the research literature. In this chapter a brief overview of the core handwriting techniques is provided. The relationship between these techniques and the research literature is discussed.

### Tracing Versus Copying in Letter Formation

Research studies have shown that letter forms are learned better by copying activities than by tracing, in which the letters are gradually faded or parts of the letter are gradually withdrawn. Tracing has some value as a brief, easier intermediate stage prior to the student copying the letter without tracing prompts. Unsupervised practice of inappropriate tracing responses, such as joining the dashed sections in traced letters with short lines rather than using one continuous line to make the letter, should be avoided.

### Use of Demonstrations of Correct Letter Formation

Kirk (1978), in a study of handwriting as rule-based instruction rather than simple motor learning, found that demonstrations and verbal instructions on how to make a letter had a positive effect on copying. Demonstration was shown to be the key element in improved copying and transfer of learning to letters not previously taught. When teaching a new letter, therefore, the teacher should clearly demonstrate the letter being introduced and use clear, consistent directions for letter formation.

### Letter Errors and Illegibility

Newland (1932) found that in cursive writing illegibilities of four letters "a," "e," "r," and "t" contributed no less than 45 percent of all the illegibilities recorded at any age level.

Quant's research (1946) indicated that good letter formation is the most important factor in determining the legibility of cursive handwriting.

Compactness of handwriting and the regularity of slant also were found to affect legibility.

Lewis and Lewis (1965) found that in manuscript writing errors were more frequent in letters in which curves and vertical lines merge (u, f, h, j, m, n, r). Before instruction, left-handed subjects as a group made more errors of all types; and after instruction, they still made significantly more reversals and inversions. The incidence of errors in free writing was greater than in copying letters. Horton (1969) found that the most difficult cursive letters for sixth-grade students were r, h, z, y, s, o, k, j, g, and d.

If a student's specific illegibilities can be diagnosed and remediated directly, this would seem to be a more economical use of time than using a broad approach which focuses on such aspects as slant and spacing. This view is supported in the research. Newland (1932), Horton (1970), and Cole (1936) have all suggested that concentrated drill on an individual's specific errors is the best form of remediation. Stewart (1973) found that a method of handwriting remediation, in which the student practiced only his specific errors, was much more efficient than one in which the focus was on general perceptual-motor ability. This conclusion was also reached by Bergman & McLaughlin (1988) after an extensive review of the literature.

### Handwriting Scales

A number of handwriting scales have been developed using general quality as a measure of handwriting. The student's handwriting in a

sample passage is compared to a number of specimens which have previously been rated. Some scales include a measure of speed. A few scales are described below.

*The Thorndike Scale* (1910) for the measurement of merit of handwriting was developed for cursive handwriting and consisted of sixteen handwriting specimens arranged in order of merit.

The *Ayres Handwriting Scale* (1912) was also developed for cursive writing using legibility as a criterion for judgment.

The *Freeman Handwriting Measuring Scale* (1959) initially used five specific factors as criteria: letter form, uniformity of slant, uniformity of alignment of letters, quality of line, and spacing. As revised in 1959, the scale now measures general excellence. At different grade levels, specimens are given which have been previously rated at five levels.

Hopkins, Schutte, and Garton (1971) devised a system which scored each letter as correct or incorrect on the following measurable characteristics: omissions, substitutions, reversals, degree of slant, relative size of letters, and relative position of letters.

Helwig (1976), Jones (1977), and Trap (1978) have all used transparent overlays to judge correctly made letter strokes in both manuscript and cursive writing. They found that both teachers and students could be trained to reliably use these overlays. This use by students allows for objective and immediate feedback on their own handwriting without requiring a large amount of teacher time.

The *Test of Written Language* (1983), developed to measure various aspects of written language, contains a norm-referenced test of cursive handwriting for students in grades 3 through 8. The most important consideration in the subtest is legibility (Mercer & Mercer, pages 447-448).

Although each of the scales or rating systems has value, few classroom teachers are willing to take the time to use complex rating systems (Bergman & McLaughlin, 1988). A comparative procedure was developed (Hofmeister, 1969) in which each letter from a pretest sample is compared with the

same letter in a post-test sample. A simple plus and minus is used to designate improvement or non-improvement of each letter. In assessing the reliability of this approach, both Watts (1971) and Hofmeister (1969) found this suitable for classroom use.

## Manuscript and Cursive Styles

While some researchers and writers advocate a single style of handwriting, the majority prefer manuscript writing in the first two or three grades and then a change to cursive writing. Otto and Rarick (1968) concluded that *when* the transition is made (early second to late third grade) is less important than *what* is offered in the instructional program.

Gerard (1978) summarizes the research on manuscript and cursive styles of handwriting according to legibility, speed, ease of learning, and transition and found the following:

1. Manuscript writing is more legible than cursive writing.
2. While research on speed is not so clear-cut, manuscript writing appears as fast or faster than cursive.
3. Manuscript appears easier to learn for younger students because easier motor movements are involved.
4. Transition from manuscript to cursive style can occur anywhere from early second to fourth grade. The time when this transition takes place is usually determined by tradition and usage rather than on research data.

## Use of Reinforcement

Stromer (1975) used modeling of correct and incorrect symbol formation, praise, and other forms of feedback to reduce reversals of letters (p for q) and two-digit numbers (writing 31 for 13). Hopkins, Schutte, and Garton (1971) used access

to a playroom to reinforce work rates on printing and writing. They found that this was an effective reinforcer of rate of handwriting and that quality of writing did not show a decrease.

Trap, Milner-Davis, Joseph, and Cooper (1978) used overlays to test the effect of various types of interventions on first-grade students being introduced to cursive writing. As a result of this study, they found the following:

1. Showing and telling the student in what way his letters were not correct increased correct letter formation.
2. Having the student then write the correct letter correctly resulted in a further increase.
3. The chance to earn a Handwriting Certificate of Achievement further increased correct letter formation.

Ten letters were used during the training sessions to provide correction and modeling. Sixteen other letters which were practiced but not "trained" also improved, but not as much as the trained letters.

The use of praise or other forms of reinforcement is an important addition to a handwriting program designed to produce maximum improvement in student handwriting.

# CHAPTER 2

## Getting Ready to Write

### Prerequisite Skills

If a student displays most of the following behaviors, the teacher should consider direct instruction in handwriting. The student:

Has a preferred hand for drawing and painting activities.

Has shown an interest in writing; for example, the student has wanted to trace letters or write his or her name.

Has demonstrated skill in fine motor tasks, such as using paint brushes and crayons.

Can copy simple shapes like circles and squares.

### Pre-writing Activities

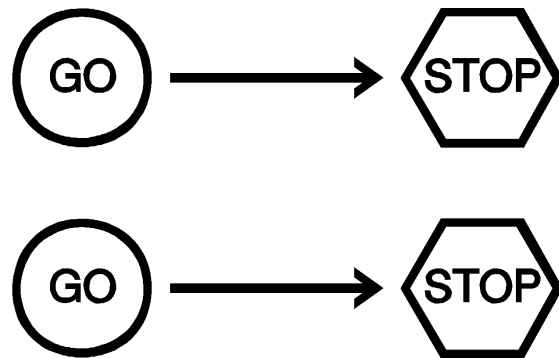
Some activities which may be used to prepare for direct instruction in handwriting include the following:

1. Paint with a large brush with water colors.
2. Trace large, simple pictures to hang when finished.
3. Connect objects on a page by drawing a line from one to the other.
4. Mark a certain object on a page (e.g., put an "X" or mark on the dog).
5. Finger paint, adding sawdust, sand, coffee grounds, cinnamon, etc., for texture.
6. Rub crayons on thin paper placed over corrugated paper, bricks, cement, wood, etc.
7. Arrange pictures in a left-to-right and top-to-bottom sequence.
9. Play dot-to-dot games, scribble, draw, cut,

and paste.

### Introductory Activities

**Left-to-right orientation:** Use games like Looby-Loo and Hokey-Pokey to give practice in left and right discrimination. Have students move play objects from left to right. Draw green "go" and red "stop" signs and have the students draw horizontal lines between the two.



Ask students to complete drawings in which horizontal left-to-right lines are missing.

**Letter formation:** Letter formation is the most important aspect of legibility. The formation of manuscript letters involves vertical, horizontal, and diagonal straight lines; and circles and parts of circles.

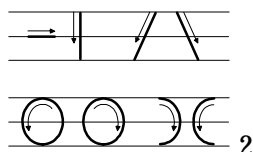
To begin, the student should be given fun exercises drawing lines and shapes on unlined paper to practice the hand movement involved. Later, lined paper can be used. The student can be taught to start and stop on a line for a straight line and to stay between the lines in drawing circles.

Students having extreme difficulty staying within the lines on writing paper may either use commercial paper with raised lines or teacher-made paper with raised lines. Right-Line Paper, produced by Modern Education Corporation, has a raised line superimposed on the printed line so the student can both feel and see the base line.

This raised line paper is available for both wide- and narrow-rule paper (Mercer & Mercer, 1989).

Teacher-made raised line paper may be produced with regular writing paper, glue, and a ruler. The day before the paper is needed, spread a thin line of glue on the desired solid lines of the paper using the ruler as a guide. When the glue dries, it will be clear so the lines are visible.

When using raised line paper, students should be given exercises which allow them to stay within the lines and focus on touching the lines. The shapes shown below represent all the basic shapes that are combined to form manuscript letters.



Introductory activities should be carried out in a relaxed atmosphere and made meaningful for the student by demonstrating how different combinations of the practiced shapes can form different letters. During early instruction, posture and pencil grip should be checked and adjustments made. Particular attention should be given to left-handed students regarding desk height, paper orientation, and pencil grip. For more information on adaptations, refer to Chapter 7, "The Left-Handed Student."

## Evaluation of Readiness Activities

If there is any doubt about a student's readiness for beginning handwriting instruction, a series of well-managed introductory lessons will yield the most valuable data. A significant change in interest and effort may occur when a student realizes he or she is now participating in "real" writing activities.

It is possible to overemphasize readiness activities. In the name of readiness for handwriting, students are often asked to do tasks far more demanding than the writing tasks for which they

are being prepared. The student who spends time doing clockwise and counterclockwise spirals on a chalkboard would be better off writing some of the simpler manuscript letters on paper. The latter tasks would be less demanding in terms of the complexity of the involved motor skills and make infinitely more sense to the student.

## Handwriting Environment and Equipment

Before the student begins formal writing instruction, the teacher should give some attention to the writing environment and equipment. Attention to the environment will maximize the student's learning by reducing stressful body positions, increasing the student's view of the paper, and allowing for free movements of the writing arm, wrist, and fingers.

**Furniture:** The student's desk and chair should be the proper height, allowing the knees to fit comfortably under the desk and the feet to lie flat on the floor. The chair should be placed so the student faces the desk squarely. The desk for a left-handed student should be about two inches lower than for a right-handed student. This helps the left-handed student see what he or she has written.

