

*Frederick County Public Schools
Frederick, Maryland*

Pre-K and Kindergarten Handwriting Resource



<http://fcps.org/boez.htm#board>

July 2003

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Introduction/Purpose

In the past five years there have been many changes in pre-kindergarten and kindergarten classrooms. Through research on brain development and an understanding of the importance of early learning experiences as well as through increased availability of early childhood infant/toddler/preschool experiences, the expectations within the early childhood classroom have greatly risen. The focus on reading and accompanying writing in the early childhood years has moved pre-kindergarten and kindergarten students to early involvement in journals and draft books, with many students engaged in these experiences from the very beginning of the school year. It has become apparent that letter formation can either hinder or help the writing process.

It is imperative that teachers use every opportunity to assist students in acquiring the prerequisite skills for writing as well as practice correct **pencil grasp*** and letter formation. Without these skills, there cannot be **automaticity** when students begin to write. This lack of **automaticity** will slow down a student's ability to generate writings. The issues that get in the way of these two ideals are:

- **Teacher lack of professional development or training in handwriting** - Many teachers who have taught for over ten years received training in handwriting in college, While other areas in reading and writing have received much attention, few newer teachers are familiar with the importance of constant modeling of letters.
- **Lack of time**- The early childhood day now has so many new or increased expectations, handwriting is often not emphasized.

The following resource was written to assist the classroom teacher in a number of ways. It will offer information on the developmental stages of writing, strategies for developing the prerequisite skills for handwriting, suggestions for struggling students, and ideas on how to infuse writing into the pre-kindergarten and kindergarten day. Through **implicit** teaching for all students, and **explicit** teaching for those who need further guidance, handwriting will become less of an issue in the early childhood classroom.

***Bolded** and **highlighted** terms are defined in the Glossary (pg. 32).

Stages of Development

Pre-printing strokes usually develop in a specific sequence. However, while there are general age guidelines for when each stage develops, children will individually vary in the amount of time needed to pass through each stage. The information below offers some general developmental information:

- **Ages 1 and 2-** The child engages in random scribbles. As the child gets closer to age 2, the scribble will often develop a very distinct direction-horizontal, diagonal or vertical. This is most often done in imitation of an adult's writing. At this stage, the child is not 'copying' or reproducing a specific shape from a picture. The child is 'imitating' or reproducing a form after watching someone else draw it first.

- **Ages 2 and 3-** The child can copy vertical and horizontal lines. As the child becomes nearer to age 3, circles may also be copied.

- **Ages 3 and 4-** The child can imitate and then copy a cross or a plus sign. By age 4, the child may be able to imitate and then copy a square.

- **Age 5-** The child can imitate and copy a triangle. Once this is clearly established, children are capable of learning to print.

Given these developmental levels, it is apparent that most children will not enter kindergarten having mastered printing. The time in both pre-kindergarten and kindergarten should be spent building the foundation of prerequisite writing skills.

Sources: "*The Development of Pre-Printing Skills.*" found on <http://www.skillbuildersonline.com> last visited July 21, 2003.

Pre-requisite Skills



Before students are instructed in correct letter formation, they should have developed skills that are pre-requisites for handwriting. These skills include:

- ability to cross the **midline**
- ability to use two hands
- understanding of directional terms
- ability to recognize similarities and differences in forms
- hand dominance
- functional pencil grasp
- ability to copy lines and shapes

The following section offers specific strategies for incorporating pre-requisite handwriting skills into the early childhood classroom.

Ability to Cross the Midline

"Children process language in the frontal lobe of the brain's left hemisphere. They process verbal information into receptive and expressive vocabulary. The left brain is the area where information is organized, sequenced and analyzed. Combining these skills with the creativity of the brain's right hemisphere creates a balanced approach to developing essential skills for communication, reading and writing."

(Adapted from Brain-Based Activities for Young Learners by Ellen Booth Church)

The ability to cross the **midline** of the body is a brain-based developmental function that requires coordination within the brain and collaboration between the brain's two hemispheres. The two sides of the brain (the left and right) each control different functions. They must work together when an activity requires movement to cross over the **midline** of the body, thus engaging the whole child. These skills are prerequisites for the development of hand-eye coordination and visual perception tasks such as reading and writing. With our focus on handwriting, a student's ability to cross the **midline** becomes a necessary prerequisite for writing. To facilitate development of crossing the **midline**, students should participate in the following activities:

- **Tying Shoes:** In order to tie one's shoes, a student must be able to cross the **midline** and use both hands to complete this task.
- **Handwriting Exercises:**
 - **Windshield Wipers:** Arms above head, cross straight arms ten times like scissors then put bottom arm over top hand and do ten more.
 - **Scissor Cuts:** Same as windshield wipers only arms are pointed straight down with palm up.
- **Daily experiences:** Students zipper their coat, button their pants or tie their shoes.
- **Balancing:** Students build with blocks and use both hands to balance their structure.

