Developing Fine Motor Skills

This document offers teachers suggestions for effectively developing children's fine motor skills.

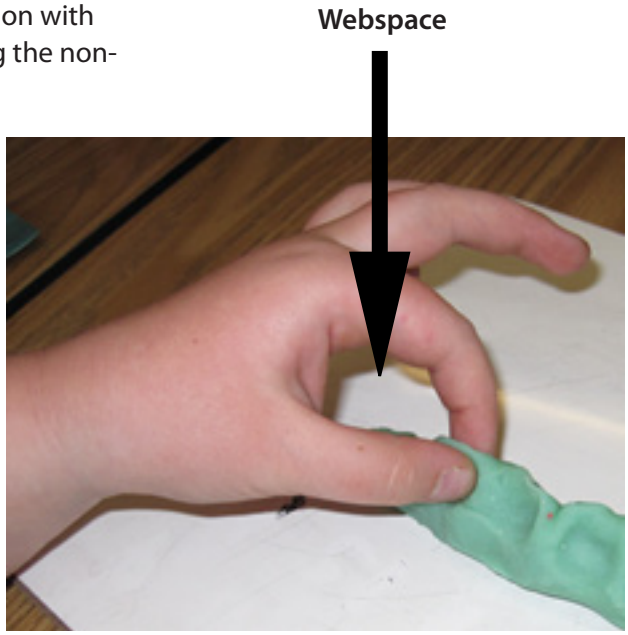
Supporting Kindergarten

June 2011

In Kindergarten, many of the ideas, concepts, and tools used to develop children's fine motor skills are similar to those in Prekindergarten. In addition to building students' strength as they explore with props and tools, the demands of tasks increase in complexity. Tools used in Prekindergarten are now used in a more intricate and detailed manner in Kindergarten.

Students in Kindergarten can develop fine motor skills by:

- holding and using scissors appropriately to:
    - focus on cutting with precision and accuracy
    - accurately cut complex shapes (such as a star, heart)
    - cut paper of various thicknesses
    - maintain the scissors in the same general position with the scissors pointing away from the body, using the non-dominant hand to support and turn the paper.
- painting to develop directional concepts, slight extensions of wrists, and shoulder stability by using:
    - an upright easel or other vertical surface with large paper to encourage a slight angle of the wrist
    - sponges to develop the pinch grasp
    - stamps and a variety of paint brushes (including ones with various handles)
    - various paint materials such as sand, rice, and shaving cream to develop in-hand manipulation and tactile awareness (see glossary)
    - an increasing amount of detail in their paintings.



Pinch grasp

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- playing with small toys to develop finger coordination and manipulating the toys in a detailed manner (i.e., moving the toy cars through a maze).
- ripping paper with fingertips, maintaining appropriate web space (see glossary) to develop bilateral hand use (see glossary).
- using one hand to crumple paper to strengthen in-hand manipulation (see glossary).
- manipulating finger puppets and participating in finger plays.
- developing isolated finger skills by doing activities such as placing a sticky-side-up piece of tape on each finger and picking up a small bead or piece of paper one finger at a time, using each individual fingers to point at items.
- sitting on unstable surfaces (such as an exercise ball or mushroom stool) to develop trunk stability (see glossary).
- walking like various animals (crab, seal, bear, inchworm) to develop a child's trunk stability.
- participating in chair push-ups (while sitting, place hands on seat and lift body up by pushing down with arms) and chair bicycling (while sitting, place hands on seat and lift body up by pushing down with arms) as a warm-up before fine motor tasks and to build trunk stability.
- rolling and shaping clay to create detailed items such as balls of various sizes, faces with detail (eyes, ears, mouth, hair), and letters of the alphabet to enhance bilateral hand use and develop hand strength.
- peeling, rolling, kneading, and stirring while cooking to develop in-hand manipulation and stimulate the senses.
- "feeding" baby dolls and stuffed animals, zipping, snapping, buttoning, and tying doll-sized clothes and dramatic play clothes, tying laces and strings to develop in-hand manipulation.

"Feeding" stuffed animals

- developing in-hand manipulation by twirling an object (such as a pencil) using one hand, holding three pennies or beads in one hand, placing each individual object into a container with a small opening.
- squeezing spray bottles (to clean tables or colour snow), washing tables, and wiping white boards to develop hand, arm, and shoulder strength.
- developing an efficient pencil grasp (see page 4).