**Posture:** The student's posture is important for comfort and legibility. He or she should be sitting with feet flat on the floor, back straight, leaning slightly forward, but not touching the desk. The head should be straight, not tilted, with arms resting on the desk about three-quarters of the way to the elbows. Figures 1 and 2 demonstrate correct and incorrect posture (see Appendix A for a full page version of each figure). When working with students, model a range of correct and incorrect positions and ask them to identify the correct and incorrect body positions.

Figure 1. Correct Posture

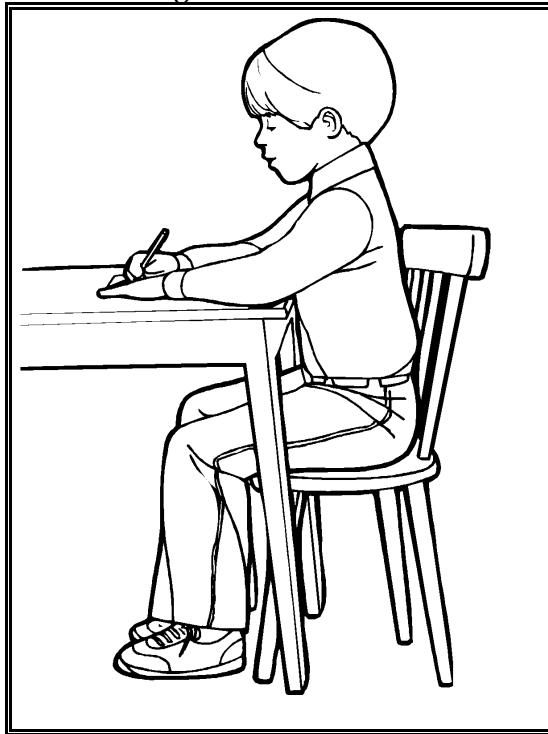
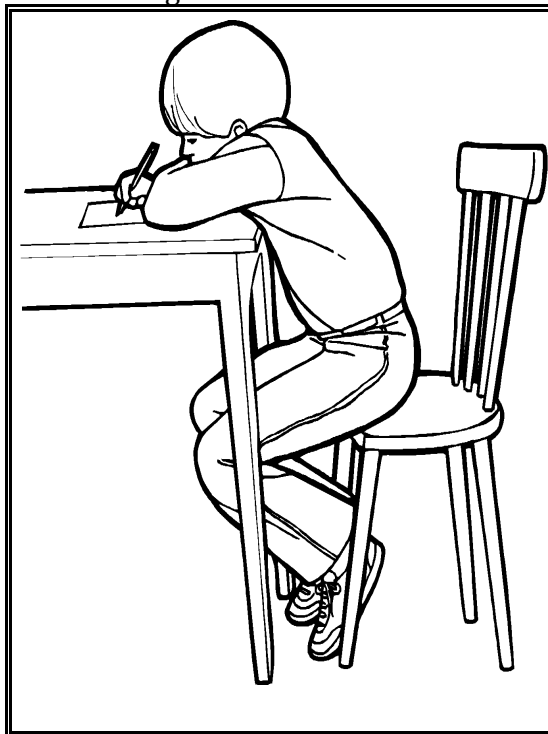


Figure 2. Incorrect Posture



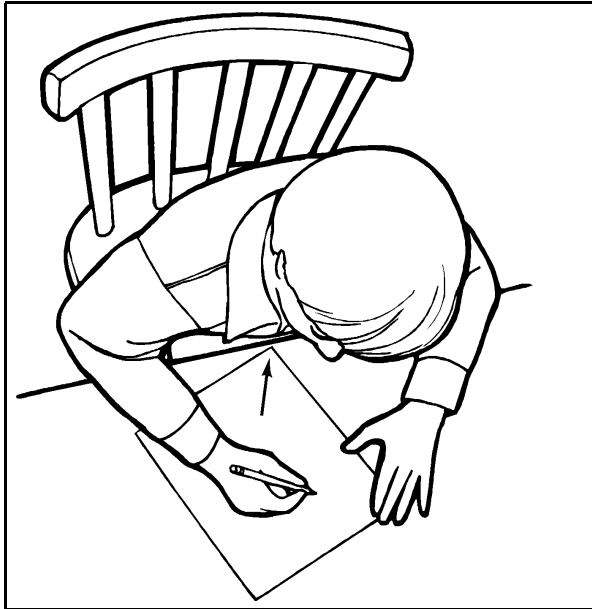
**Paper:** It has been found that oversized writing is not necessary for beginners; for example, writing upper-case letters more than one inch tall has questionable value. Paper with the lines distinctly marked is a help so that the teacher has a guide to use in giving directions; for example, "Start at the top line and go straight down to the bottom line." For a right-handed student, the paper is placed directly in front of the student and slanted to the left. The student should place his or her free hand on the top of the paper to keep it steady on the desk.



For the left-handed student the paper is placed in front of the student's left shoulder and slanted to the right, placing his or her free hand at the top of the paper.



In order to get the student to place the paper at the correct angle, draw an arrow on the writing paper being used. The student is told to keep the arrow pointing at his or her body. For a right-handed student, the arrow is in the bottom left-hand corner.

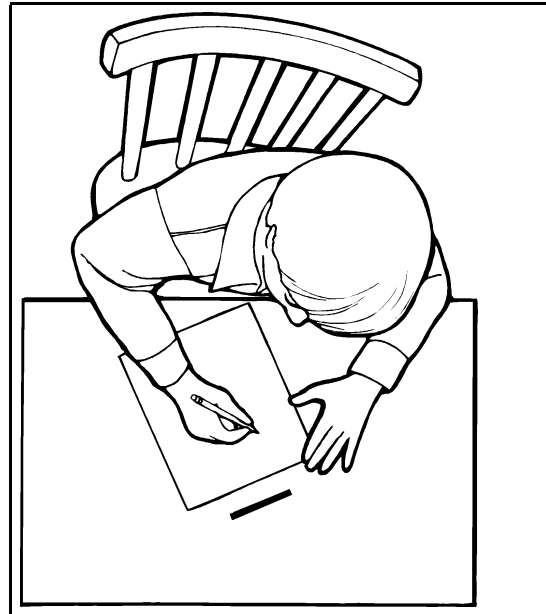


For a left-handed student, the arrow is in the bottom right-hand corner.

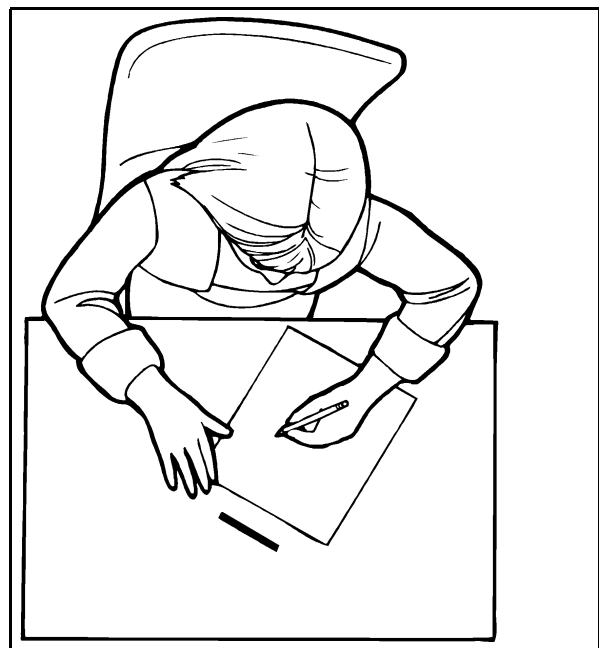


This slant is used for *both* manuscript and cursive.

Another method that can be used to ensure the paper is correctly positioned is to place a piece of masking tape at the proper angle on the desk and ask the student to line up the top of his or her paper with the masking tape. This would be particularly useful for the left-handed writer who may not have the advantage of peer models in the classroom.



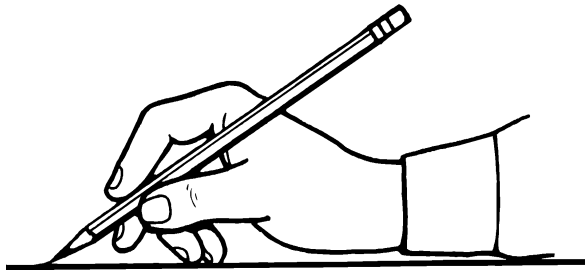
Right-Handed Student



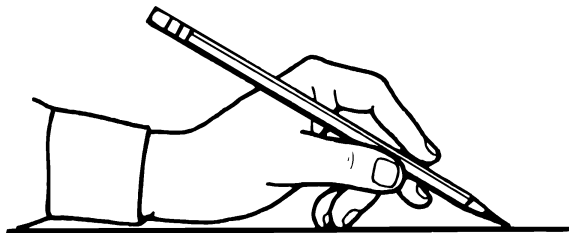
Left-Handed Student

**Pencils and Pencil Grip:** While pencils need to be long enough to be easily grasped, research (Wiles, 1943) has shown that over-sized pencils are not necessary and may even hinder a student's writing. However, soft lead in the pencil may help the student write without exerting undue pressure.

The pencil should be gripped lightly with the forefinger and thumb and should rest on the third finger. The hand should face down. The right-handed student should grip the pencil 1 inch from the point.



The left-handed student should grip the pencil 1 1/2 inches from the point.



The following checklist offers a quick reference guide for determining if the equipment and environment are suitable for handwriting instruction (see Appendix B for a full page version of this checklist). The checklist should be referred to periodically to assure that standards are maintained and to instill habits that will carry over into all handwriting situations.

## HANDWRITING ENVIRONMENT AND EQUIPMENT CHECKLIST

---

**FURNITURE** Is the desk the correct height?  
Is the chair the correct height?  
Is the learner facing the desk squarely?

---

**LIGHTING** Is the light properly positioned?

---

**POSTURE** Are the student's feet flat on the floor?  
Is the student's back straight?  
Is the student leaning forward slightly?  
Is the student's head straight?  
Are the student's lower arms resting on the desk?

---

**PAPER** Is the paper slanted properly?  
Is the student's free hand at the top of paper?  
Is the paper positioned correctly in relation to the learner?

---

**PENCIL GRIP** Is the student gripping the pencil properly?

# CHAPTER 3

## Manuscript and Cursive Alphabet Forms

### Manuscript/Cursive Alphabet Controversy

It is not the intent of this book to trace a detailed research history of the relative merits of manuscript and cursive style alphabets. There are, however, strong proponents of both writing styles. Early (1973) declared:

I want to enter the lists as a strong advocate of the exclusive use of cursive writing in early elementary grades. I am unalterably opposed to the present practice of teaching manuscript ("printing") in the first two (or three) grades, and teaching cursive writing later. I feel that this practice is illogically conceived, that it ignores basic developmental factors, that it is an example of faulty pedagogy, and that the practice is downright harmful to learning-disabled children. I feel quite strongly that manuscript writing should be taught only to freshmen in college who are taking courses in engineering drawing. All other writing should be taught as cursive, beginning with the child's very first writing experiences in the first grade (page 105).