- **Lacing cards:** Students lace, weave or sew using cards.
- **Cross-Crawling Obstacle Course:** The teacher creates an obstacle course with things for students to crawl in and out of, over and under, up and down. Remind students to move opposite hands and feet when they crawl. (Crawling is one of the first **midline**-crossing activities babies learn. It is always helpful to go back and practice those skills.)
- **Mini-Movements:** Roll out paper on the floor and tape it in place. Invite students to find a place alongside the paper where they can lay on their stomachs to paint. Using finger paint, students will make a variety of tiny movements with their fingers that matches the rhythm of music being played.
- **The Cross-Crawl Limbo:** Play the traditional game "The Limbo," holding a stick in the air. Ask students to form a line and find a way to go under the stick without bumping it. Each time through, lower the stick. Eventually, the students will have to crawl forward on their stomachs to get beneath the pole.
- **What a Racquet:** The teacher will help students make a racquet by stretching a wire hanger to form a diamond shape. Stretch stockings across the diamond and tape at the bottom. Use the racquets to play a game like Badminton where students hit a ball or birdie back and forth to a partner. Have students start out close together and then move farther and farther apart.
- **Turtle Crawl:** After discussing turtles, challenge students to crawl like turtles around an open space. Put on some music and watch the students discover how to crawl with a shell on their back.

Sources: Brain-Based Activities for Young Learners by Ellen Booth Church, "Handwriting Exercises" http://knox.link75.org/bcs/OTwebsite/Handwriting_exercises.html last visited July 21, 2003.

Ability to Use Two Hands

As students begin to gain strength and progress with their hand development, they also begin to naturally use both of their hands to complete a task and gain **bilateral hand skills**. This is the ability to use one's hands together to accomplish a task. One hand leads and the other assists. The development of hand dominance determines which hand is preferred and which hand assists with a task. Examples of this prerequisite skill include:

- 1) holding a piece of paper with the **non-dominant hand** and using the **dominant hand** to write with a pencil or
- 2) holding a piece of paper with the **non-dominant hand** and using the **dominant hand** to cut with a pair of scissors.

To ensure that students acquire the ability to use two hands, the teacher should incorporate the following activities into the classroom:

- **Tearing paper:** Students will create art projects by tearing paper into small pieces instead of using scissors.
- **Cutting with scissors:** Students cut paper with scissors, starting with basic lines and then moving to more complex shapes.
- **Tracing letters:** Students will use stencils to trace objects, shapes and/or letters.
- **Making letters:** Students will make letters using yarn, shoestrings or wax-coated string.
- **Gluing objects:** Students will glue small manipulatives to a letter. (Glue popcorn to the letter P or beans to the letter B.)
- **Stapling paper:** Students will staple papers together while making books or packets to encourage the use of both hands.
- **Punching holes:** Students will use single-hole punchers to make designs on paper.
- **Wringing out sponges:** Students will wring out sponges to increase muscle development. This activity could be located at the water table during centers.

- **Sewing and lacing:** Students will use string or yarn to sew letter cards.
- **Stringing beads:** Students will make pattern necklaces by stringing colored beads onto kite string.
- **Performing finger plays:** Students will sing songs that require the use of both hands such as "Where is Thumbkin?"
- **Clapping:** Students will use both hands to clap syllables in words or to clap to the beat of a song.
- **Constructing with blocks:** Using Legos®, blocks or Popsicle sticks, students will use both hands to create a building.
- **Handwriting exercises:**
 - **Mickey Mouse Ears:** Place fists next to ears, squeeze, and then open and close the fingers. Complete the activity 10 to 15 times.
 - **Door Knob Turns:** Arms in front of you, elbows slightly bent, move wrists from side to side as if you are opening a doorknob. Move wrists to the right and then to the left.
 - **Finger Opposition:** Hold fingers next to ears and have the students touch their thumb to each finger and back again. Complete 10 to 15 sets.
 - **Butterflies:** Hold arms straight in front of your body and make an X with thumbs, palms facing down to resemble a butterfly. Make small circles 10 times to the right and then 10 times to the left.

Sources: "*The Development of Pre-Printing Skills*" at <http://www.skillbuildersonline.com> last visited July 21, 2003.
 "*Handwriting Exercises*" from [Brain-based Activities for Young Learners](http://knox.link75.org/bcs/Otwebsite/Hendwriting_exercises.html) by Ellen Booth Church at http://knox.link75.org/bcs/Otwebsite/Hendwriting_exercises.html last visited July 21, 2003.

Understanding of Directional Terms and the Ability to Recognize Similarities and Differences in Forms

Following directions is necessary and inherent in all aspects of formal education. Understanding of directional terms becomes important in handwriting for fostering left to right directionality in writing. Students need to develop the understanding, as they learn to read and write English independently, that they begin at the left side of the page and progress to the right side of the page.

