

Doing fine

Fine motor skills are apparently declining in school-leavers, so instilling them in the early years is vital, says **Caroline Vollans**

It would seem that knitting is popular again. Fashionable cafés host knitting groups, courses are widely available and the clicking of needles can be heard in the trendier pubs. This re-emergence of an activity dependent on the use of fine motor skills will be welcomed by certain professors across the country.

A professor of surgical education stated in a BBC report (October 2018) that many students have lost their dexterity for stitching and, consequently, for sewing up their patients. Professor Roger Kneebone of Imperial College London says many young people have had such limited experience of learning craft skills that they struggle with the practical aspects essential to work. These medical students who excel academically cannot cut and sew.

'It is important and an increasingly urgent issue,' says Professor Kneebone. 'It is a concern of mine and my scientific colleagues that students would leave school able to do certain practical things – cutting things out, making things – but that is no longer the case.'

He has noticed this decline in manual dexterity over the past decade and believes young people need to have a more rounded education – one where they pursue subjects that involve them learning to use their hands and be tactile. 'Students have become less competent and less confident in using their hands,' he says.

The most salient point being made here is that the push in schools to high academic grades alone cannot produce a surgeon: presumably they cannot produce a pilot, scientist or artist either. Fine motor skills need to be given their due attention if young people are going to make their way in many occupations and not face stumbling blocks due to their neglect.

Whether or not the words of Professor Kneebone would be corroborated widely or evidenced, he raises a point that is worth reflecting upon: how does the curriculum provide for the development and progression of fine motor skills for every young person throughout their education?

WHAT ARE FINE MOTOR SKILLS?

Fine motor skills are those that involve the ability to make movements by using and co-ordinating the smaller muscles such as those in the hands, wrists, fingers, toes, lips and tongue. Children and adults rely upon these for everyday tasks such as holding cutlery, eating and drinking, writing, turning pages, using small items such as a pencil sharpener, operating a keyboard, buttoning up clothing, and so on.

The development of fine motor skills starts at a very young age – we have all seen children under the age of one posting objects, sucking and biting on various items and grabbing for whatever is within their reach. The early years, then, is the critical time when the development of these skills begin. We cannot expect children to use scissors efficiently and hold pencils



MORE INFORMATION

- 'All about... under-threes' physical development', 'All about... PD principles into practice' and *Nursery World's* series on Froebelian practice by Prof Tina Bruce and Jane Dyke are at: www.nurseryworld.co.uk

Children should have developed fine motor skills before, for example, they are expected to write



effectively later in life if they have not developed the strength and manipulation needed in their hands and fingers early in life.

STRENGTHENING FINE MOTOR SKILLS

There are countless ways to strengthen these smaller muscles and to develop their co-ordination. Everyday activities using accessible and inexpensive materials are easy to set up. Here are a few examples:

- Using tongs and tweezers to pick up items of various sizes.
- Pinching clothes pegs to pick up items.
- Squeezing, stretching, pinching and rolling snakes and worms from playdough.
- Threading beads onto pipe cleaners.
- Sand and water play including pouring, sieving, mixing, measuring.
- Posting and slotting activities for babies and toddlers such as poking straws into the holes of a colander.
- Making pasta decorations, necklaces and bracelets.
- Blowing through straws to make bubbles into milk.
- Making pom-poms by winding wool round a donut circle of cardboard.
- Threading and weaving ribbons into wide meshed fabric.

- Mark- and shape-making with the fingers and toes in sand, mud or sensory salt.
- Sorting out pebbles and shells of different sizes.
- Tearing and sticking collages, including the use of textured natural materials such as twigs and leaves.
- Painting with sponges of various sizes.
- Finger knitting – an old-fashioned skill with quite satisfying results.
- Origami – paper cutting and folding that can vary in its complexity.
- Foraging for natural materials and insects in Forest School – this will develop skills in very careful handling.
- Whole hand and separate finger actions to songs.

Progression

When planning for using fine motor skills, of course it is not simply a matter of putting out suitable activities every day. As with all areas of the curriculum, planning for progression has to be integral to practice – for example, moving from using cook-shop tongs for picking things up to using tweezers.

Professor Tina Bruce is a leading expert in Froebelian practice, which includes the Occupations – creative

activities ranging from painting and paper-cutting to construction and woodwork. She notes, 'Making a thumb pot by pressing the thumb into a ball of clay is easier than making a clay sausage and coiling it into a coil pot. Folding paper in half can make a book, then folding into the fold can make a wardrobe with doors.'

SUPPORTING POOR CONTROL

There are those children who have fine motor skill problems, not because they haven't been provided with adequate opportunities for them to develop, but due to a variety of disorders. It is not always known why this happens, but possibilities include premature birth, causing the muscles to develop slowly, genetic disorders such as Down syndrome, and neuromuscular (nerve and muscle) disorders such as muscular dystrophy or cerebral palsy.

When a child has problems with fine motor skills, they might also have a range of difficulties in other areas. They may avoid or refuse to participate in certain motor tasks or get others to do it for them; they may get frustrated with tasks that require precise hand-eye co-ordination; they may feel lower self-esteem when they compare their own attempts with their peers.

An Imperial College London professor has expressed concern that many surgical students lack the dexterity to sew up patients

These children will struggle and need substantial further input and encouragement if they are to make any advances. Close work with parents, carers and occupational therapists is especially important in such cases.

DIFFERING RATES OF DEVELOPMENT

Though the importance of the development and use of the fine motor skills is clear, so is timing. As with all areas of child development, the rate of progression of fine motor skills will vary from child to child. The implication of this is that there is no precise or given age when a child will be ready, for instance, to hold a pencil.

The necessary preliminary play activities and exercises need to be given sufficient time for the particular child – for some, of course, this will be longer than for others. Children do not start to write at a standard time, just as they don't all start to speak, feed, sit or walk at the same time. Professor Bruce notes, 'The important thing is to help children with the right help, at the right time and in the right way.'

If could be that if children are pushed into writing too soon (before the child has developed all the necessary underlying motor skills), the concerns of Professor Kneebone and his colleagues will be validated. Degree students who write without the correct grip show us what can happen when their fine motor skills are under-developed. This can lead to them struggling both in their academic studies and their future workplace.

The early years has traditionally been seen as the domain of handiwork: cutting out, pasting onto paper, building towers, completing puzzles, drawing, painting, sewing, woodwork, cooking and playing in sand. Far from being complacent that the skills involved in doing such activities will 'just happen', it seems even more important than ever that we provide an adequate curriculum and assessment procedures that will equip every child with the foundations they will need for their future studies and work life.

Before robots take over, we want our students of surgery to be able to cut open and sew up their patients, so let's make sure we do all we can in the early years to enable this. ■

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