Educators in Kindergarten can support fine motor skill development by:

- modelling correct upper and lower case letter and number formation at all times (top to bottom, left to right, counter clockwise).
- developing students' arm and hand strength, and stability of the trunk and shoulder as precursors to fine motor skills.
- storing materials in screw-top and flip top containers so children develop bi-lateral hand use.
- providing and encouraging children to experiment with a variety of tools (such as chalk, crayons, pencils, pens, markers, paint brushes).
- enabling learning and skill development to be fun, within a realistic context.
- providing students with an adequate warm-up for both arms prior to printing:
    - chair push-ups – while sitting, place hands on seat and lift body up by pushing down with arms.
    - spider push-ups – place palms together, fingers spread apart. Push fingers against each other, extending the fingers so only the fingertips are touching. While applying pressure, collapse hands together so palms are touching. Repeat.
    - Mickey Mouse ears – holding hands up near the top of the head, palms facing outward, open palms wide and tightly squeeze into a fist. Repeat.
    - printing gloves – beginning with the pinky, tightly "pull" each finger of the printing glove from fingertip to elbow using the thumb and index finger of the opposite hand. Repeat for each finger and thumb. Give the forearm a tight squeeze from the wrist to the elbow.
    - air printing – practise making large letters in the air with arm extended.
- preparing students for printing by ensuring:
    - feet are flat on the floor
    - knees and hips are at a 90 degree angle
    - table or printing surface is approximately at the height of the elbows
    - the paper is set at an angle that follows the angle of the arm holding the pencil.

Printing gloves

Efficient Grasps

There are three widely accepted efficient grasps:

1. Dynamic tripod grasp (a grasp that is emerging in children at this age) - the pencil rests against the middle finger, the index finger and thumb pinch the pencil. The ability to control the movement of the printing tool using only finger movement (as opposed to the wrist or whole hand) develops throughout a child's fifth year.

2. Quadrapod grasp – the pencil rests on the ring finger, the middle finger, index finger, and thumb support the pencil.

3. Adapted tripod grasp – the pencil rests between the index and middle fingers, the thumb and index finger support the pencil.

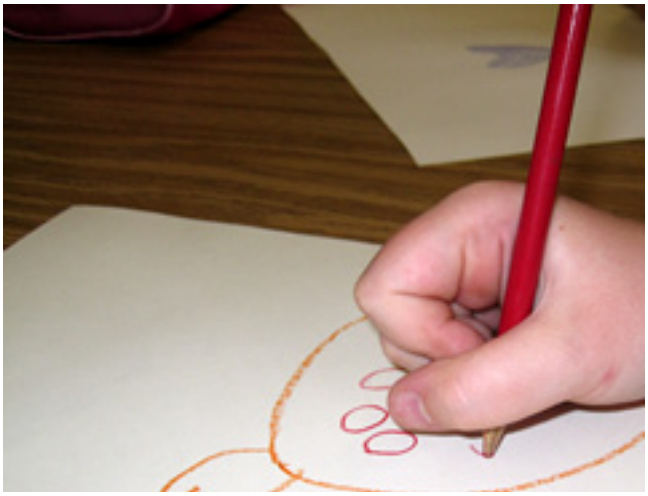
Efficient grasps have:

- wide open web space (see glossary)
- wrist and elbow are stable to support arm movement across the printing surface
- fingers do the moving of the printing tool (see glossary).

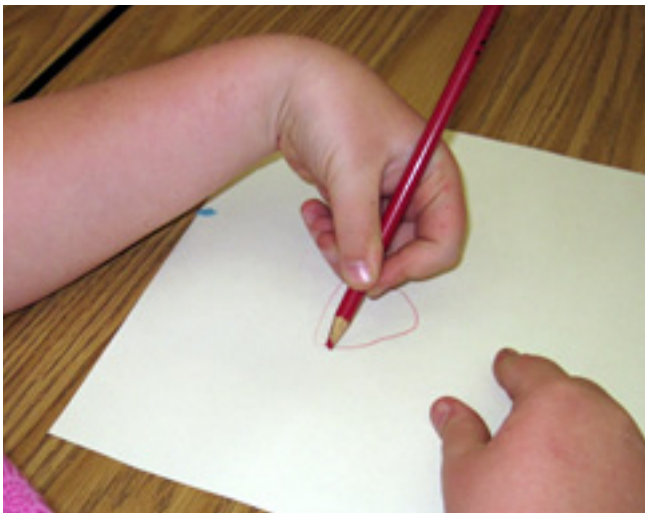
Inefficient Grasps

Some examples of inefficient grasps are the:

- thumbwrap – the thumb rests or wraps over the index finger. This often occurs when the hand strength is not developed.