In opposition to the above approach, Plattor and Woestehoff (1971) observed:

The evidence of a growing body of comparative data would seem to support the introduction of manuscript as the writing style in the primary grades and its maintenance throughout the children's educational careers. A transition to cursive writing is complicated by factors which may create unnecessary problems for many children and therefore militate

against a dual program of handwriting instruction. (age 1011)

For most teachers the debate is more academic than practical because they teach to a prescribed curriculum and have little choice in the matter of handwriting style selection. The typical elementary school will teach manuscript in the first two grades and make a transition to cursive at the end of the second grade or early in the third grade.

### Modified Script Alphabet

One approach that is being used to resolve the debate between pro-cursive and pro-manuscript advocates is to develop a modified script. This modified script combines elements of both manuscript and cursive alphabets. This is a common approach to writing in many northern European countries.

The usual approach in teaching with a modified script is to modify manuscript letters to make them more continuous; teach the letters individually and use them unconnected in words; and then add connecting strokes to achieve a modified cursive style of handwriting with minimal modification to the letters.

The following modified script was advocated by Joseph and Mullins (1970):

*a b c d e f g h*  
*i j k l m n o p q*  
*r s t u v w x y z*

Lower Case

*abcdefghijklmnopq*  
*rstuvwxyz*

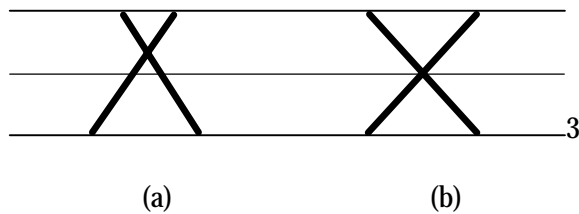
Lower Case Joined

### Conventional Alphabets--Manuscript and Cursive

The majority of teachers use a conventional alphabet; however, there are still some choices to be made in alphabet selection and alphabet instruction. Since there is no nationally accepted standard alphabet, variability may occur in both letter shape and stroke sequence.

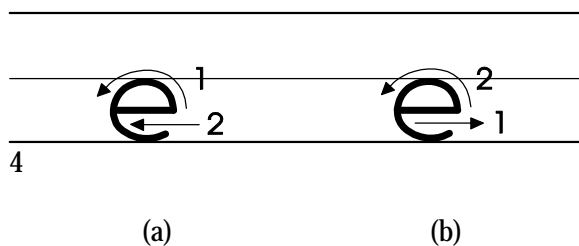
To reduce learning problems, the teacher may adapt existing alphabet styles in the following ways:

**Reduce Discriminations Within Letters:** The manuscript "X" can be written in two ways:



In (a) the two strokes cross slightly above the line; in (b) the cross occurs on the line. The selection of the letter form simplifies the letter since the student does not have to determine what "slightly above the line" means to make a correct letter.

**Reduce Problems in the Transition From Manuscript to Cursive:** The lower-case manuscript letter "e" can be taught as in (a) or in (b):

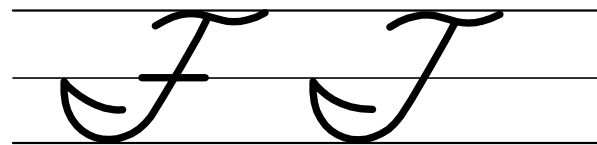


In the latter case the letter production is more consistent with the lower-case cursive letter "e." The transition from the manuscript letter to the cursive letter requires less change.

**Reduce Discrimination Problems Between Letters:** If the cursive capital "F" and "T" are written as in (a), they appear very similar. The two letters can also be written as in (b), and the discrimination between the letters is now easier.

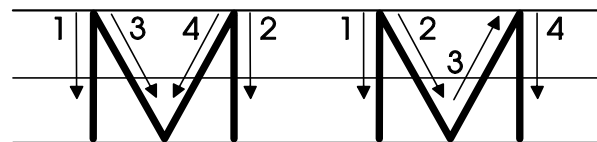


(a)



(b)

**Select Stroke Patterns Which Preserve Left-to-Right Directionality:** Letter reversals are often encountered in early manuscript writing efforts. It is important to preserve a left-to-right flow in manuscript. The stroking pattern for the uppercase "M" can be as in (a), in which the

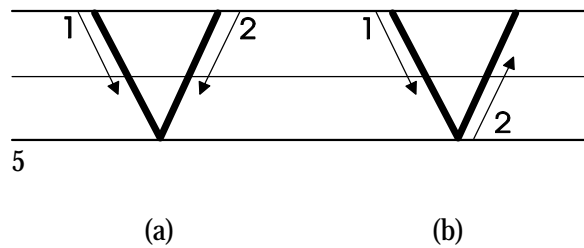


(a)

(b)

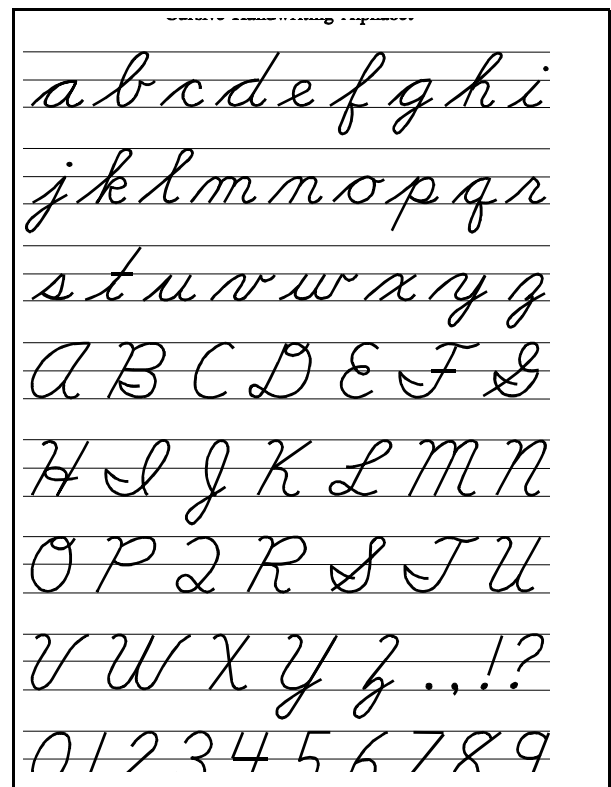
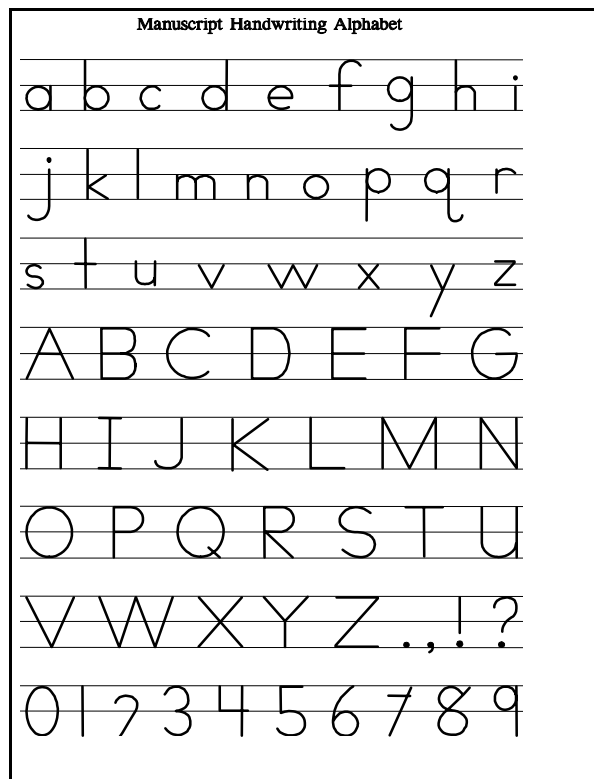
direction changes from "left to right" to "right to left" and back to "left to right." The stroking pattern may also be taught as in (b), in which the flow from left to right is consistent throughout the production of the letter.

**Select Stroke Patterns That Have Long-Term Value:** The manuscript letter "V" can be taught as in (a) or in (b):



In the latter case the letter production is more consistent with adult writing patterns. For many students the first form exists for a short period of time and is lost when the student begins cursive instruction.

The manuscript and cursive alphabets, which follow, represent examples of alphabets that use widely accepted letter forms, but include simplifications and stroking patterns designed to reduce writing problems (see Appendix C for a full page version of each alphabet).



## The Writing of Numerals

In teaching the writing of numerals, both a manuscript form and a cursive form may be taught; or a joint form that is used in both manuscript and cursive situations may be taught. In the case of the joint form, the same numeral forms are used but are written vertically with the manuscript alphabet and are slanted with the cursive alphabet.

0 1 2 3 4 5 6 7 8 9

Manuscript Form

0 1 2 3 4 5 6 7 8 9

Cursive form

0 1 2 3 4 5 6 7 8 9

Joint manuscript form

0 1 2 3 4 5 6 7 8 9

Joint cursive form

# CHAPTER 4

## Starting Formal Handwriting Instruction

This chapter will consider the two major requirements for an effective handwriting program--resources for individual instruction and a systematic instructional sequence.

### Resources for Individual Instruction

Handwriting is a combination of visual-motor and cognitive tasks, and effective instruction requires that classrooms be organized for individual attention while new skills are being taught. Just as a tennis coach tries to supply suggestions immediately to the student learning a new skill, so the handwriting teacher must be prepared to do the same. Correcting handwriting papers after school and handing them back the next day is highly inappropriate for this type of learning.

The classroom should be managed in such a fashion that the teacher is working with no more than five students who are in the critical introductory stages of learning a new handwriting skill. The other students may be practicing handwriting tasks involving consolidation of skills previously introduced.

It is better for the teacher to reduce the amount of handwriting instruction to ensure intense supervision of initial skill development than to conduct poorly supervised instruction in the critical beginning skills. Poorly supervised instruction means that future instructional efforts will require the correction of bad habits--a time-consuming process for the teacher and an unpleasant process for the student.

### A Systematic Instructional Sequence

A teacher needs to have a very clear step-by-step sequence of instructional tasks. The following suggestions will help identify procedures and materials to ensure a clear progression of activities that will meet the needs of all students.

#### **Assessment and Monitoring of Beginning Skills:**

A process is needed that will facilitate the identifying and monitoring of specific habits (posture, pencil grip, paper slant) for the beginning handwriter. Lack of attention to these habits leads to poor writing and results in difficulties for the student and time-consuming remedial activities for the teacher. An inappropriate handwriting habit may be so ingrained after one year that remediation may not be practical. The result may be a student who carries a handicapping handwriting habit for life. With the left-handed student this occurrence is all too prevalent. The use of a checklist, like the *Handwriting Environment and Equipment Checklist* found on page 10, is an excellent way to monitor the development of those important habits related to posture and pencil grip.