In addition, students need to develop the ability to recognize similarities and differences in form and line through visual discrimination and perception skills. Students should be encouraged to recognize form and line, describe their characteristics, and identify the forms as letters. By participating in activities that require matching, finding differences between lines and forms, locating missing parts, and talking about what they notice, students reinforce visual discrimination skills that assist them in the abstract task of writing.

The teacher's role is to model writing as a process, inherent throughout each school day. During the writing process, students should observe both the formation process of letters including basic strokes as well as the finished products of writing letters or words. By incorporating writing across the curriculum, students will realize the importance of writing and the purpose for learning this valuable skill.

In order to acquire the prerequisite skills of understanding directional terms and the ability to recognize similarities and differences in form and line, teachers can provide opportunities for students to strengthen these abilities by incorporating the following activities into their daily routines:

- **Simon Says:** Students will increase their listening skills and enhance their directional skills by participating in a game based on directions,
- **Classroom Routines:** Teachers set up routines from the very beginning of the year, which assist students in following directions and sequencing events throughout the year.

- **Drawing:** As students draw pictures, teachers ask questions that focus attention to similarities/ differences (Ex. - "How do you know those are both people?" "Why is this shape your dad and this shape your mom?" "What makes the dog different?")
- **Read Aloud:** Teachers point to text as they read aloud to students, modeling left-to-right progression so students understand and visualize left-to-right directionality.
- **Labeling the Room:** Encourage students to label objects in their classroom and compare classroom objects for similarities/differences.
- **Following Recipes:** Students follow directions in a sequence by completing step-by-step recipes,
- **Writing Stories:** Students dictate stories as the teacher records their ideas in a sequential format, modeling for students the visual cues of writing from the left to right.
- **Choral Read:** Students read along with the teacher, following a pointer to focus on print read from left to right.
- **Parquetry Shapes:** Students use geometric, wooden shapes to make objects following a pattern card.
- **Puzzles:** Students build puzzles according to the shapes that look similar to other puzzle pieces. They sort through each puzzle piece to find the shape that they need to make the pieces fit together.
- **Sorting:** Students discriminate among objects according to size, shape, color, etc.
- **Straight Line/ Curved Line Exploration:** Students manipulate commercially-made wooden, plastic or foam pieces, cut into big and small lines and curves, to form letters.

Sources: *"Handwriting in an Early Childhood Curriculum"* by Linda Leonard Lamme
"Helping Hands: A World of Manipulatives to Boost Handwriting Skills" by June M Naus

Hand Dominance

Hand dominance is the natural tendency for human beings to favor one hand over the other. It requires coordination of the small muscles in the hand to properly control a writing tool. This skill facilitates efficient use of the hands. The **dominant hand** develops skills and precision to perform fine motor tasks while the **non-dominant hand** supports and assists with the task.

Natural-handedness should be determined before students begin to write. In order to develop **hand dominance**, teachers need to provide students with opportunities to explore hand preference. As a precursor, students must develop their small muscles, which aid in fine motor skills. The following activities will increase hand strength (Miller and Decker, 1989):

- Tearing paper to make art projects.
- Using plant sprayers to water classroom plants.
- Gathering small objects from around the house (buttons, beans, beads) and placing them in a small container. Students use tweezers or tongs to place the items back into the container.
- Using a meat baster to have a cotton ball race across the table.
- Using eye droppers to transfer water from one container to another.
- Singing finger play songs and rhymes with your students, using their fingers to act out the rhyme.
- Finger painting with Jell-O on a paper plate.
- Stringing popcorn, buttons and beads to make necklaces.

The following activities will encourage **hand dominance** (Naus, 2000):

- **Playing "Simon Says"**: The teacher gives directional clues to students to observe hand preference. Ex. - "Put one hand on your head."
- **Sequencing**: The teacher will direct the students to use only one hand when sequencing items.
- **Cutting with scissors**: Students cut out pictures from newspapers or magazines that have a black marker line drawn around the picture to provide a guide for cutting.

- **Drawing with stencils, templates, or a ruler:** Students use their **dominant hand** to write and their **non-dominant hand** to hold the object being drawn or traced.
- **Using a pencil sharpener:** Teachers can observe the students' **hand dominance** by observing which hand the student uses to turn the crank.
- **Opening containers with lids:** Students demonstrate hand preference by holding the container with one hand and using their **dominant hand** to remove the lid.
- **Using wind up toys:** Students use their **dominant hand** to wind up the toys as they play with them.
- **Wearing a bracelet or ring as a reminder:** Place a visual clue on a student's hand so he/she can remember with which hand to write.

Left-handed Students

The development of hand dominance is essential for a child's development. Ten percent of the population is now left-handed. Left-hand dominant students may pose a special challenge to teachers during handwriting instruction, as it may be difficult for right-handed teachers to instruct/help left-handed students with handwriting and pencil grasp. Research suggests that teachers should introduce the same small muscle activities to develop and observe students' handedness. However, as instruction begins, it is recommended that teachers group left-handers together for handwriting instruction or, if possible, provide left-handed students with left-handed adults to model the correct pencil grasp and formation of letters. Instructing the students together will provide opportunities for the students to observe each other, share their concerns and problem-solve independently.

