

# Handwriting

Learning to write legibly is a major occupation of childhood and is one of the first tasks taught in an academic setting. Handwriting difficulties are frequently observed and can be influenced by many factors. A number of underlying skills are required to develop the ability to complete well-formed legible handwriting:

## 1. Motor control

- Ability to balance without the use of hands
- Ability to grasp and release a pen/pencil voluntarily
- Ability to use the hands in a lead and assisted fashion

## 2. Sensory input

- Feel of the implement and paper
- Know where he/she is: what is in front etc.

## 3. Perception

- Ability to recognise forms; notice likeness/differences
- Memory for letter shapes; sequences of letters
- Orientation to printed language, which involves the visual analysis of letters and words along the left and right orientation

## 4. Praxis

- Getting the idea; planning and executing

## 5. Cognitive Function

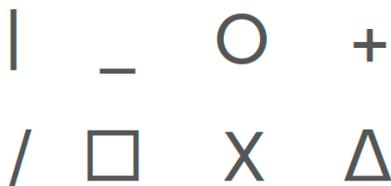
- Understanding of what is asked
- Meaning of letters/words

Then, when a child has these skills, they are required to integrate all of these skills in order to produce legible and successful letters and words/handwriting.

It is, therefore, not surprising that many children experience difficulty in mastering this task (Beery 1989)

A child will be ready for formal instruction in handwriting, when they manage to master the first 8 figures of The Test of Development of Visual Motor Integration (VMI)

The 8 figures are:



### Writing speed

1. Speed in handwriting is related to age – the rate of greatest increase being between 7 – 9 years.
2. Children reach adult levels of speed at about 15 years.
3. At the age of 13, students should write at 13 words per minutes.
4. At the age of 15 – 16 'O' level students should write at about 20 words per minute.
5. There are two reasons for slow writing speed:
  - i. Children with poor mechanics for writing are deterred even further when needing to integrate spelling and composing into the process.
  - ii. Children with poor handwriting usually have an unstable motor set and are unable to write automatically and with flexibility.

### Endurance

Endurance is necessary in exam situations or for recording information in a classroom environment. Poor hand writers frequently cannot sustain the legibility of their writing as the length of their assignment/task increases, often causing pain or discomfort in their hands/forearms.

As the student tires, letter sizes may become smaller, writing more laboured and letters and words omitted.

If mastery of correct letter formation does not occur during primary years the speed of writing will be affected. The outcome of decreased speed could therefore affect an individual's ability to record enough information required during an exam situation.

The following activities will assist your child to develop the underlying skill areas that influence handwriting:

### Pre-handwriting activities

- The child completes activities lying on their tummy and weight bearing through elbows e.g. watching television, reading a book, completing a puzzle.
- Place a firm elastic band around the tips of fingers and thumb. Open and close the elastic band 10 times with each hand.
- Play dough and plasticine – pinching, poking, squeezing.
- Playing with spinning tops, jacks, marbles and card games

- Posting coins or small objects into jars. Holding all items in your palm and post one by one
- Screw lids onto the jars.
- Picking up items with tongs / clothes pegs / hanging out laundry
- Threading beads to make jewellery
- Turning keys
- Walking fingers. Place a piece of tape along the table. 'Finger walk' index and middle fingers (ring and little fingers curled out of the way) along the tape. Change hands.
- Craft activities involving cutting, scrunching, gluing and ripping paper and bending pipe cleaners.
- DIY game – toy tools such as sawing, drilling, hammering, screws and bolts.
- Games involving flicking small objects e.g. flicking paper balls off a table into a 'goal'.
- Climbing, seesaw, tug of war and swing activities, with the child holding onto ropes.

### Hand warm up

The following activities need to be carried out as a block of exercises together. They should be worked through before any written is to be carried out. Think effort: the more effort used to carry them out, the greater the feedback received.

- Start by making stars with both hands by stretching out the fingers wide. Now make a tight fist with both hands and stretch the fingers wide again.
- Put palms together and open and close fingers. While in that position, keep the tips of their fingers together and move their wrists apart. Make sure pressure is being put through the fingertips pushing each fingertip pair in turn.
- Chair push ups – sit on hands, palm side towards the floor or chair. Lift bottoms off the chair by extending elbows and pushing down. Repeat this pushing activity at least 10 times.
- Monkey grip – hook fingers together and pull with elbows extended away from the body.
- Wring hands as if it is a really cold day.
- Be creative and encourage the child to think of ideas that involve movements of the hands and fingers.