- left-handed hook – the left hand is bent forward or flexed at an awkward angle. This grasp often occurs when the student is unable to see what is being written on paper. Teachers should check to ensure that the angle of the paper is aligned with the student's arm and have the student hold the printing tool 1-2 cm higher up the shaft of the pencil.



Examples of materials in Kindergarten that support fine motor skill development:

- unstable seating surfaces such as the air cushions and mushroom stools
- tables and chairs of appropriate height and size
- scissors of appropriate size
- glue (glue sticks and squeeze bottles)
- paper clips
- pipe cleaners
- pencils, pens, markers, chalk
- clay (play-dough consistency is not thick enough to benefit muscular strength development)
- stapler and a single hole punch
- construction tools (hammer, nails, screwdriver, screws, nuts, bolts, sanders, pliers)
- sponges (i.e., kitchen sponges, make-up sponges), foam and rubber balls, pompoms, Koosh balls, cotton balls, Q-Tips
- pop-beads and interlocking toys
- packing foam "peanuts"
- squeeze toys (i.e., a toy whose eyes pop out when squeezed), squirt guns, tongs (such as large, small, plastic, metal), zoo sticks (chopsticks that are attached at one end), eye droppers, nasal aspirator, tweezers
- geoboards
- beads of various sizes, sequins, buttons (various sizes and shapes), plastic eyes
- wind-up toys
- fabric with various textures (such as velvet, corduroy, denim, silk)
- string of various thicknesses (such as dental floss, yarn, shoelaces, ropes)
- medicine bottles with flip tops
- Tinkertoys, small Lego
- paper of various thicknesses and textures (such as foil, wax paper, tissue paper, used greeting cards, index cards, sandpaper, fliers)
- finger-paint, easels, large paper, and a variety of paintbrushes (round and flat, thick and fine)
- shaving cream
- sand, rice, or other similar material
- percussion instruments
- small, medium, and large balls
- rolling pins and cookie cutters
- play money and coins.

Glossary

Bilateral Hand Use - using two hands together to complete a task. Examples are cutting with scissors and doing up buttons.

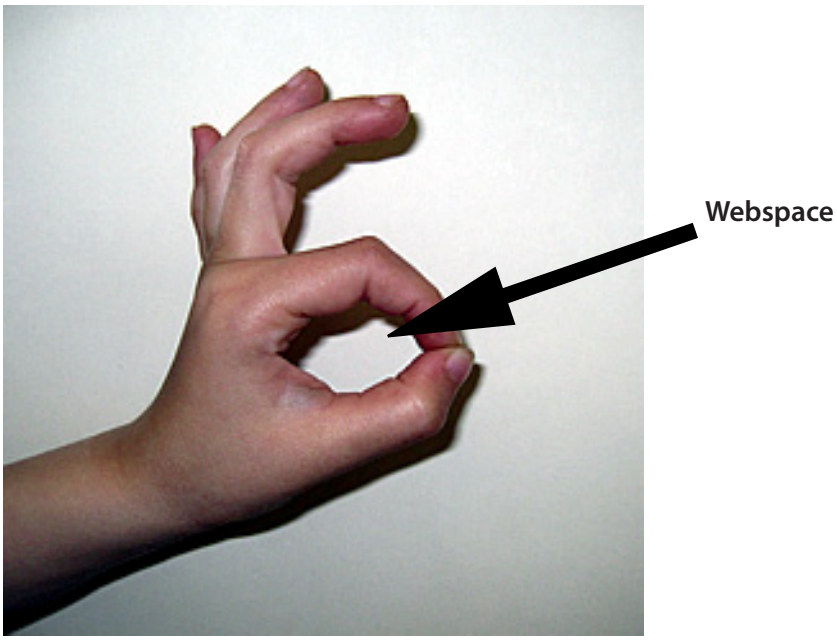
In-hand Manipulation - adjusting an object within the hand as it is being held. Some examples include repositioning your fingers on a pencil while holding it and repositioning a coin to insert it into a vending machine slot.

Printing Tool - an item used for making marks such as pencil, pen, crayon, chalk, marker, paint brush, etc.

Tactile Awareness - the brain's ability to understand and make use of touch information from the skin. It is especially important for the development of refined motor skills in terms of providing accurate feedback for learning and monitoring movements made by the hands and arms.

Trunk Stability - a result of the co-contraction of stomach, back and shoulder muscles that allow a stable position of the upper body to be held. A stable foundation (trunk and shoulder) is essential for the development of refined and precise fine motor skills.

Webspace - a rounded opening made by touching the top of the thumb to the tip of the index finger. It is an indicator of stability present in finger joints that is required for efficient pencil use.



Note: Tying laces is an emerging skill that develops between the ages of five and seven.

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