



THE ART OF WRITING

Years ago I read a description by Joseph Papp of Shakespeare writing the famous soliloquy from Hamlet. He points out that with the available writing implements of the time, Shakespeare wrote, "To be or..." and then had to stop in mid-sentence to put more ink on his quill. It's a wonderfully evocative essay. One aspect of writing that Joseph Papp does not comment on is how complex holding a writing implement can be. Most people do it so automatically; they don't realize how much goes into this seemingly simple act. But before a child even picks up a pencil, there are 10 fundamental skills that must be developed.

Many children develop these skills naturally, just by being children and engaging in a wide variety of play. But some children need assistance either in one skill or in putting the pieces together. Here is a quick look at some of the skills.

During this first year of life, most infants are working on fundamental movement skills such as head control, rolling, coming to sit, learning to crawl, then cruising and eventually walking. Their hands are evolving from a primarily fist position to reaching toward objects and touching them, then putting things in their mouths and transferring objects between hands. They are learning to grasp with all fingers together, and by age one most will be able to grasp with just a thumb and index finger (pincer grasp). They can also throw a ball and other objects, drop and pick up toys, and feed themselves finger foods.

Interestingly, crawling is one of the most important pre-writing activities at this age. Crawling is necessary for developing the arches in the hands needed for important fine motor skills. Plus crawling provides weight bearing opportunities into the arms which is needed for shoulder stability. Crawling also helps to develop bilateral skills (using both sides of the body) and an alternating "cross-crawl" pattern of movement.

Once the child begins holding a writing implement, one can observe if they are having success or what aspect of writing is preventing it.

The first is hand and finger strength. There are well over 25 muscles in your forearm and hand. The muscles in the forearm control elbow, wrist and finger movements. Smaller muscles within the palm of the hand control the more refined movements of the thumb and fingers.

It may appear that someone has strong hands when they are able to squeeze something really hard. But that's not the whole story. That type of strong grip comes mostly from the forearm muscles. When squeezing, some of the strength comes from the smaller muscles within the hand, but these muscles contribute only a little bit to total grip strength. So, when we look at hand strength, we also need to look at the strength of those small muscles within the hand.

A Pincer Grasp enables a child to pick up small items using the thumb and index finger. This skill allows for proper positioning of the writing implement. If a child is using all fingers to "rake" items into the palm or pinching with the thumb against the side of the index finger, their pincer grasp might need some support.

The final skill that we will discuss now, although not the final one needed for writing, is the ability to cross the mid-line of your body.

Crossing the Midline refers to the ability to reach across the middle of the body with the arms and legs crossing over to the opposite side. Examples include being able to draw a horizontal line across a page without having to switch hands in the middle or sitting cross-legged on the floor. Being able to cross the midline is an important developmental skill. It is needed for reading and writing, for being able to reach toward your foot to put on a shoe and sock with both hands, for participating in many sports and many other day to day activities. Children who have difficulty reaching across their middle may actually get stuck in mid-reach and have to switch hands. Or they may compensate by turning their trunk to reach toward the opposite side. Poor midline crossing also makes it difficult to visually track a moving object from one side to the other or to fully track from left to right when reading.

So putting pen to paper is not a simple activity, but one that takes many different muscle groups working in coordination.