



# Fact Sheet

## Developing Hand Skills

Overview by Geraldene G. Larrington, MA, OTR/L

This article addresses the issue of how to develop successful, efficient and refined hand skill in students who are blind or visually impaired. It is presented with the larger context of learning spatial concepts and the development of problem solving skills.

The current techniques of Hand Over Hand and Talking Students Through Tasks, misdirect the attention of the brain and promote passivity. These techniques often confuse our students with functionally non-meaningful spatial language and deprive them of the empowering experiences of learning how to figure things out for themselves.

Borrowing the Hand Under Hand technique from deaf/blind education, this presentation demonstrates how our students can more quickly and efficiently learn how to use their hands as eyes. They develop “binocularity” and awareness of three-dimensional space in the microcosm of the dynamic space between the hands and develop a rich storehouse of maps and other internal images based on tactile and kinesthetic information.

Just like sighted students, students with visual loss need lots of observation to learn how people (sighted and visually impaired) perform tasks before the students are expected to learn the specific skills. They must first become aware of the use of the two hands to define space, the reciprocity between the two hands, the speed and/or temp of the actions as well as the directionality and force. When spatial language is then added to the process, our students can attach more functional meaning to the spatial words.

### Hand Under Hand Technique

#### **Purpose**

- To provide observational experience of how people use their hands in relation to one another, including direction of movement, amount of force, speed or tempo.
- To provide spatial awareness of the space between the hands.
- To involve the student in routine tasks that they cannot yet perform independently
- To stimulate curiosity, the desire to do things themselves, and to reduce passivity and dependence.

#### **Directions**

- Position yourself behind or beside the student depending on their body size, so that your arms and hands are positioned to operate as though they were the student’s hands and arms. You may have to sit on a chair behind or beside them or squat to get your shoulder level down closest to their level. Young children can sit in your lap.
- Position their hands on top of your fingers and hands. This can be accomplished:
  - \* telling them to do it,
  - \* placing your hand under theirs to bring them to your tasks, or
  - \* you may have to gently “clamp” the child’s hand to yours with your thumb in the initial stages of training them to observe with their hands.

## **Hand Under Hand Inservice**

### ***Key Concepts:***

#### **The hands of the student who is blind are his eyes.**

- For best “vision,” the child needs two hands just as others use two eyes to give and “overview”, spatial information, binocularity and depth perception.
- The child will acquire information about arm, shoulder, trunk and body movements as well.

#### **Too much touch distracts the brain.**

- Touch on the back side of the hand misdirects the attention of the brain away from the palm/fingers.

#### **Too much talking distracts the brain.**

- How nice to have an alternative to being constantly told what to do and how to do it. “Let me show you.”
- This technique is typically used with Deaf/Blind persons so language is not critical but, descriptive language needs to be added later to label spatial concepts.

#### **Provide daily “observation” time.**

- Do the task at a fairly normal rate of speed unless teaching a skill component.
- Model the task once everyday and keep it brief.

#### **We are moving the child from a passive, submissive role to an active, participatory mode.**

- We are teaching problem solving i.e., figuring things out for themselves which use a whole different part of

## **Hand Under Hand Technique Levels**

### **Level I: Modeling For Awareness: A Foundation For Imitation**

- This level should be provided by regular caregivers: parents, residential staff, classroom aides, or teachers, i.e., those who are currently routinely doing things for the child. “Observation” time for selected tasks is provided at least once a day, everyday long before the child is asked to try to perform the task himself.
- A Hand Lotion program or other sensory motor hand awareness program should be instituted daily to get the program started.

## **Level II: Modeling For Skill Development**

*Hand-Under-Hand modeling alone will not be sufficient for many students to learn tasks.*

A skilled task may need to be analyzed based on the nature of the task and the problems a student is having with it and efforts made to provide the necessary tactile and kinesthetic sensory enlargement and/or body referencing to have the component parts of the task be clear to the student.

- Hand-outs are available that demonstrate this type of analysis for selected activities.
- Hand dominance and already partially learned patterns must be taken into account in planning how to teach a task.