**Teacher Description of Letters:** The teacher needs to facilitate learning by determining a consistent vocabulary to use when describing letters of an alphabet to students. For example, using the words "tall letter" or "big letter" may cause students to wonder if the reference is to an uppercase letter or a very large-sized lowercase letter. Also confusing can be the terms "capital" and "small." Use of the terms "uppercase" and "lowercase" is recommended when describing letters of the alphabet to beginning writers.

**Handwriting and Written Expression:** Care should be taken to remember that handwriting differs from written expression and therefore instruction in each area should differ. Since handwriting is basically a visual-motor task that does not require complex cognitive abilities, instruction in that area should concentrate on the visual-motor tasks which include learning to form basic strokes, copying models, and writing without a model.

Written expression, on the other hand, is one of the highest forms of communication. It is a communication process which involves not only handwriting, but spelling, punctuation, language, and organizational skills. It reflects a person's ability to comprehend information, organize thoughts, and convey a message utilizing handwriting as a medium rather than oral language.

**Handwriting Skill Sequences:** Handwriting instruction involves the relatively simultaneous emphasis on two skill sequences:

An *application sequence* stressing the transfer from close-range models to everyday written expression assignments utilizing the chalkboard and texts.

A *motor sequence* in which the student moves from making simple strokes to demonstrating fluency in manuscript and cursive writing.

**The Application Skills Sequence:** This sequence moves from specific, structured instruction in the preskills required for forming letters to the point that handwriting skills are automatic enough they may be incorporated into higher-level written expression activities. Major steps in the application skills sequence include the following:

1. Copying specific shapes and letter forms from a close model, e.g., a model at the top of the page.
2. Copying letters from a distant model, e.g., a model on the chalkboard.
3. Writing with verbal prompts but without a visible model.

**The Motor Skill Sequence:** In this sequence the teacher helps build the student's motor skills for handwriting. Major steps in the motor skill sequence include writing the following:

1. Basic manuscript strokes (vertical, horizontal, and slanted), circles (clockwise and counterclockwise), curves, and dots.
2. Simple lower-case manuscript letters (l, i, t, o, c, x, and v).

3. Complex lower-case manuscript letters (a, b, d, e, f, g, h, j, k, m, n, p, q, r, s, u, w, y, and z).
4. Simple manuscript words.
5. Simple manuscript phrases.
6. Numerals (0-9).
7. Manuscript upper-case letters that are similar to lower-case letters (C, O, P, S, U, V, W, X, and Z).
8. Manuscript upper-case letters that are different from lower-case counterparts (A, B, D, E, F, G, H, I, J, K, L, M, N, Q, R, T, and Y).
9. Simple manuscript words with initial upper-case letter.
10. Punctuation marks (.,!?).
11. Simple manuscript sentences.
12. Manuscript sentences and paragraphs.
13. Basic cursive strokes.
14. Simple lower-case cursive letters (similar to manuscript--a, c, d, g, h, i, j, k, l, m, n, o, p, q, t, u, v, w, x, and y).
15. Complex lower-case cursive letters (not similar to manuscript--b, e, f, r, s, and z).
16. Cursive connections (bottom and middle of line).
17. Simple cursive words.
18. Simple cursive phrases.
19. Upper-case cursive letters similar to their lower-case counterparts (A, C, M, N, O, P, U, V, W, X, Y, Z).
20. Upper-case cursive letters that differ from their lower-case counterparts (B, D, E, F, G, H, I, J, K, L, Q, R, S, and T).
21. Simple cursive words with initial upper-case letter.
22. Simple cursive sentences.
23. Cursive sentences and paragraphs.

**Progressing Through the Skill Sequences:** As

shown in Figures 1 and 2, a matrix can be used to better understand how the skill sequences are applied in manuscript and cursive handwriting.

The point where the teacher initiates instruction would be the box in the upper left of the manuscript handwriting matrix, which would be a combination of Skill 1 from the application skill sequence and Skill 1 from the motor skill sequence. The resulting combination would be the copying of the basic manuscript strokes.

Figure 1. Manuscript Handwriting Matrix

MOTOR SKILL SEQUENCE	APPLICATION SKILL SEQUENCE		
	1. COPYING close model	2. COPYING distant model	3. WRITING without model
1. Basic strokes			
2. Simple lower-case letters			
3. Complex lower-case letters			
4. Simple words			
5. Simple phrases			
6. Numerals			
7. Simple upper-case letters			
8. Complex upper-case letters			
9. Simple words			
10. Punctuation			
11. Simple sentences			
12. Sentences and paragraphs			

The final skill taught would be the box in the lower right of the cursive handwriting matrix, which would be a combination of Skill 3 from the application skill sequence and Skill 23 from the motor skill sequence. The resulting combination would be the writing of cursive sentences and paragraphs without a visible model.

Figure 2. Cursive Handwriting Matrix

MOTOR SKILL SEQUENCE	APPLICATION SKILL SEQUENCE		
	1. COPYING close model	2. COPYING distant model	3. WRITING without model
13. Basic strokes			
14. Simple lower-case letters			
15. Complex lower-case letters			
16. Cursive connections			
17. Simple words			
18. Simple phrases			
19. Simple upper-case letters			
20. Complex upper-case letters			
21. Simple words			
22. Simple sentences			
23. Sentences and paragraphs			

As new visual-motor skills are taught, the teacher should always be alert to ways of applying these skills in everyday activities. The teacher should provide opportunities to apply skills and monitor students closely enough to ensure that new applications are associated with teacher recognition and praise.

# CHAPTER 5

## Instructional Errors and Appropriate Practices

### Common Instructional Errors

The teacher attempting handwriting instruction without guidance may make some procedural errors which would reduce effectiveness. Among these errors are:

Unsupervised handwriting practice while skills are being formed.

Lack of *immediate* feedback to correct errors.

Lack of emphasis on student analysis of errors.

No close-range models of correct letter formation.

Repeated drill of both correct and incorrect letter formation.

Misplaced emphasis on activities of limited value.

There is nothing in current research to indicate that practice alone will improve the quality of handwriting. In fact, the opposite may be true. Unsupervised, massed practice may perpetuate errors and result in a decrease in handwriting quality.

The act of handwriting involves motor movements, so feedback should be as immediate as possible as in most motor training. A delay in feedback often means that the student is allowed to practice inappropriate handwriting skills, making future instruction even more difficult.

One of the most important skills a student should acquire is the ability to compare his or her efforts with a model and to determine the changes required to conform to that model. This skill should generalize and carry over to writing activities beyond those covered in specific

handwriting lessons.

For many students, using models and demonstrations rather than verbal instructions are the primary instructional vehicles. If the teacher uses the chalkboard for demonstration, the possibility of incorrect letter production is increased. The effort required to copy from a distant model is greater than that required to copy from a close-range model. Many young students are not yet capable of copying from distant models.

Even if the student uses a workbook with a model at the top of the page, the possibility of incorrect letter production is increased if the teacher does not carefully monitor the student's writing to ensure the models at the top of the page are used to guide letter production. Typically students who are not receiving close monitoring attempt to complete the writing task as quickly as possible with little concern given to accurate letter formation. Rather than refer back to the top of the page, the student often works down the page using his or her own work and possibly incorrect efforts as a model.

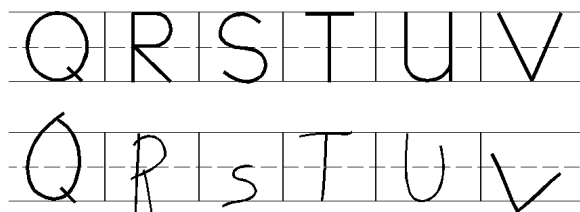
Teachers inadvertently may require the same amount of practice on letters that are done well as on those that are done poorly instead of requiring the student to concentrate only on those letters that require improvement. Therefore, the consequences for the student who is trying to improve his or her handwriting are the same as if the student was not trying at all.

As in all instructional situations, it is necessary to choose the most effective activities to achieve the instructional goal. It is critical that handwriting instruction be intense and effective since there is normally such a short period of time allocated to specific handwriting tasks. In handwriting instruction, demonstration is a more valued activity than unsupervised seatwork. Activities that stress copying are more appropriate than activities that emphasize tracing at the expense of copying.

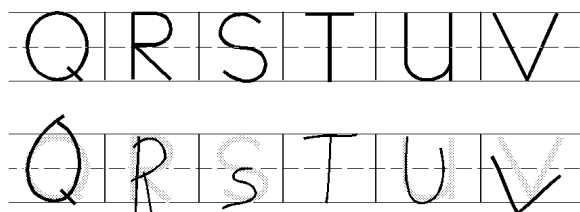
### A Progressive Approximation Approach

A program was developed by Hofmeister (1969) to counteract the six procedural errors which can reduce handwriting effectiveness. The program used worksheets with a model at the top and space for several practice lines below. The models were individual manuscript or cursive letters, numerals, words, short sentences, or the student's name, address, or telephone number. The critical aspect of the program was the instructional procedure associated with use of the worksheet. The major effect of the method was to take the student through a series of progressive approximations towards more legible handwriting. The student who discriminated well and made systematic improvement did not use the entire worksheet. Attempts to always fill the page would have destroyed the proper emphasis on qualitative improvement. This procedure had four major steps:

**Step 1.** The student completes the first line and informs the teacher.

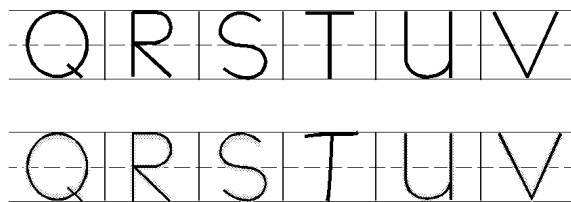


**Step 2.** The teacher corrects by overmarking with a "high-lighter" (light-colored felt-tip marker). Letters which represent significant improvement are not corrected and the student is not required to repeat them. The teacher tries to incorporate as much as possible of the student's efforts in his or her overmarking.

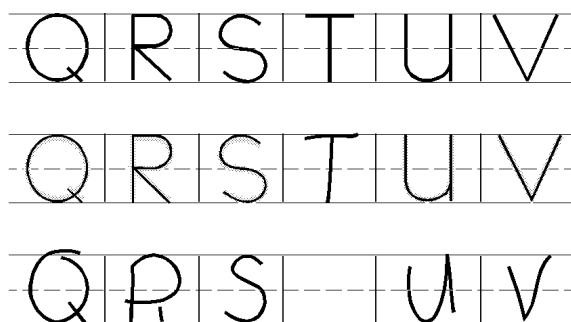


**Step 3.** The student erases incorrect portions of letters and traces over the teacher's overmarking. The student must trace the whole letter, not just

the incorrect portions.



**Step 4.** The student moves to the next line and the same procedure is followed except that the student repeats only the letters which had been corrected on the preceding line.



**Program Effectiveness:** This approach was used successfully with students with moderate and severe disabilities (Hofmeister, 1969). Stewart (1972) conducted a study in which she compared this progressive approximation procedure against a more general motor training approach. Stewart used forty-eight referrals from regular elementary grades and randomly divided them into the two treatment groups. Each group spent the same amount of time practicing its respective methods. The difference in handwriting performance was significant and in favor of the progressive approximation procedure.

