Selected Components of Handwriting

**Inhand Manipulation**

In-hand manipulation is the ability to hold and move an object within one hand. In-hand manipulation skills are essential to the handwriting process because they allow the student to move the pencil from the palm to the fingers, make needed adjustments to the pencil for writing, and turn the pencil from writing to erasing with one hand. In-hand manipulation skills are divided into three major categories: translation, shift, and rotation. All categories may include “stabilization” which is the ability to hold objects with the ring and pinky fingers while moving an object with the thumb, index and middle fingers.

- **Translation** - the ability to move object from the fingertips to the palm or the palm to the fingertips such as moving coins from the palm to the fingertips to place in a vending machine or picking up pennies and moving them from the fingertips to the palm.

- **Shift** - the ability to move an object in a linear manner with the fingertips, such as repositioning the pencil in the finger to position for writing or fanning playing cards in the hand.
• **Rotation** - the ability to turn an object around on the pads of the fingers and thumb (simple rotation) or turning an object from end to end (complex rotation) such as flipping a pencil from writing end to eraser

• **Simple Rotation**

![Simple Rotation Diagram](image)

• **Complex Rotation**

![Complex Rotation Diagram](image)

**Directionality**

The English language is based on top to bottom and left to right orientation. It is the basis for both reading and writing. Directionality is the ability to identify the alignment or orientation of an object in relation to its position to another object. Understanding prepositions and directionality terms such as left, right, top, bottom, above, below, beside, under, around, over, between, through, and behind are essential in order to have good handwriting habits.
Positioning—

For optimal writing performance, it is important for children to be positioned properly in order to support handwriting skills. A stable trunk will encourage good arm control. Children come in different shapes and sizes therefore chairs, tables and desks should properly fit each child.

Types of Positioning:

Furniture Arrangement

- Student desks should face the instruction area. This improves visual attention, hearing, and attention. (See HWT Teacher’s Guide, p. 10).
- Avoid cluster seating to decrease positional and direction confusion especially for handwriting instruction.
- Children should be able to see the chalkboard without glare or lighting problems. The teacher's writing should be able to be seen by each child facing the chalkboard.

Appropriate Chair Size

- Each child should have a chair that allows the feet to be placed flat on the floor. This provides a stable base from which to work. It also assists with weight shifting and postural adjustments during writing.
- Hips, knees and ankles should all be bent at a 90-degree angle.
- The seat should provide support in the back high enough to reach slightly below the student’s shoulder blades.
- The seat depth should be such that the child can sit all the way back in their seat and still have room to comfortably bend their knees. The chair should not be angled thus tilting the student back.
**Appropriate Desk Height**

- The desk or table top should be 2 inches above the student’s bent elbow when seated.

**Appropriate Paper Position**

The position of the paper allows for the student to see what is written and to avoid smearing when writing. The student should angle the paper so that it is parallel to the forearm of the writing hand when the hands are clasped on the desktop. (**See illustration on p. 12 of Handwriting Without Tears Printing Teacher’s Guide**)

- The paper should be angled:
  20-35 degrees for right handed students
  30-35 degrees for left handed students
- The top corner of the paper should be higher:
  Right corner higher for right handed students
  Left corner higher for left handed students
- The writing hand should be below the writing line (no matter the handedness).
- A piece of tape or other mark on the student’s desk can be a helpful visual reminder for correct paper slant.