When writing on a flat, horizontal surface, left-handed students should tilt the paper so that the upper left corner is higher and the **non-dominant hand** is holding the paper steady. This assists the left-handed writer in keeping their wrist straight and inhibits writing in the hooked position.

Having a Functional Pencil Grasp

Before being able to hold and control a writing tool, students must be able to coordinate movement and have control over the small muscles of the hand. Small muscle coordination activities should be a part of handwriting instruction. For struggling students, the following activities may be helpful:

Using manipulatives :

- Jigsaw puzzles
- Legos®
- Tinker Toys®
- Snap beads

Playing with small toys:

- Cars
- Miniature gas stations
- Transformers
- Doll furniture

Molding with:

- Clay
- Sand
- Play-dough
- Silly Putty®
- Papier-mâche

Using "daily experience activities":

- Zipping
- Buttoning
- Sewing
- Screwing lids on small jars
- Screwing nuts and bolts
- Typing
- Tying knots and bows
- Playing a piano

Practicing art skills:

- Coloring
- Drawing
- Sketching
- Tearing paper
- Folding paper
- Cutting paper with scissors

Once students have developed small muscle coordination, introduce a variety of "hand tools" requiring a variety of grasps. These tools can be incorporated into a sand or water table. Include items such as:

- Sponges
- Funnels
- Straws
- Squeeze bottles
- Sieves
- Strainers
- Tongs/ Tweezers
- Containers of different shapes/sizes
- Sticks
- Shovels
- Pails

Once students are ready to move on to using writing tools, they can begin using markers or felt tip pens. These two tools are easy to use because students do not need to apply pressure to get results. All too often, crayons are introduced and used as beginning writing tools. However, students are required to use more pressure when writing with a crayon than with markers or felt tip pens to get colorful results. After students have had practice using markers, pens and crayons in a variety of activities, they should be introduced to using pencils.

Primary or "fat" pencils are often used in kindergarten classrooms. Traditional thinking was that these were the most beneficial types of pencils for young writers to use. However, current research (Lamme, 2000) suggests there is no real advantage to giving students primary pencils. In fact, some students write better using regular adult-sized pencils or smaller "golf pencils". Regular sized pencils with soft lead are the most useful tools for students to use. These regular pencils make grasping easier, which results in smoother, clearer strokes.

Pencil grasp refers to how a student holds a writing implement. It is important that students learn how to hold a writing tool correctly from an early age. Incorrect grasps are very hard to change. As a student's hand muscles become stronger, he/she should naturally develop an increasingly more effective **pencil grasp**. The development of an effective and correct **pencil grasp** will improve a student's ability to learn to print.

Initially, students will hold a writing tool with a closed fist. This is commonly referred to as a **power grasp**. When using a **power grasp**, students move their writing tool by moving their shoulder. This is considered to be an inefficient grasp because:

- Students use a lot of energy to perform this grasp which causes their hand and arm to become fatigued
- This particular grasp prevents students from forming symbols/letters that require small, precise movements

By the age of four, most students will have progressed through a number of different grasps. As their hand muscles get stronger, students begin to place their fingers in different ways on the pencil until they develop a more effective **pencil grasp**. The most efficient grasp is called the **tripod grasp**. This grasp consists of the following steps:

- A student holds the pencil with three fingers - the middle, the thumb and the index fingers.
- The pencil is resting on the knuckle of the middle finger while being pinched between your thumb and index finger.
- The ring and "pinky" finger are bent and rest on the table.

This is considered to be an efficient grasp because:

- It requires less energy to perform, which causes a student's hand to become less fatigued.
- It allows for the greatest amount of movement and precision, which makes it easier for students to form symbols/letters that require small precise movements.

If students have difficulty using a correct pencil grasp, encourage practice using the following writing tools:

- Small/broken pieces of crayons and chalk
- Primary crayons
- Primary-sized markers
- **Adaptive pencil grips**

Adaptive grips are used to position fingers correctly on the pencil. It is very important that students only use these grips for a short period of time each day. These short time periods will give students a chance to get used to the feeling of a new grasp without making them feel discouraged.

Source: "*The Development of Pre-Printing Skills*" at <http://www.skillbuilderonline.com> last visited July 21, 2003.

The Ability to Copy Lines and Shapes/Basic Strokes

Once a student begins to develop **eye-hand coordination** and **pencil grasp**, they will begin to use these skills to scribble. Eventually, a student's scribbling includes the use of basic strokes to form definite shapes and pictures. Before receiving formal handwriting instruction, students must be able to form basic strokes smoothly, in the appropriate direction and with clean, precise intersections. The following are examples of **basic strokes**:

- Vertical lines
- Horizontal lines
- Diagonal lines
- Circles
- Partial circle strokes

It is very important that students learn to make these particular strokes from top-to-bottom and from left-to-right.