**Models:** The procedures for using the worksheet assume that there is a logical progression in the type of skills modeled at the top of each worksheet. The student will typically begin with individual letters and should progress to words and then sentences as soon as possible so that the writing process is as meaningful as possible. For a complete sequence of skills, refer to pages 16 and 17.

**Self-Correction Procedures:** The progressive approximation method is well suited to tutorial and remedial activities when extra teacher time is available. The classroom teacher who wishes to use the technique in a developmental handwriting program with a full class should use some self-correcting procedures to reduce demands on teacher time.

Two of the most common approaches to handwriting self-correction are the use of chemical inks and templates or overlays. Where chemical inks are used, the students use a special pen to copy or trace on treated paper. When the students write outside a zone on the paper, the ink changes color. When templates are used, students write on a paper translucent enough that a template will be visible beneath the paper for self-correction purposes. After writing a line of letters, the student places the template under the line of letters and assesses the degree to which his or her efforts were consistent with the model.

Researchers (Stowitschek & Stowitschek, 1979) have determined that the use of self-correction guides increases the quality of handwriting instruction, makes more effective use of teacher time, and increases the development of students' discrimination skills.

# CHAPTER 6

## Identifying Handwriting Problems

In this chapter suggestions are given for identifying specific handwriting problems and setting remedial priorities. A number of questions are posed; and in seeking answers to these questions, the teacher should cover many of the potential problem areas. In diagnosing problems, no checklist should attempt to replace insightful observation on the part of the teacher. The teacher should also be ready to look past the obvious to underlying problems; for example, it is of limited value to give specific practice in letter formation to a student who is purposely writing illegibly to mask poor spelling.

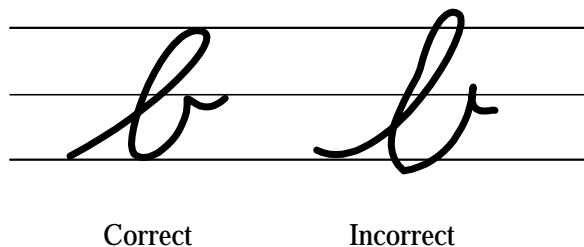
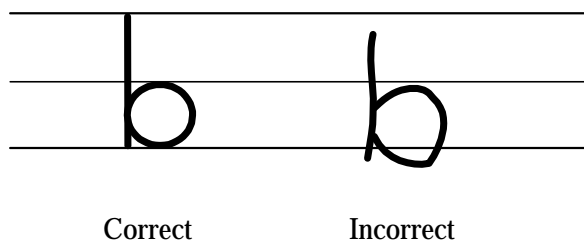
### Identifying Problems

***Will the student write in an acceptable manner in structured teaching sessions but not in unsupervised settings?*** The student who is capable of writing legibly but who has developed the habit of not writing legibly requires intervention. Intervention suggestions are discussed in Chapter 8, "Transitions."

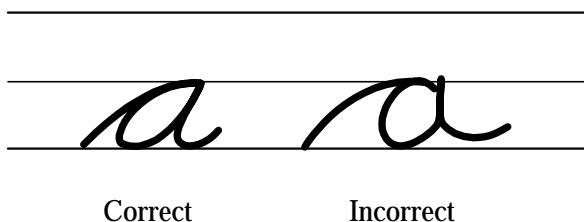
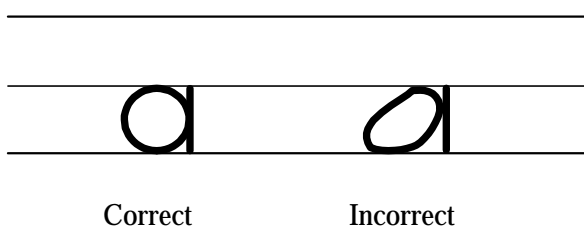
***What specific information can be obtained regarding the quality of the student's handwriting?*** A determination of handwriting quality can be made by taking a sample of a student's handwriting under standardized conditions. Collecting samples under standardized conditions allows the teacher to monitor the student's progress and determine the success of intervention procedures through pre- and post-test assessment. An example of standardized handwriting assessment was developed by Hofmeister (1969). This assessment allows the teacher to collect timed samples of the student's ability to name letters, copy letters from a close-range model, and write

letters without a model. A standardized sample such as this allows the teacher to assess both writing quality and speed. It should be remembered that writing quality is the main concern. Speed, or rate, is a necessary skill but is secondary to quality. In assessing a handwriting sample, the following criteria should be kept in mind:

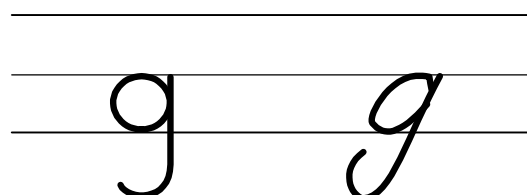
***Correct letter size.*** The letters should touch the appropriate top, middle, and bottom lines. A letter is considered incorrectly written if the stroke of the letter extends above or below the line so that a space appears between the written stroke and the printed line.



***Correct letter form.*** Malformation of individual letters is a major source of legibility errors.

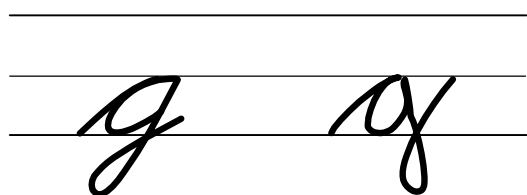


**Correct letter slope.** The slope of each letter should closely resemble the slope of the model letters. Variability in slope among the letters in a word is probably more serious than sloping the letters consistently in an inappropriate direction, particularly if the consistent slope is only a mild deviation from the model.



Correct

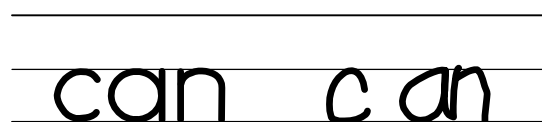
Incorrect



Correct

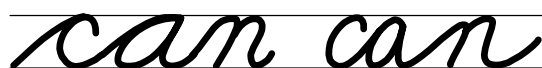
Incorrect

**Correct spacing.** When writing words, there should be appropriate and equal spacing between letters and words.



Correct

Incorrect



Correct

Incorrect

**Rate.** Speed of handwriting can be determined on a handwriting sample by asking the student to write as well and as rapidly as he can. The rate of handwriting, letters per minute (lpm), is figured by dividing the total number of letters written by the number of minutes of writing.

The best measure of an appropriate handwriting rate can be determined by finding the average rate of a sample of students in the class. Another option suggested by Mercer and Mercer (1989) would be to utilize suggested proficiency rates. Zaner-Bloser, for example, recommends the following handwriting proficiency rates:

Grade 125 lpm

Grade 230 lpm

Grade 338 lpm

Grade 445 lpm

Grade 560 lpm

Grade 667 lpm

Grade 774 lpm

**What is the extent and nature of the student's present and past handwriting instruction?** In

many cases a student's lack of progress is associated with a lack of intensive individual instruction. A teacher may feel that because a student participates in a group lesson for a few minutes a day, the student has received appropriate instruction.

The student who is not now receiving or who has not received systematic handwriting instruction in the past may require a different approach than the student who has received intensive handwriting instruction. It is important to identify how much time per day of *specific handwriting instruction* the student is presently receiving. Specific handwriting instruction means that specific tasks are set and supervised through the use of appropriate demonstration and immediate feedback.

After determining the extent and nature of present and past handwriting instruction, it is possible to define the severity of the problem and allocate resources accordingly. The student who has received intensive individualized instruction and still has problems will require extensive remedial resources. This student may also have serious attitudinal problems associated with handwriting instruction. A student who has not received intensive instruction may be helped to improve his or her handwriting with a less extensive instructional program.

***Is the student using appropriate posture, pencil grip, and paper positions?*** Refer to the section "Handwriting Environment and Equipment" beginning on page 7. The degree to which this information will aid intervention will depend on the age of the student. There may be limited success in this area with the older student since incorrect handwriting habits may already be firmly established.

***What resources exist for a comprehensive attack on the problem?*** Because handwriting problems relate to a wide range of home and school activities and are often tied to difficult-to-break habits, a comprehensive attack is needed. The involvement of the parents, other teachers (e.g., in team teaching), and possibly peers will be helpful. Chapter 7, "The Left-Handed Student," provides suggestions for involving others in the intervention process.

***What is the student's level of discrimination?*** One of the most critical aspects of good handwriting instruction is training the student to discriminate appropriate from inappropriate procedures. The level of student discrimination can be assessed in the following way:

Ask the students to critique their own handwriting in the absence of a model. If they have difficulty, ask them to critique with a model visible, such as a template.

Ask the students to criticize themselves with the aid of prompting, e.g., "Look at your pencil grip and tell me if there is anything wrong in the way you hold your pencil." The teacher may also model appropriate and inappropriate paper positions, pencil grips, and posture and ask the students to critique.

***Developing Discrimination Skills.*** An effective way to raise interest and develop discrimination skills was described by Westbrook (1976). She identified twelve common handwriting errors and assigned each a "disease" title. The "diseases" were Giantwryitis (very large words and letters that take up too much room); Tinywryitis (writing that is too small); Frillyosis (curlicues and fancy swirls); Slantwryitis (letters slanting the wrong way); "T"sles and Un-measles (neglecting

the dot and cross for "i" and "t"); Broken Letters (upper- and lower-case a's, d's, g's, k's, p's, and s's, upper-case B's, H's, I's, J's, and R's and lower-case f's and q's often appear incompletely written); Looptheria (unlooped letters that should be or looped letters that shouldn't be); Disjointed Writing (words are not written with one continuous motion, which results in spaces between letters).

Also refer to the progressive approximation approach described in Chapter 5, "Instructional Errors and Appropriate Practices." The procedures outlined in Chapter 5 are designed to develop and maintain discrimination skills.

## Setting Priorities for Remediation

In preparing a remediation program, priorities will have to be assigned. The objective of handwriting instruction is to develop the ability to write legibly in a relaxed manner and at a useful speed. Clearly, the end product has to be legible since handwriting has value only if it serves as an accurate record. Handwriting that is legible but is produced in a time-consuming and painful manner has limited practical value.

Correct letter formation appears to be the most important factor in determining the legibility of handwriting although regularity of slant and compactness of style also make important contributions to legibility.

Time is always a factor in remediation programs. The teacher must select goals that will have the best long-term payoff for the student. Intervention methods must be selected that are intensive and of proven effectiveness.

The teacher whose instructions reflect a concern for the specific subskills of handwriting will be well prepared to prevent problems and identify those problems that do develop. The ability of a student to identify and correct his or her own errors must be assigned the highest priority. The development of this ability requires a consistent and structured effort by the teacher over an extended period of time.