### Poor sitting position

- Sitting in a good, comfortable position with a firm stable base will enhance your child's ability to control the pencil and allow them to concentrate on their writing skills.
- Make sure that the table and chairs are at the appropriate height for your child's size. This means that when sitting, your child should be able to put their feet flat on the ground with their knees at right angles and the table should be at elbow height.
- Encourage them to "check" their posture before starting to write with bottom back as far as possible in the chair, chair pulled into the table, feet flat on a stable base.
- Incorporate positioning games before writing, for example, encourage funny looking postures in their chairs and then when you say "sitting", they have to resume the correct position.
- An angled writing slope can also help to achieve a more upright sitting position.

## Common problems seen with handwriting

### Sensory Awareness

Handwriting involves processing from multiple senses. Common difficulties include the awareness of thumb and finger position and judgment of the correct force to use when manipulating writing and drawing tools.

#### Very dark writing – hard pencil pressure

- Sometimes some children use too much pressure - this provides them with additional sensory feedback as to how the pencil is moving on the paper.
- Encourage a hand warm up activity prior to writing. This increases sensory awareness of the hands. (see suggestions above)
- Encourage “ghost writing” by writing a word very lightly on the paper and then erasing it without leaving marks.
- Place a piece of carbon paper underneath their work and encourage them that you do not want the writing to come through onto the underlying paper. The child may need to practise this first with writing shapes and then with letters.

#### Very light writing – soft pencil pressure

- These children typically do not have sufficient finger dexterity or may have a weak grasp. They may also have reduced sensory awareness of their hands.
- Encourage a hand warm up activity prior to writing. This increases sensory awareness of the hands. (see suggestions above)
- To stop the pencil or pen from slipping, start with using triangular pencils, larger pencils or crayons and pencil grips over the pencil. You could wrap a rubber band around the pencil about one inch from the utensils point/nib. The child can place their fingers on the rubber band to reduce slippage.
- Encourage them to rub a crayon hard on large paper to cover a picture.
- Activities that develop overall upper limb and shoulder girdle strength are also important. These activities could include:
  - Weight bearing activities on the arms such as wheelbarrow walking, animal walks, climbing up a climbing frame, pushing activities (keep the arms straight)
  - Writing on a vertical surface, such as the chalkboard, whiteboard or wall, for part of the day is good for developing shoulder girdle strength.
  - Try using a sloping desk or desk top.

#### Poor pencil grip

By the age of nine, most children have developed a pencil grip that is comfortable for them and it can be difficult to change this. If their grasp is impacting on writing, these suggestions should be tried:

- If your child has difficulty placing their thumb in the correct position, put a coloured dot on the place where this thumb needs to go to provide a visual reminder
- Use pencil grips to help your child use the thumb, index and middle finger to hold the pencil. (Cross guard, ultra, grotto, stubbi - see under useful resources)
- Trial different types and sizes of pencils and pens. Some children work better with roller pens, pens with indents for fingers and others with fountain pens. Trial different pens to establish a preferred option
- Writing on a chalkboard using very small pieces of chalk encourages a tripod grasp which involves the use of the thumb, index and middle finger

- Shorten crayons and pencils to 3cms, to encourage tripod grip

### Alternative methods of recording

For some older children or young people it is beneficial to promote alternatives to handwriting. If handwriting problems prevent them achieving their full potential, these alternatives could be considered:

#### For the student

- Use of a 'dictaphone' or voice recording device to dictate
- Using a word processor system - especially for when presentation is required
- Using diagrams, spider diagrams and mind maps
- Allow the use of a laptop in the class. A good resource for IT information is Ability Net t: 0800 269545 w: [www.abilitynet.co.uk](http://www.abilitynet.co.uk).

Their helpline provides up to date information about suitable IT equipment and suppliers.

- Writing key points only when taking notes
- Using plans when writing a story - divide into sections and write key points
- Using answer sheets where the gaps need to be filled in

#### For teachers

- Request photocopied notes where possible
- Request extra time for children with handwriting difficulties
- It is important to consider that a child may be concentrating so hard on their writing that they may miss verbal instructions.
- Request that your child sits at the front of the class near the board

#### Useful resources

- Write from the Start, Ion Teodorescu, Lois Addy`
- Left hand Writing Skills, Mark and Heather Stewart
- Speed Up!: a Kinaesthetic Programme to Develop Fluent Handwriting, Lois Addy
- Get a Grip, Pencil grip selection box (Special Direct, [www.specialdirect.com](http://www.specialdirect.com))
- Posture Pack ([www.backinaction.co.uk](http://www.backinaction.co.uk))
- Various mazes, dot to dots books
- Dexteria handwriting app for tablets.