One way for teachers to observe the appearance of **basic strokes** is to study a student's drawings, because circles and straight lines occur naturally in artwork. A teacher can observe if a student can form circles and lines, how smoothly the strokes are drawn and how precisely the lines and circles are connected. Teachers can check to make sure that the circles are round and closed and that the straight lines intersect properly. Observe student's drawings for body parts attached to bodies, kites attached to strings, etc. Until these basic strokes appear in a student's drawings of people, houses, flowers, etc., the student is not ready for formal handwriting instruction. The following activities give students an opportunity to practice using **basic strokes**:

- Drawing
- Painting
- Stirring
- Sand play
- Water play
- Finger painting
- Filling in the missing parts of pictures/letters
- Connecting dots
- Tracing
- Drawing lines to connect matching pictures on paper/chalkboard

Although it is very important that teachers examine their student's artwork to observe the use of **basic strokes**, teachers should keep in mind that students should not receive formal instruction in basic strokes while creating a work of art. These strokes evolve through time and experience, which enhances a student's creativity as well as their handwriting.

Sources: "*Handwriting in an Early Childhood Curriculum*" by Linda Leonard Lamme
Helping Hands: A World of Manipulatives to Boost Handwriting Skills by June M. Naus

Implicit Vs. Explicit Teaching

As writing in journals and draft books have become an expectation in the kindergarten program, it is important that there are daily opportunities for teachers to model correct letter formation. As with many other skills, some students will need only the model and time for guided practice, while others may need direct assistance. Teachers need to use their 'kid-watching' skills to decide which students need additional interventions. It is therefore important to implicitly teach correct letter formation to **all** students, while using **explicit** teaching for those few students who may need direct instruction.

Remember: Instruction of "how to" **before** correction of "how not to".

Implicit: It is imperative that teachers model correct letter formation in all areas of the classroom. Morning Message, charts, labels and instructions around the room, dictations on chart paper and comments on student work are all opportunities for the teacher to model correct handwriting. Teachers should also 'think aloud' and verbalize how one makes the hand strokes while forming letters on the white/chalkboard and chart paper when writing in front of a group of students. (Ex. -"To make this upper case letter 'N', I see that it's made up of three big, straight lines. Then I remember it starts at the top left and I make one big straight line down to the bottom. Next I pick up my pencil and go back up to the top and make a second big straight line diagonally down to the right. And last, I pick up my pencil again and start at the top right, drawing the last big, straight line down to touch the diagonal line at the bottom.")

For many students these activities will naturally lead to correct letter formation for many of their letters. In order to reinforce what is being modeled, students should have multiple daily opportunities to write in the air, write on the rug, sing songs about correct formation, write on small chalkboards, write on large chalkboards, make letters out of their bodies, etc. Students should also be encouraged to talk about and critique their letter formation. Discussions should encourage students to talk about which letters look most like the teacher's, which N is their best N and why they think so, what strategies they used to form that letter, etc. This can occur during total or small group, with the teacher facilitating the group activities and discussion and the students practicing letter formation.

Explicit: As the teacher implicitly models, teaches and provides multiple opportunities for students to engage in and practice correct letter formation but observes students' continued incorrect letter formation, it may be necessary for the teacher to specifically instruct the student on the correct formation of specific letters. This **explicit** instruction *should only occur if the student has demonstrated the necessary pre-requisite skills (see pg. 6-19)*. The instruction should be specific, brief and individualized. It can occur during a mini-conference with an individual student on a work sample or at the beginning of a small group lesson where only those students in the small group are experiencing similar letter formation issues. For example, "Let me show you how the lower case "t" should look. It starts at the top and you draw a straight line down. Then lift your pencil and slide right across the middle." It is important that the teacher not overwhelm the student by correcting more than one letter at a time. It is also important that the student engage in one-on-one conversations with the teacher that engage the student in self-critiquing his/her letters and letter formation. For example, a teacher might ask, "Of the three 'N's you just made, circle the one you think is your best work." Talk with the student about why he/she chose that circled letter.

Students also need to be given specific tips on how to solve a particular problem, such as where to grasp the pencil. Place rubber bands on a pencil at the appropriate place when a child is having an issue with **pencil grasp**. The **explicit** instruction needs to be structured around what the teacher observes the student doing incorrectly, and the development of accompanying strategies to solve the student's individual problem.

In the pre-kindergarten and kindergarten classrooms, there is no place for formal handwriting instruction that utilizes repetitive drills and practice on specific letters. Instead, students should be introduced to formation through the aforementioned modeling and guided practice, followed by specific assistance for students who continue to incorrectly form letters. As stated above, letter formation will not be automatic until students have mastered the pre-requisite skills.