# CHAPTER 7

## The Left-Handed Student

There will usually be at least one left-handed student, and possibly two or three, in each classroom. The left-handed student needs the same attention, help, and encouragement as the right-handed student. The teacher must completely accept the handedness of each student so that there are no feelings of uncertainty or antagonism.

### Detecting Hand Preference

Detecting hand preference is usually not a difficult task. In those few cases where difficulty is encountered, methods such as those suggested by Munroe (1951) and Hildreth (1950) are useful.

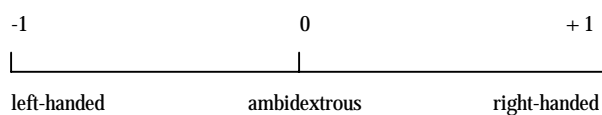
Munroe (1951) used observation of the student's preferred hand in such situations as picking up an object placed directly in front of the mid-line of the body, pretending to throw a ball, threading a needle, combing hair, brushing teeth, eating, and pointing at an object. Having the student actually do these activities may constitute a better test.

Hildreth (1950) suggested observing the student in a number of different situations, counting right- and left-handed usage, and then using the formula:

$$\text{Handedness} = \frac{\text{frequency of use of right} - \text{frequency of use of left}}{\text{frequency of use of right} + \text{frequency of use of left}}$$

or

$$\frac{\text{right} - \text{left}}{\text{right} + \text{left}}$$



Activity	Left	Right
Holds cup	X	
Holds spoon		X
Holds crayon	X	
Holds paint brush	X	
Waves hand		X
Throws ball	X	
Accepts objects	X	
Stacks blocks	X	
Points with		X
Uses scissors	X	
	—	—
	7	3

$$\text{Formula: } \frac{3 - 7}{3 + 7} = \frac{-4}{10} = -.4$$

Some generally accepted ideas regarding handedness are:

- 1.If there is a definite preference for left-handed writing, no attempt should be made to change to the right hand.
- 2.If ambidexterity or no clear-cut handedness is shown, encouragement should be given towards right-handed writing.
- 3.If poor left-handed habits are already established, better left-handed habits should be encouraged.

### Adjustments for Left-Handed Students

Improper left-handed writing habits can impede a student's speed in handwriting as well as limit the

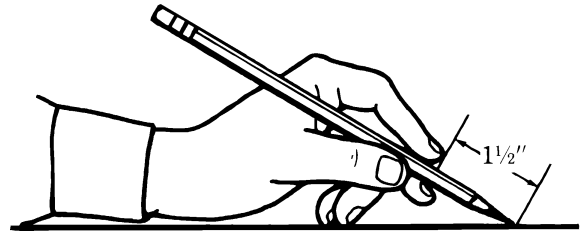
legibility of the writing. Research indicates that on the average, left-handed students reach only four-fifths of the speed of right-handed students. However, with appropriate instruction the left-handed student can achieve the same level of skill as his or her right-handed peers.

The following suggestions should reduce confusion and allow left-handed students to develop handwriting skills consistent with their right-handed peers:

1. Adjust the student's desk approximately two inches *below* normal height.
2. Adjust the lighting over the right shoulder.
3. Place the writing paper in front of the student's left shoulder with the book or reference materials at the upper right-hand side of the desk.
4. Tilt the paper to the right about 30 degrees to the extent that the left forearm approach is over the bottom center of the paper.



5. Grip the pencil farther from the point than the right-handed student (1 1/2").



6. Use a hard lead pencil since the lead will not break or smear as easily.
7. If necessary, allow the student to write cursive letters vertically or slant them to the left.

### Preventing Problems for the Left-Handed Student

The left-handed student is at a disadvantage because the English language is written and read from left to right, and the left-handed student may have difficulty seeing what he or she has just written. The beginning writer is very dependent upon being able to see what has just been written in order to spell the remainder of a word and to complete the sentence in a coherent manner.

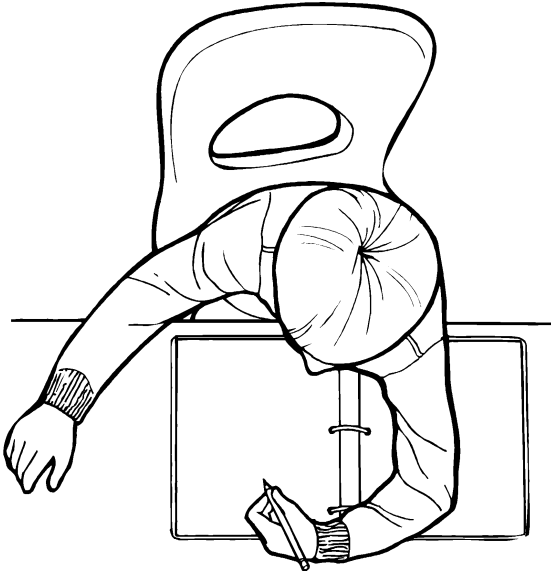
In analyzing the suggestions offered for helping the left-handed student, it is obvious that the major purpose of these suggestions is to allow the left-handed student to see what is being written.

If allowed to devise their own writing style, left-handed students may develop the "hook" position.

In this position the wrist and hand are held above the line being written. Such a position allows the student to see his or her writing, but the cramped position of the wrist and finger limits the flow of movement necessary to achieve a quality of handwriting equivalent to that of the right-handed learner.

Two related practices which are also inappropriate for left-handed students are holding paper in a vertical position and writing on paper held in a three-ring binder. Allowing the

student's writing paper to remain in a binder may force the student to adopt the "hook" position.



One of the most effective ways to prevent the "hook" position from developing is to ensure that the writing paper is always turned with the bottom line making an angle of 30 degrees to the edge of the desk for *both* manuscript and cursive writing. Some handwriting methods advocate having the paper at an angle; others suggest that the paper be vertical for teaching manuscript to both right- and left-handed students. Because a vertical position makes it difficult for left-handed students to see what they have written and because the student is most dependent on seeing his or her writing during the early stages of handwriting, it is recommended that the paper position be the same for manuscript as it is for cursive, i.e., slanted so the bottom line of the page forms an angle of approximately 30 degrees with the bottom edge of the desk. In this position students have a better view of their writing and it is almost anatomically impossible for the "hook" position to develop.

It is important to enlist the support of the parents in helping a left-handed student. At the beginning of a formal handwriting program, the suggestions for parents which follow may be copied and sent home with the left-handed student (see Appendix D for a prepared letter containing the same information.)

### Suggestions for Parents of Left-Handed Students

In school your child uses his or her left hand consistently. Because of this, there are certain adjustments that need to be made to ensure your child will learn to write legibly and quickly. **We will not try to change hand preference to the right hand.**

In any written work done at home, the following may be helpful:

1. Seat your child at a table approximately two inches lower than the height used by a right-handed child.
2. Place the writing paper towards the left-hand side of the desk in front of your child's left shoulder. Place any reference material or papers to be copied to the right of your child's paper.
3. Mark the bottom right-hand corner of the writing paper with an arrow, as shown. Have your child point the arrow towards his or her left shoulder.



4. Make sure your child is holding the pencil at least 1 1/2" from the point.

# CHAPTER 8

## Transitions

### Transition from Copying to Independent Writing

A large amount of time in handwriting instruction is spent in copying and tracing activities with clearly visible models. Even though students may have mastered these activities, they still need systematic instruction to develop independent writing skills. The student must reach a stage where legible writing is an automatic process and letter formation is no longer a conscious, deliberate activity. Only then is the student free to concentrate on the subject area of spelling or of writing a composition or theme.

Some intermediate activities which may be used to facilitate transition from structured copying are:

Present the student with a model. Allow "x" number of seconds for the student to look at the model and then remove it. The student must then write the letter, word, or sentence from memory.

Dictate letters or words and sentences the student is capable of spelling correctly. The student must write them without models being available.

Plan language arts activities in which the student is asked to compose and write captions for pictures, titles for stories, or other short sentences.

Plan compositional activities in which the student is asked to write on a certain subject and must compose and write sentences in an organized manner.

These four activities can be used in manuscript and cursive writing activities.

### Transition from Manuscript to Cursive

For many students who have just mastered manuscript, cursive writing is a confusing jumble of lines. While students are attracted to cursive because of its identification with adult behavior, there are many who encounter severe problems in the transition process. The initial stages of the transition process must be carefully handled to ensure that consistent success experiences build the necessary enthusiasm to carry the student through the process of learning cursive writing.

The first goal should be to reduce the confusing jumble of cursive lines to a rational arrangement.

When the student can confidently recognize cursive letters, letter production can then be taught through an intensive copying approach. To reduce the confusion, begin by initially working with only those cursive letters that are very similar to their manuscript counterparts. By deleting all capital letters and the lower-case letters b, e, f, r, s, z, the remaining twenty lower-case letters can be used to demonstrate the relationship between the two alphabets.

The words initially selected to demonstrate these twenty lower-case letters should be simple three-letter words that are easy to read and spell. An initial list might be cat, can, tan, pin, man. Each student should be given a colored pencil and a worksheet containing the list of words written in cursive. The teacher writes the first word, "cat," in cursive on the chalkboard and explains that there are three manuscript letters hidden in the word. With the aid of participating students, the manuscript letters, c a t, are traced over the cursive letters with colored chalk on the chalkboard. The students repeat this procedure on their worksheets using colored pencils. After the manuscript letters are identified, the word should be spelled and read. As new lists are prepared, words should be used that are simple to spell and read and that contain at least one letter previously practiced. The goal is to build confidence in working with cursive handwriting, and not to test students on reading and spelling.



After the first twenty letters are introduced and practiced, the remaining six lower-case letters can be introduced, and finally, the upper-case letters can be taught.

### Transition to Other Written Activities

It is a major and legitimate concern of teachers that students will produce legible writing during a structured handwriting lesson but then turn in assignments in other subject areas that are barely readable. For these students specific techniques are necessary which will motivate them to transfer good handwriting to other subject areas.

Transition from structured handwriting lessons to other writing activities should include the following practices:

*Periodic check-ups.* The student must retain legibility while increasing his or her speed of writing. Periodic checks by the teacher with reports to the student regarding letter formation, slant, etc., are important.

*Student self-assessment.* The student needs to be able to assess his or her own handwriting and make changes where necessary.

*Reinforcement.* A student will make the effort to write well if there is a reason to do so. Reinforcement, such as praise and noting good handwriting during other activities, will help to motivate students to maintain quality handwriting.

*Overlearning.* Handwriting needs to be overlearned to the point that a student does not have to think about the mechanics of writing and can maintain legible handwriting while concentrating on other aspects of the assignment.

Stowitschek (1978) developed a program to work with students who were capable of writing legibly but did not. Using handwriting samples from other subject areas, the teacher and student together identify problems. Problems might include letters omitted, letters added, letters too large, letters too small, bottom of letters not on line, letters spaced too far apart, letters spaced too close together, letters too slanted, letter lines not connected, and parts of letters missing. The problems were then prioritized and the most serious are worked on first.