## **ACTIVITY: Hand Lotion**

### **Purpose:**

- to provide sensory awareness of the hands
- to model mutual engagement of the hands
- to provide spatial awareness of all parts of the hands
- to develop skill of thoroughly rubbing every part of hands for hand washing and lotion application

### **Materials:**

- any hand lotion that has a scent and consistency that is acceptable to the student and teacher
- a lotion bottle with a pump is probably the easiest to master dispensing initially, or
- use a variety of scented lotions, for novelty and/or intensity to capture interest or to maintain interest while providing repetition,
- various types of dispenser containers as student is able to learn to manage

### **Method:**

#### **Level 1 Baseline Observation**

- Prepare student for the lotion activity: tell him, show him bottle, etc.
- Watch how the child rubs on lotion:
  - \* put lotion in his hand initially if necessary.

- \* How to dispense lotion will come later.
- \* Repeat this as needed in this session or on subsequent days
- Model different aspects of the task that the child missed
  - \* E.g. if the child grasps with his or her thumb but not his or her fingers on the backside
  - \* Positively reinforce how the child is successfully using his thumb
  - \* Then move and emphasize what your fingers are doing at the same time.
  - \* Tap the child's fingers if necessary for awareness and remind him or her to rub too.
- This does not all have to happen on the same day. There is plenty of time because this should be a daily activity.
- Finish rubbing the lotion on this hands giving him a good, firm hand massage
- Have the child "watch" how you rub on lotion
  - \* encourage the child to put his or her hands on yours.
  - \* rub your hands together using lotion doing the whole process so the child experiences the time, speed and thoroughness of the process.
  - \* Sometime show the process in slow motion showing all the variations of hand position and mutual engagement.
- Signs of progress:
  - \* When both hands really curve and cup each other in a good "hug".
  - \* When both hands engage each other as they move to rub each other.
  - \* When you see the student applying it to hand washing on his own!

#### **VARIATIONS:**

- Transfer the skill to hand washing at any point during the process that it seems the child can successfully apply it.
- Have the child massage your hands or someone in his or her family regularly.
  - \* This can help develop strength in the hands.
  - \* Develop their comfort level for observing other people's hands with theirs using the Hand-Under-Hand technique
- At some point in the process when the child will put both hands on yours, begin having him or her observe your two hands as you pump the lotion with one hand with the other palm up under the spout.
  - \* this is an important early step in defining space and directionality of the hands in relation to each other
- When the pump is fully mastered buy the hand lotion is still part of a daily routine introduce another type of lotion bottle if that is appropriate for the student.

- \* This will provide some novelty
- \* It also builds other manual, spatial skills.
- \* Teach it in the same way using Hand Under Hand to model it.

**ACTIVITY:                    Story Time**

**Purpose:**

- To provide observational experience of how a braille reader uses his or her hands to read.
  - \* Bilateral integration
  - \* Spatial information
  - \* Problem Solving
  - \* Patterning hand movements for braille reading
- To encourage a desire to learn to read braille

**Materials:**

- Storybook written in print and braille, or
- Story tape with accompanying book in braille

**Method:**

- Anytime a story is read or a story tape played, select a child to “read” the brailled storybook with you.
  - \* Child sits so their hands and arms can rest on reader’s.
  - \* The class rotates turns.

**Level 1:**

- Require the child to put his hands on yours.
- Read the story at the same time moving hands with fingers appropriately curved to feel the braille, moving a normal reading speed.
- Or, various styles can be used depending on the projected needs of the child.
- Or, the children can experience the normal variation by design or by happenstance from the different adults who read to them.

**COMMENTS:**

- This is experiential, incidental learning for the general act of reading.
- It is age appropriate for pre-school, kindergarten and early grades, but may be used at all ages when trying to teach certain aspects such as the relationship between the two hands for tracking the line of print and speed or tempo of movements.
- It does not take the child place of developmental age appropriate learning the alphabet and other braille reading skills.

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