Common Handwriting Issues

Most students will learn correct letter formation through teacher modeling and student imitation and practice. However, there are a number of issues that may arise for some students. Some are listed below with suggested remediation strategies:

- **Student cannot hold a large or regular size pencil-** Use golf pencils. This student may do better using a writing tool that is in the same proportion as the student's hand. Using a larger writing tool may be more clumsy for this particular student.
- **Student moves the entire arm when writing-** Have the student lay on the floor on his/her stomach when writing. This puts weight on the arm and allows the student to be stabilized. Multiple opportunities to write on vertical surfaces may also assist this student, as it naturally places the wrist in the correct functional position for writing as well as offers stability to the shoulder.
- **Student holds the pencil straight up in the air-** Loop together two rubber bands. Place one looped band around the student's wrist and one should be looped around the pencil. The eraser end of the pencil should be pointed towards the shoulder.
- **Student does not leave spaces between words-** Place stickers between each word and then have the student follow suit. Have the student use an inkpad to put a two-fingerprint space between each word as the student writes or the student can use a crayon and circle the space between each word.
- **Student writes with the fingers open or straight-** Place a small piece of sponge in the last two fingers. Ask the student to hold on to this while writing or cutting.
- **Student pushes down too hard when writing-** Have the student use a mechanical pencil. The student can write on a piece of Styrofoam or on a phone book.

- **Student writes too softly-** Use a weighted pencil or try to correct pencil grip.
- **Student reverses letters-** Choose only one letter to correct at a given time. Students can use a slate chalkboard or white board for practice. Use a green light or smiley face at the starting corner for each letter. Be certain to model the use of these starting point icons with the student and consistently use the same starting point icons to avoid confusing students.
- **Student has poor posture-** Improper posture may get in the way of proper letter formation. If the student's feet cannot touch the floor, be certain to place a box or a stool under the student's feet. Be certain that students have multiple opportunities to participate in large motor movement activities alternating with writing periods.
- **Student has poor paper placement-** Young students who are right-handed should have the paper parallel to their table. If a student is left handed, the left hand corner of the paper should be higher. An arrow can be placed in the bottom corner of the paper- in the right corner for left-handed students and in the left corner for right-handed students. Teach the students that the arrow should point to their belly button.
- **Student does not hold paper with the non-dominant hand-** A piece of tape can hold the paper down. Students can also be taught that the non-dominant hand has a special job to do.
- **Student holds pencil too close or far from the tip-** Place a very small rubber band where the student's fingers should be held on the pencil. When a regular pencil is being held, tell students to hold the pencil where the paint ends.

Source: "Tips For Teachers" Newsletter 2003 from Handwriting Without Tears at <http://www.hwtears.com>

Frequently Asked Questions

This resource is a framework for the teaching of handwriting. However, often times, questions arise that are not addressed in the context of this resource. It is important to remember that there is not one correct answer for all students; the teacher's job is to observe the students and come up with answers that meet each individual student's need.



What kind of paper should I use with my students?

In pre-kindergarten, unlined paper should be used throughout the year. In kindergarten unlined paper should be used at the beginning of the year, with a baseline introduced when a student has all prerequisite writing skills. A top line and a midline should be introduced, as individual students are ready. If lines are introduced too soon, students will focus on making the letters fit on the lines, as opposed to exploring letter formation and the creativity of writing. Some students who have difficulty with writing benefit from using a baseline to assist them in their use of space. A sentence strip, a long paper with a baseline or a lap-sized chalkboard or white board cut in half works well for some of these students.



Do I wait for my students to have all of the pre-requisite handwriting skills before I begin creative writing?

No, both begin on the first day of kindergarten and are demonstrated throughout pre-kindergarten. However, it is important not to expect proper letter formation as students write if it has not been implicitly taught. It is also important to fill the room with on-going opportunities for students to practice developing all of the pre-requisite writing skills.



Do I isolate handwriting and teach a specific letter a day or a week?

No, handwriting should be an integral part of all language arts blocks. Therefore, as students do Morning Message or a Language Experience Approach story, they should be learning about letter through teacher modeling and having opportunities to practice letter formation by writing in the air or on the rug using their finger. During small group, students should practice letter formation on slate or white boards. As students write, the teacher should be walking about watching for incorrect **pencil grasp** and correcting as needed. As with all aspects of a quality early childhood program, instruction is often embedded in other teaching.



Can incorrect pencil grasp be corrected?

Yes, but it is difficult. Students usually enter kindergarten with a definitive pencil grasp. Many with incorrect grasp can be immediately helped by explicit oral direction on effective pencil grasp. Others will need extra assistance, such as the use of a small pencil or a rubber band placed where the fingers should be. Many others will benefit from a purchased adaptive pencil grip. The remediation depends on the individual student.



Is being a 'lefty' a problem for students?

Gone are the days when it was seen as a problem! As long as the teacher is aware of how to assist a left-handed student in making correct letters (see section on *Pre-requisite Skills and Hand Dominance* - pg. 3-11), this should not create any issue for the student. It is recommended that teachers work separately with left-handed students when modeling correct letter formation. This makes it easier to show appropriate grasp and model the correct slant of the paper, which differs depending on hand dominance.