## Handwriting activity ideas for schools

The following is a list of activity suggestions for incorporation into the school's Handwriting group:

Write the following handwriting checklist items on the board or laminate them and give a copy to each child for use in the classroom.

1. Sentences start with capital letters
2. Think about where you place your letters on the line
3. Remember! Don't put big s p a c e s between letters in words
4. Don't forget to put spaces between each word
5. Sentences end with a full stop

Ask each person to write one sentence on a given topic e.g. what they did on the weekend, about their family etc. Then get them to evaluate their work using the checklist. They score one point for each thing that they have done correctly. At the end they give themselves a score out of 5. Continue with the next sentence. When everyone has written and scored themselves over 5 sentences, record this as their baseline. This will help them and you to identify specific areas of difficulty. At the end of each term, this process can be repeated and scores compared.

## Suggested activities

### Difficulties with use of capital letters:

- Verbal quizzes: Discuss the use of capital letters within written work: i.e. at the start of sentences, for names and places. Then call out a list of words. The group members raise their hands if they think the word should start with a capital letter. Discuss as a group. This can develop by asking group members to be the one calling out the words / the group can divide into 2 teams and play against each other.
- Remind the group that a capital letter is always used at the start of sentences and after a full stop. Produce worksheets with correct and incorrect use of capital letters. Ask group members to use different coloured pencils to highlight each. Extend this activity using their own work. If appropriate, ask group members to look at and correct each other's work.
- Use creative ideas, i.e. ask the group to design their own newspaper / magazine page which must be hand-written! Ask the group to write the advertising slogan for a product of their choice. This could be a project that spans several weeks in the group. Ask them to write up school sports /social events throughout the term, that then culminate in a hand-written magazine that you can photocopy for everyone. Stories / poems etc. could also be included.

### Difficulties with letter placement

- Present lined paper that has two obvious guidelines within which the child must write, i.e. providing an upper and lower visual boundary for letter placement.
- Ask the child to make sure that all letters are about the same size. When they are checking their work, letters that are consistently being written too large or small could be practised separately.
- Recap on letter placement, i.e. which letters rest on the line, drop below the line or start above the line. Identify problem letters and practice using clearly lined paper.

### Difficulties with spacing of letters

- If a child is writing with no spaces between their words, ask them to self-correct their work using a red pencil slash to indicate where the spaces should be. Give the child a target number of words to fit on the line: LESS than they are currently doing. (If the problem is that spaces between words are too big, give the child a target of MORE words to fit on a line.)
- Remind them to put a space between each word by doing practice exercises. Ask each child to draw a smiley face/use a small rubber stamp etc. after each word to exaggerate the concept of space. Compare the before and after pieces of writing so that the child can see how much more readable their work is when correctly spaced out.
- Placing the little finger of the non-writing hand on the page can act as a good indicator of space. This is a habit that could be encouraged whilst this skill is being consolidated in your sessions.
- Practice sentence writing on the black / white board using lines to guide work. These can be used for group discussions and everyone gets to have a go.

### Difficulties with punctuation

- Recap on basic punctuation and its uses: present the group with a card matching game whereby they have the name of the punctuation, i.e. 'full stop', the symbol that represents it and a third card with a description of its purpose, i.e. 'it goes at the end of sentences'. Give the group one card each and ask them to find the matching cards. When all are found, these can be shown to the whole group to visually and verbally reinforce all the concepts.
- Write sentences on the black / white board. Have a selection of punctuation symbols drawn on pieces of card (i.e. question mark, exclamation mark, full stop, speech marks, commas etc.). Attach blu-tack to the back of each one. Ask a child to come up and add the necessary punctuation to your sentence. Discuss with the class. Alternatively ask all group members to come up one at a time to each put on a piece of punctuation.
- For individual work: Present worksheets containing no punctuation and repeat as above.

Try to keep the group as creative and interesting as possible. Creating games and activities out of concepts that the children are struggling with may motivate them and promote greater involvement. Finally, if you are going to provide homework tasks, keep them short: 10 minutes a day is more likely to be continued rather than an hour once a week.