# SUMMARY

The Handwriting Resource Book attempts to fill in the gaps in teacher training in the area of handwriting instruction. Many teachers received little direct handwriting instruction or intervention during their own school years and very little formal instruction in the methods of teaching handwriting in their teacher training programs. These teachers now find themselves in the position of being responsible for handwriting instruction and being accountable for their student's proficiency, or lack of it, in this skill area.

The aim of handwriting instruction should be to develop the ability to write legibly in a relaxed manner and at a useful speed. The goal of *formal penmanship instruction* is to impose a very stylized and uniform system of writing on all students. A more up-to-date *functional handwriting system* stresses legibility and speed. After proper instruction in functional handwriting, the student should be able to write freely with minimal attention to the mechanics of letter formation.

It is hoped that teachers will be able to confidently direct their students in achieving legible handwriting when they are given the following:

An awareness of common instructional errors and handwriting problems.

Concrete suggestions for handwriting instruction.

Concrete suggestions for choosing or modifying alphabet forms.

Concrete suggestions for using a systematic instructional sequence.

Since handwriting proficiency affects many areas of the curriculum, it is a skill that cannot be ignored or neglected. The procedures outlined in this book are of such a nature that with proper application, all students can be helped to develop or improve efficient handwriting and achieve a

degree of satisfaction from their written work.

For the teacher who wishes to utilize the techniques presented in this resource book, the Handwriting Kit is available. The kit provides directions, instructor's dialogue, worksheets, charts, and other materials for use in managing the development of manuscript and cursive handwriting skills.

## Looking Ahead

One rationale given for the lack of instructional investments in the teaching of handwriting is the increased use of computers for written communication. Although this practice may be evident, one should not assume that the keyboard will be the only means for information entry. Voice and pen-based entry procedures may replace the keyboard for personal computers. Letters and graphics can already be entered into the computer by using a pen on a pressure sensitive "electronic slate." Computers can accurately translate manuscript letters into printed text. The following comments have been made regarding "pen-based" computing.

"Market analysts forecast that the market for pen-based computing may reach \$3 billion by the year 2,000." (Business Week, May 14, 1990)

"Pen-based portable computers have the potential to be revolutionary." (PC Week, December 2, 1991)

There is every indication that handwriting will be an important form of communication for some time to come, even in the information and computer age.

# REFERENCES

- Askov, E. N., & Greff, K. N. Handwriting: Copying versus tracing as the most effective type of practice. *Journal of educational Research*, 1075, 64, 96-98.
- Ayres, L. P. *Measuring scale for handwriting* (Gettysburg Ed.). Princeton, NJ: Test Division of Educational Testing Service, distributed by Bureau of Educational Research and Service, University of Iowa, Iowa City, Iowa, 1912.
- Barbe, W. B., & Lucas, V. H. Instruction in handwriting: A new look. *Childhood Education*, 74(2), 206-209.
- Barham, G. Writing cursive--It's the real thing! *Instructor*, 74, 71-75.
- Bergman, K. E., & McLaughlin T. F. Remediating handwriting difficulties with learning disabled students: A review. *B. C. Journal of Special Education*, 1988, 12(2), 101-120.
- Berry, A. Readiness for handwriting. *Readiness for reading and related language arts*, a research bulletin of the National Conference on Research in English. Chicago: The National Council of Teachers of English, 1950.
- Brown, G. R. *Handwriting: A state of the art*. Research paper. The Winnipeg Schools, Division 1, 1977.
- Brune, J. H. *Testing the effectiveness of a programmed course in handwriting conducted as inservice education by a professional association*. Doctoral dissertation, University of Illinois at Urbana-Champaign, 1971. Ann Arbor: University Microfilms No. 72-12, 106.
- Burns, P. C. *Improving handwriting instruction in elementary schools*. Minneapolis, MN: Burgess Publishers, 1962.
- Cieslicki, V. L. Working with children with handwriting problems. *Academic Therapy*, 1980, 15, 591-596.
- Cole, L. W. A successful experiment in the teaching of handwriting by analytic methods. *Journal of Psychology*, 1935-36, 1, 209-222.
- Currie, A. B. Handwriting instruction for left-handed children. *Orbit*, 1980, 6, 6-8.
- Early, G. H. The case for cursive writing. *Academic Therapy*, 1973, 9, 105-108.
- Enstrom, E. A. The relative efficiency of the various approaches to writing with the left hand. In A. M. Johnston & P. C. Burns (Eds.), *Research in elementary school curriculum*. Boston: Allyn and Bacon, Inc., 1970.
- Enstrom, E. A. Those questions on handwriting. *Elementary School Journal*, 69, 327-333.
- Enstrom, E. A. The decline of handwriting. *Elementary School Journal*, 1965, 66, 22-27.
- Enstrom, E. A. Handwriting, a sorry plight. *Contemporary Education*, 70, 133-136.
- Erlebacher, A., & Herrick, V. E. Quality of handwriting today and yesterday. *Elementary School Journal*, 1961, 62, 89-93.
- Farris, P. J. Views and other views: Handwriting instruction should not become extinct. *Language Arts*, 1991, 68, 312-314.
- Feldt, L. S. The reliability of measures of handwriting ability. *Journal of Educational Psychology*, 1962, 53, 288-292.
- Forster, R. M. *An experiment in teaching transitional cursive handwriting by educational television with teacher attitude toward the teaching of handwriting as a factor*. Doctoral dissertation, Ohio University, 1971. Ann Arbor: University Microfilms No. 71-22, 959.
- Freeman, F. N. A new handwriting scale. *Elementary School Journal*, 1959, 59, 218-221.

- Freeman, F. N. An analytical scale for judging handwriting. *Elementary School Journal*, 1975, 13, 25-40.
- Freeman, F. N. Handwriting. In W. S. Munroe (Ed.), *Encyclopedia of educational research*. New York: Macmillan, 1941.
- Gerard, J. A. *An investigation into the efficacy of a task analysis model for the diagnosis and remediation of handwriting problems of the learning disabled*. Doctoral dissertation, Boston College, 1978. Ann Arbor: University Microfilms No. 78-13, 775.
- Groff, P. J. Who are the better writers--the left-handed or the right-handed? *Elementary School Journal*, 1964, 65, 92-96.
- Groff, P. J. New speeds of handwriting. *Elementary English*, 1961, 38, 564-565.
- Hammill, D. D. Problems in writing. In D. D. Hammill and N. R. Bartel (Eds.), *Teaching children with learning and behavior problems*. Boston: Allyn and Bacon, Inc. 1975.
- Helwig, J. J., Jones, J. C., Norman, J. E., & Cooper, J. D. The measurement of manuscript letter strokes. *Journal of applied behavior analysis*, 1976, 9, 213-236.
- Hildreth, G. *Readiness for school beginners*. New York: World Book Co., 1950.
- Hirsch, E. *The effects of letter formation practice and letter discrimination training on kindergarten handwriting performance*. Doctoral dissertation, University of California, Los Angeles, 1978. Ann Arbor: University Microfilms No. 73-13, 143.
- Hirsch, E., & Niedermeyer, F. C. The effects of tracing prompts and discrimination training on kindergarten handwriting performance. *Journal of Educational Research*, 1978, 67, 81-85.
- Hofmeister, A. *Teacher's guide: DLM handwriting program*. Niles, IL: Developmental Learning Materials, 1981.
- Hofmeister, A. Let's get it write! *Teaching Exceptional Children*, 1973, 6, 30-33.
- Hofmeister, A. *An investigation of academic skills in trainable mentally retarded adolescents and young adults*. Doctoral dissertation, University of Oregon, 1969. Ann Arbor: University Microfilms.
- Hopkins, B. L., Schutte, R. C., & Garton, K. L. The effects of access to a playroom on the rate and quality of printing of first- and second-grade students. *Journal of Applied Behavior Analysis*, 1971, 4, 77-88.
- Horton, L. W. Illegibilities in the cursive handwriting of sixth graders. *Elementary School Journal*, 1970, 70, 446-450.
- Horton, L. W. *An analysis of illegibilities in the cursive handwriting of 1,000 selected sixth-grade students*. Doctoral dissertation, Ohio State University, 1969. Ann Arbor: University Microfilms No. 69-22, 148.
- Hughes, H., Jackson, K., Eric Dubois, K., & Erwin, R. Treatment of handwriting problems utilizing EMG biofeedback training. *Perceptual and Motor Skills*, 1979, 48, 603-606.
- Jackson, K. & Hughes, H. Effects of relaxation training on cursive handwriting of fourth-grade students. *Perceptual and Motor Skills*, 1978, 47, 707-712.
- Jackson, K. O. *A comparison of remedial treatments for cursive handwriting in fourth-grade students*. Doctoral dissertation, Texas Women's University, 1979. Ann Arbor: University Microfilms No 80-12, 168.
- Jones, J. C., Trap, J., & Cooper, J. O. Student's self-recording of manuscript letter strokes. *Journal of Applied Behavior Analysis*, 1977, 10, 509-514.
- Joseph, F., & Mullins, J. A script to supplant cursive writing or printing. *Teaching Exceptional Children*, 1970, 23-24, 29-32.
- Kirk, U. *Rule-based instruction: A cognitive approach to beginning handwriting instruction*. Doctoral dissertation, Columbia Teachers' College, 1978. Ann Arbor: University Microfilms No 78-10, 888.