Are boys destined to be worse at handwriting than girls?

No, though handwriting development for them is often slower and more difficult. This has everything to do with the development of the lobes of the brain. However, if the teacher is aware of the pre-requisite skills for writing (pg. 6-12) and offers boys appropriate experiences, including the use of large, unlined paper for beginning writing experiences, the struggle boys sometimes display in their writing should be mitigated.



Given the increased use of technology, why should a teacher continue to devote time to handwriting?

It is true that today's students will most certainly be using computers throughout their life. However, clear, legible handwriting and automatic letter formation remains important. Students who are learning to do creative writing must have automaticity in their letter formation in order to free them from focusing on the mechanics of writing and allow them to concentrate on the process of creative writing.



When do I refer a student for occupational therapy due to poor handwriting?

If a teacher expects clear, legible handwriting before the pre-requisite skills are in place, the student's work may appear problematic. Unless the student has had multiple, ongoing opportunities to practice the pre-requisite skills in a variety settings, they may not have been learned. The teacher should make certain that any student with apparent handwriting problems has had **explicit** instruction in letter formation. Teachers may always ask the school occupational therapist for advice/strategies about a particular problem that a group of students may struggle with, such as incorrect pencil grasp. When an individual student is having great difficulty with the pre-requisite skills, is not benefiting from **explicit** instruction and ample opportunity for practice has occurred, it is often a good idea to then initiate a request for formal observation and testing by an occupational therapist. **Reminder** - Parental permission is always required for a formal observation of an individual student by an occupational therapist.



How do scissors fit into the handwriting program?

Cutting is a pre-cursor to handwriting, and is a wonderful tool for developing the pre-requisite skills. However, scissors should not be introduced until students show hand dominance and can use two hands to complete a task. While there are many types of scissors on the market, it is important that high quality, long lasting scissors be purchased (both Crayola© and Fiskar© scissors are excellent tools for young hands). Tiny, oval handles are easiest for students to manipulate. The scissors should have short, sharp blades for best results.



What skills are pre-requisite for using scissors?

It is important to remember that in order for students to use scissors properly they must have ample opportunity to practice pre-scissor skills, such as balling paper, using clay and dough and tearing paper. Before they are asked to cut on a line, they should be 'practicing' with scissors by exploring snipping paper, cutting paper apart, followed by cutting on a straight line written in dark marker, and only then asked to cut out a circle or square.



How do I know when to transition my students from drawing to handwriting?

Before transitioning students to handwriting, they should have the prerequisite skills developed. Linda Leonard Lamme suggests teachers observe students as they draw and write and observe for the following five attributes that identify students ready to transition to handwriting, as outlined in her article "Handwriting in an Early Childhood Curriculum". They are:

- The student repeats patterns/letters/words over and over again in drawings/writings.
- The student goes from left-to-right and then return sweep to begin again at the left.
- The student realizes that letter parts - straight lines, curves - can recur in variable patterns.
- The student can list all letters/words/symbols they know.
- The student can perceive likenesses and differences among letter elements, concepts, letters and words.



Is copying from the board a good idea for young students?

No. It is too difficult for the young student. Student's eyes are too immature and often have difficulty transitioning distant images to close up images. This can cause great frustration for many young children.



What are the steps in copying from a model placed on the student's table or desk?

In her article "Handwriting in an Early Childhood Curriculum", Lamme suggests the following:

- Students should copy on paper with the same sized letters as the model.
- Students should copy directly below the model.
- Students should progress to copying a model placed vertically.
- Students should progress to copying a model placed nearby.
- Students at the pre-kindergarten level should have copying as a choice so those who are ready to copy can participate.

Teacher Tips

Tips for the Pre-kindergarten Teacher:

- Use concrete activities.
- Don't give students pencils too soon.
- Don't have students sitting at tables, using handwriting workbook pages.
- Offer students opportunities to explore line formation using the easel, blackboard space, blacktop and chalk, blacktop and water, etc.
- Provide wooden, plastic or foam cut outs of big and small straight and curved lines so students can manipulate and explore composing and decomposing letters and shapes and discuss attributes of letter and shape.
- Use little writing tools- chalk broken into small pieces, small pieces of crayon, etc.
- Offer opportunities for students to work together so that they may talk together, imitate and copy from one another.
- Use manipulatives, music and movement to encourage pre-writing skills.

Tips for the Kindergarten Teacher:

- Be certain that student tables are at the correct height.
- Use little writing tools- chalk broken into small pieces, small pieces of crayon, etc.
- Give students lots of space to draw freely on large surfaces- chalkboard, large easel paper, newsprint, etc.
- Be **explicit** about finger placement when teaching students to hold both their writing hand and their 'helping' hand.

- As with all other facets of teaching, differentiate for the needs of individual students.
- Provide a center with wooden, plastic or foam cut-outs of big and small straight and curved lines so students can manipulate and explore composing and decomposing letters and shapes and discuss attributes of letter and shape.
- Frequently use songs and rhymes that address letter and number formation.
- Share with parents the correct formation of letters.
- Correct poor writing habits through explicit instruction of **pencil grasp**, paper placement, correct writing posture, etc.
- Begin with the writing and modeling of capital letters.
- Gradually begin to correct letter and number reversals, one letter or number at a time.

Vertical Surfaces

Young students greatly benefit from using vertical surfaces as they develop all of the pre-requisite writing skills. Their hands will often naturally take the correct pencil grip when they are moving on a vertical surface. Items that may be placed on a vertical surface or are already vertical include:

- Color forms, felt boards and flannel boards
- Chalkboard and accompanying small pieces of chalk
- Chalkboard and accompanying paint brush and water
- White board
- Geoboards®
- Easels
- Lite Brite®, pegboards
- Magnetic boards, Magna Doodles®
- Sign-in boards
- Making pictures with stickers

Source: Handwriting Without Tears Teacher's Guide by Jan Z. Olsen

Materials to Have On Hand

In order to meet the needs of all students, a large variety of materials should be available to the teacher. Most of these are inexpensive and normally found within the early childhood classroom. However, the teacher may want to keep these in a storage tray that can be easily accessed specifically for handwriting. Young students benefit greatly from using vertical surfaces as opposed to horizontal ones. Therefore, be creative! Think of ways to place some of these materials on a vertical frame. Helpful materials include:

- small individual chalkboards
- large chalkboard
- wide and thin tipped markers
- crayons of varying widths
- small pieces of chalk
- easels and paint
- finger paint
- clay/play dough
- unlined paper
- lined paper
- rubber bands
- pencils in a variety of widths
- stamps and stamp pads
- pincers and cotton balls
- newsprint for tearing
- beads for stringing
- laces and lace-up pictures
- pegs and pegboards
- variety of manipulatives- Legos®, Bristle Blocks®, etc.
- scissors (Fiskar® or Crayola®)
- eye droppers
- dice games
- coins
- buttons
- plant sprayers
- tweezers and tongs
- finger play songs and puppets

Glossary

These terms have been **bolded** and **highlighted** throughout the document.

1. **Adaptive Grips**- A tool added to a pencil to help correct an ineffective pencil grasp.
2. **Automaticity**- A task completed with ease, fluency and without hesitation.
3. **Basic Strokes**- Lines used in handwriting to create definite shapes, forms and pictures; basic strokes include vertical, horizontal and diagonal lines as well as circles and partial circle strokes.
4. **Bilateral Hand Skills**- The ability to use the hands together to accomplish a task.
5. **Dominant Hand**- The hand that develops strength, skills and precision to perform fine motor tasks.
6. **Explicit**- Direct instruction of handwriting skills.
7. **Eye-Hand Coordination**- The ability to use fine motor skills to accomplish a task that the eye and brain wish to complete.
8. **Hand Dominance**- The natural tendency for human beings to favor one hand over the other.
9. **Implicit**- Handwriting instruction based on modeling that is imbedded into a task. Ex. - modeled writing during the *Morning Message*.
10. **Midline** - The imaginary vertical line that divides the body into two equal and symmetrical halves.
11. **Non-Dominant Hand**- The hand that supports and assists with a task.
12. **Pencil Grasp**- How a student holds a writing tool.
13. **Power Grasp**- Holding a writing tool with a closed fist.
14. **Tripod Grasp**- Holding a writing tool with three fingers; the pencil is resting on the knuckle of the middle finger while being pinched between your thumb and index finger.

Bibliography

Berry, Jayne. Fine Motor Skills in the Classroom. Framingham, MA: THERAPRO, Inc., 1993.

Church, Ellen Booth. Brain-Based Activities for Young Learners. New York: Scholastic, 2002.

Knight, Janice Miller and Mary Jo Gilpin Decker. Hands at Work and Play. Tucson, AZ: Therapy Skill Builders, 1989.

Lamme, Linda Leonard. Handwriting in an Early Childhood Curriculum. *Young Children*, 35(1), 20-27.

Naus, June M. Helping Hands: A World of Manipulatives to Boost Handwriting Skills. *Teaching Exceptional Children*, 32 (), 64-70.

Olsen, Jan Z. Handwriting Without Tears Teacher's Guide. Cabin John, MD: Handwriting Without Tears, 2001

Vreeland, Eileen. Handwriting: Not Just in the Hands. Hanover, NH: Maxanna Learning Systems, 1998.

Zaner-Bloser. Handwriting Opens Doors to Communication.

Zaner-Bloser, Handwriting Research and Resources: A Guide to Curriculum Planning. Columbus, Ohio: Zaner-Bloser, Inc., 2000.

_____ "Handwriting Exercises." at http://knox.link75.org/bcs/OTwebsite/Handwriting_exercises.html. last visited 7/21/03.

_____ "The Development of Pre-Printing Skills." at www.skillbuildersonline.com last visited 7/21/03.