- Lewis, E. R., & Lewis, H. P. An analysis of errors in the formation of manuscript letters by first-grade children. *American Educational Research Journal*, 1965, 2, 25-35.
- Lynch, E. M., & Jones, S. D. Process and Product: A review of the research on LD children's writing skills. *Learning Disability Quarterly*, 1989, 12(2), 74-86.
- Mendoza, M. A., Holt, W. J., & Jackson, D. A. Circles and tape: An easy teacher-implemented way to teach fundamental writing skills. *Teaching Exceptional Children*, 1978, 10, 48-50.
- Mercer, C. D., & Mercer, A. R. *Teaching students with learning problems* (3rd ed.). Columbus, OH: Merrill Publishing Co., 1989.
- Minkoff, H. Teaching the transition from print to script analytically. *Elementary English*, 1975, 203-204.
- Munroe, M. *Growing into Reading*. Chicago: Scott Foresman, 1951.
- Nelli, E., Penmanship: Neglected tool in teacher preparation. *The Teacher Educator*, 1982, 18 (2), 26-32.
- Newland, T. E. An analytical study of the development of illegibilities in handwriting from the lower grades to adulthood. *Journal of Educational Research*, 1932, 26, 249-258.
- Otto, W., & Rarick, G. L. *Effect of time of transition from manuscript to cursive writing upon subsequent performance in handwriting, spelling and reading*. Madison, Wisconsin Research and Development Center for Cognitive Learning, 1968.
- Palloway, E. A., Patton, J. R., Payne, J. S., & Payne, R. A., *Strategies for teaching learners with special needs* (4th ed.). Columbus, OH: Merrill Publishing Co., 1989.
- Plattor, E. E., & Woestehoff, E. S. Towards a singular style of instruction in handwriting. *Elementary English*, 1971, 12, 1009-1011.
- Pomeroy, J. P. *The relationship between selected Piagetian spatial concepts and legibility of manuscript handwriting*. Doctoral dissertation, Arizona State University, 1971. Ann Arbor: University Microfilms No. 71-26, 588.
- Quant, L. Factors affecting the legibility of handwriting. *Journal of Experimental Education*, 1946, 14, 297-316.
- Rakes, T. A., & Choate, J. S. *Language arts: Detecting and correcting special needs*. Needham Heights, MA: Allyn and Bacon, Inc., 1989.
- Seward, B. H. Teaching cursive writing to ESL students. *English Language Teaching Journal*, 1972, 169-178.
- Sorensen, M. R. Write on! Creative handwriting in the classroom. *Language Arts*, 1977, 54, 294-296.
- Stewart, K. Two approaches to handwriting instruction. *Slow Learning Child*, 1973, 20, 142-146.
- Stowitschek, C. E., & Stowitschek, J. J. Evaluating handwriting performance: The student helps the teacher. *Journal of Learning Disabilities*, 1979, 12, 203-206.
- Stowitschek, J. J. Applying programming principles to remedial handwriting practice. *Journal of Special Education Technology*, 1978, 1, 21-26.
- Stowitschek, J. J., & Stowitschek, C. *Correcting handwriting difficulties*. Nashville: George Peabody College for Teachers, 1975.
- Stromer, R. Modifying letter and number reversals in elementary school children. *Journal of Applied Behavior Analysis*, 1975, 8, 211.
- Stott, D. H. A strategy for remedial handwriting. *Special Education: Forward Trends*, 1977, 4, 20-22.
- Tagatz, G. E., Otto, W., Klausmeier, H. J., Goodwin, W. L., & Cook, D. M. Effect of three methods of instruction upon the handwriting

- performance of third- and fourth-graders. *American Educational Research Journal*, 1968, 5, 81-90.
- Thorndike, E. L. Handwriting. *Teachers College Record*, 1910, 11, 386-389.
- Towle, M. Assessment and remediation of handwriting deficits for children with learning disabilities. *Journal of Learning Disabilities*, 1978, 7, 370-377.
- Trap, J. J., Milner-Davis, P., Joseph, S., & Cooper, J. O. The effects of feedback and consequences on transitional cursive letter formation. *Journal of Applied Behavior Analysis*, 1978, 11, 381-394.
- Watts, L. *Reliability of a rating system of handwriting improvement*. Unpublished master's thesis, Utah State University, 1971.
- Westbrooks, L. K. Prescription for ailing penmanship. *Teacher*, 1976, 100-106.
- Westbrooks, L. K. More prescriptions for ailing penmanship. *Teacher*, 1977, 59-66.
- Weiderholt, J. L., Hammill, D. D., & Brown, V. *The resource teacher: A guide to effective practices*. Boston: Allyn and Bacon, 1978.
- Wiles, M. E. Effect of different size of tools on the handwriting of beginners. *Elementary School Journal*, 1973, 43, 412-413.
- Wiles, M. E. *The effect of different size of tools on the handwriting of beginners*. Unpublished doctoral dissertation, Harvard University, 1940.
- Wright, J. P., & Allen, E. G. Ready to write! *Elementary School Journal*, 1975, 4, 430-435.

# APPENDICES

# APPENDIX A

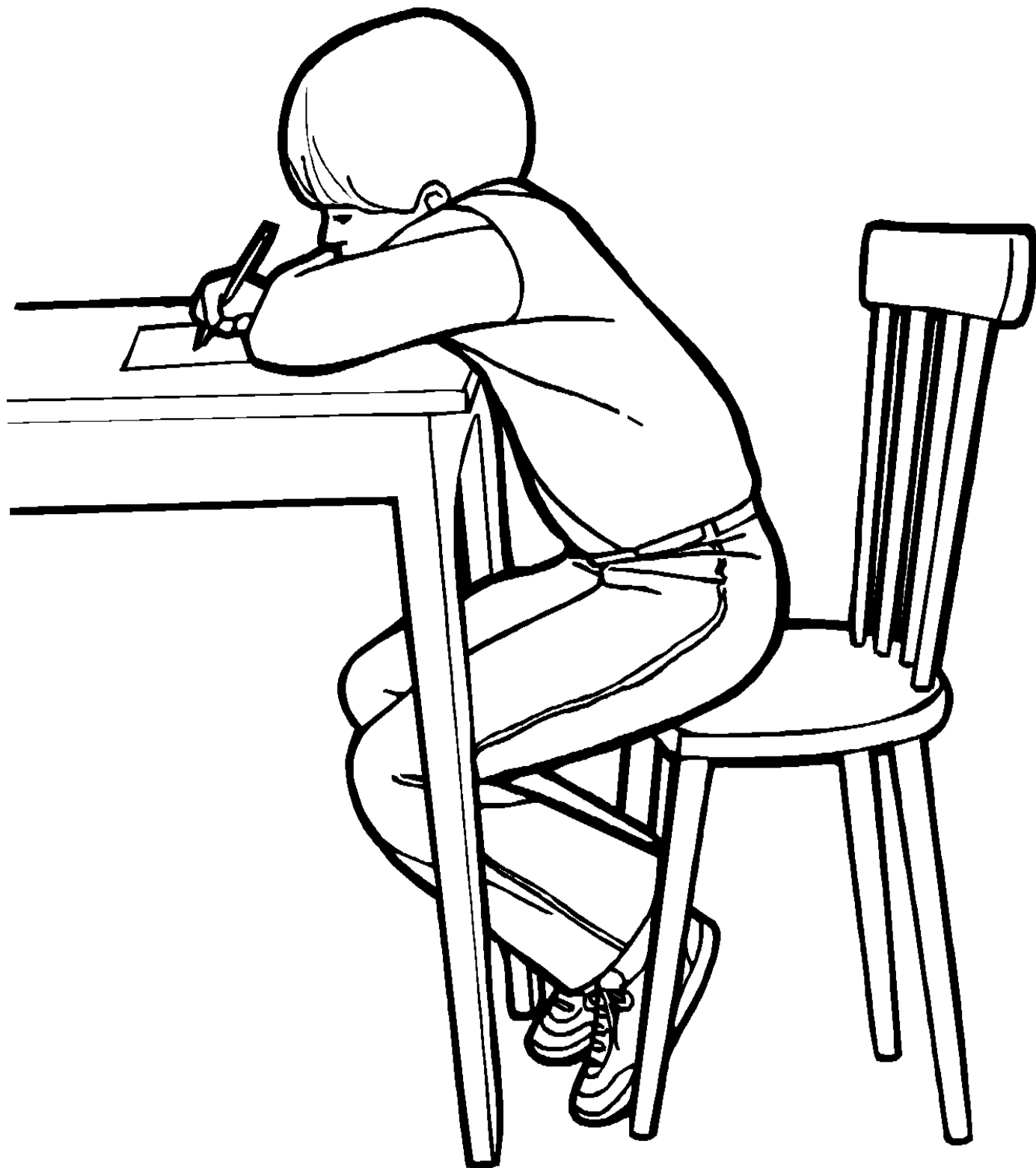
## Posture Charts

Correct Posture





Incorrect Posture







# APPENDIX B

## Handwriting Environment and Equipment List

# HANDWRITING ENVIRONMENT AND EQUIPMENT CHECKLIST

	CHECKPOINTS	RECOMMENDATIONS
FURNITURE	<p>Is the desk the correct height?</p> <p>Is the chair the correct height?</p> <p>Is the learner facing the desk squarely?</p>	<p>The writing surface should be approximately 2" lower for left-handed students.</p> <p>Learner's legs should fit under desk comfortably.</p>
LIGHTING	<p>Is the light properly positioned?</p>	<p>No shadows on paper; light over left shoulder for right-handed student; over right shoulder for left-handed student.</p>
POSTURE	<p>Are the student's feet flat on the floor?</p> <p>Is the student's back straight?</p> <p>Is the student leaning forward slightly?</p> <p>Is the student's head straight?</p> <p>Are the student's lower arms resting on the desk?</p>	<p>Hips should touch back of chair.</p> <p>Student's body should not be leaning against the desk.</p> <p>Student should not "tilt" his/her head.</p> <p>3/4 of lower arm should rest on the desk.</p>
PAPER	<p>Is the paper slanted properly?</p> <p>Is the student's free hand at the top of paper?</p> <p>Is the paper positioned correctly in relation to the learner?</p>	<p>Paper of the right-handed student should point to midpoint of body; paper of left-handed student should point to left shoulder.</p> <div style="text-align: center;">  <p>Right-handed</p>  <p>Left-handed</p> </div>
PENCIL GRIP	<p>Is the student gripping the pencil properly?</p>	<p>Pencil held with fore-finger and thumb; resting on third finger; other two fingers on desk?</p> <p>Right-handed students grip pencil 1" from point; left-handed students grip pencil 1 1/2" from point. Student should not grip pencil too tightly.</p>

# APPENDIX C

Manuscript and Cursive  
Handwriting Alphabets

a b c d e f g h i j

k l m n o p q r s t

u v w x y z

A B C D E F G H I J

K L M N O P Q R S T

U V W X Y Z . , ! ?

0 1 2 3 4 5 6 7 8 9

## Cursive Handwriting Alphabet

a b c d e f g h i

j k l m n o p q r

s t u v w x y z

A B C D E F G

H I J K L M N

O P Q R S T U

V W X Y Z . , ! ?

0 1 2 3 4 5 6 7 8 9

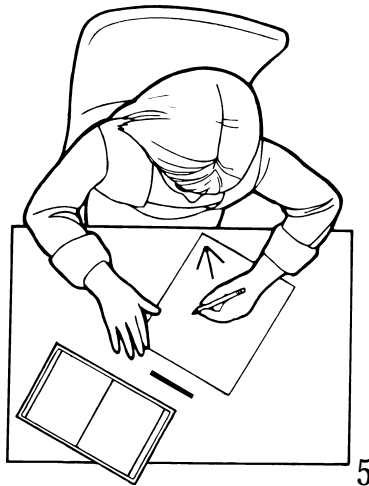
# APPENDIX D

Letter for Parents of  
Left-Handed Students

To the parents of \_\_\_\_\_:

In school your child uses his or her left hand consistently. Because of this, there are certain adjustments that need to be made to ensure your child will learn to write legibly and quickly. **We will not try to change hand preference to the right hand.** In any written work done at home, the following may be helpful:

1. Seat your child at a table approximately two inches lower than the height used by a right-handed child.
2. Place the writing paper towards the left-hand side of the desk in front of your child's left shoulder. Place any reference material or papers to be copied to the right of your child's paper.
3. Mark the bottom right-hand corner of the writing paper with an arrow, as shown. Have your child point the arrow towards his or her left shoulder.



4. Make sure your child is holding the pencil at least 1 1/2" from the point.

If you have any questions or need further assistance, please contact me during school hours at \_\_\_\_\_.

Sincerely, \_\_\_\_\_