



# Creative Thinking

Priya Mahtani explains how handwork helps children learn

*Sometimes, people come up to me when I am knitting and they say things like, “Oh, I wish I could knit, but I’m just not the kind of person who can sit and waste time like that.” How can knitting be wasting time? First, I never just knit: I knit and think, knit and listen, knit and watch. Second, you aren’t wasting time if you get a useful or beautiful object at the end of it.*

**Stephanie Pearl-McPhee,  
At Knit’s End: Meditations for  
Women Who Knit Too Much**

One of my strongest memories of my childhood days was a school knitting project we were assigned at the age of about 10 years. Although nowadays I’m not sure that I even remember how to cast on, never mind knit, at that time I fancied myself something of an expert. We were allowed to choose whatever project we wanted, provided it was an item of clothing. I opted for a tank top, thinking it was indeed a most fashionable choice. What can I say? It was the beginning of the eighties.

In the days when high streets had little knitting or haberdashery-type stores tucked away on corners, I can still remember standing inside one such shoebox, surrounded by hundreds of balls of wool in many varied colours, excited to pick what I wanted for this special commission. I chose a pearly soft pink, mixed in with a baby blue. Whilst I can’t confess to knowing what happened to that much-loved, much-worn tank top, I still remember how I felt creating it. I remember that sense of achievement and happiness. A feeling that there was indeed order in my world. A soothing something that happened as I rhythmically knitted away, gainfully employed in the art of creating something from nothing save my bare hands, a pair of knitting needles and some balls of wool.

Flash forwards three decades, and I am the proud recipient of a variety of knitted, felted and stitched gifts from my own children. I am touched by their sense of accomplishment and wonder at having created something of their very own – as well as benefiting from, amongst other things, a very useful hand-carved wooden

soup ladle and more recently a machine-sewn apron from my son.

Little did I know, however, that handwork is not only a beautiful and creative act, but also an important and significant foundation for learning later on. Neuroscience is fast corroborating what many teachers have known for years: that there is an intimate correlation between the activity of the human hand and the development of creative thinking. Creative abilities are developed through creative experiences.

Frank Wilson, a neurologist based in California, explores this in depth in his book *The Hand: How Its Use Shapes the Brain, Language and Human Culture*. Originally a music teacher, he later met his former woodwind and string instrument pupils as adults and marvelled at their creative thinking and ability to think outside the box. Continuing his research, he began a process of mapping brain size against the different manual skills and faculties being developed in the human being. He discovered that as new tools were developed in the individual, brain capacity increased. A correlation was revealed between learning new skills and brain development; manual learning and dexterity had a direct impact. He said: “If the hand and brain learn to speak to each other intimately and harmoniously, something that humans seem to prize greatly, which we call autonomy, begins to take shape.”

Forty years ago, when an anthropologist discovered Lucy, our oldest-known ancestor from about 3.25 million years ago, studies of her revealed that our ape ancestors’ brain size increased >

## Three reasons why handwork helps at the Greenwich Steiner School

Knitting, crochet, sewing, embroidery, felting and machine-sewing are just a few of the many different handwork activities that children get to experience at the Greenwich Steiner School as part of their handwork curriculum. More than just fun, creative craft work is calming, builds skills for life and helps to forge pathways in the brain to support cognitive development. Knitting in particular is now understood to be an excellent preparation for learning computer coding.

Children get to follow the entire process of the craft through the materials and tools, for example starting with washing the sheep's wool, carding, spinning and dyeing it, then making knitting needles, and finally getting on with the knitting itself. Engaging children with the many steps in the process teaches them patience and respect for the sheep and the craft itself as well as a healthy awareness of how things are made and where they come from.

Handwork absolutely supports children to learn, and here are our favourite reasons why:

*1. Developing Numeracy.* Have you ever thought about just how much counting is involved in knitting or sewing? Helping children develop basic patterns, using all four basic mathematical processes and simple geometry, offers them a strong foundation in numeracy that lasts a lifetime.

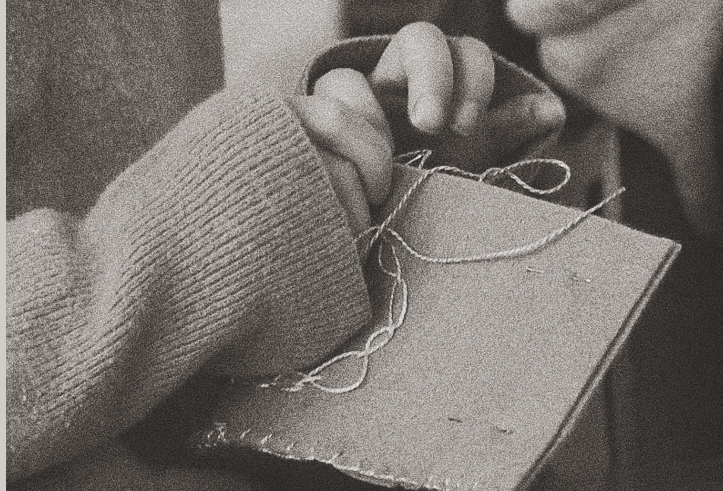
*2. Concentration.* Imagine sitting in front of a ball of wool and then ending up with a very beautiful pair of socks! How did that happen? The ability to follow a project from start to finish is not only immensely satisfying, requiring powers of concentration, but builds good hand-eye coordination too. Handwork develops children's ability to focus on a project for an extended period of time.

*3. Respect.* Working on a project sometimes requires a lot of focus and quiet – particularly if you are learning a new stitch. As a child in a bigger class you have to learn to respect the needs of others as you wait your turn for help. Children also learn respect for their belongings as they make pencil cases to look after pencils and crayons and knit recorder cases for their instruments.

[www.greenwichsteinerschool.org.uk](http://www.greenwichsteinerschool.org.uk)

> with an increase in tool use. Hand and mind development were inextricably connected.

Consider for a moment small babies, whose finger mobility is close to their speech centre. Babies start gripping everything they can get hold of with their mouths. Soon enough this function is taken over by their fingers as they make contact with the world. Crawling, walking, touching everything in reach, little hands and fingers get hold of whatever they can – our first concepts 'grasped' with our hands and bodies.



In Early Years settings, much of speech development depends on skilful finger movements, as seen in finger games played while reciting nursery rhymes. There are many fine nerve-endings in the fingers. Matti Bergström, a neurophysiologist from Finland, spoke about 'finger-blindness', which can occur when our fingers are not actively engaged with learning. He stated: "The brain discovers what the fingers explore... If we don't use our fingers, if in childhood we become 'finger-blind', the rich network of nerves is impoverished – which represents a huge loss to the brain and thwarts the individual's all-round development. If we neglect to develop and train our children's fingers and the creative form-building capacity of the hand muscles, then we neglect to develop their understanding of the unity of things; we thwart their aesthetic and creative powers."

What is clear is that to ensure healthy brain development in the growing child, an experiential approach to learning is required. Actively engaging with handwork fosters creative thinking; but how can we apply this today to our children and in our schools? We no longer live in the apprentice culture of the Middle Ages, where young people would hone their skills and learn a trade with a craftsman. Most of us neither chop wood for fires nor knead dough for bread-making – all of which children of bygone years would have been actively involved with.

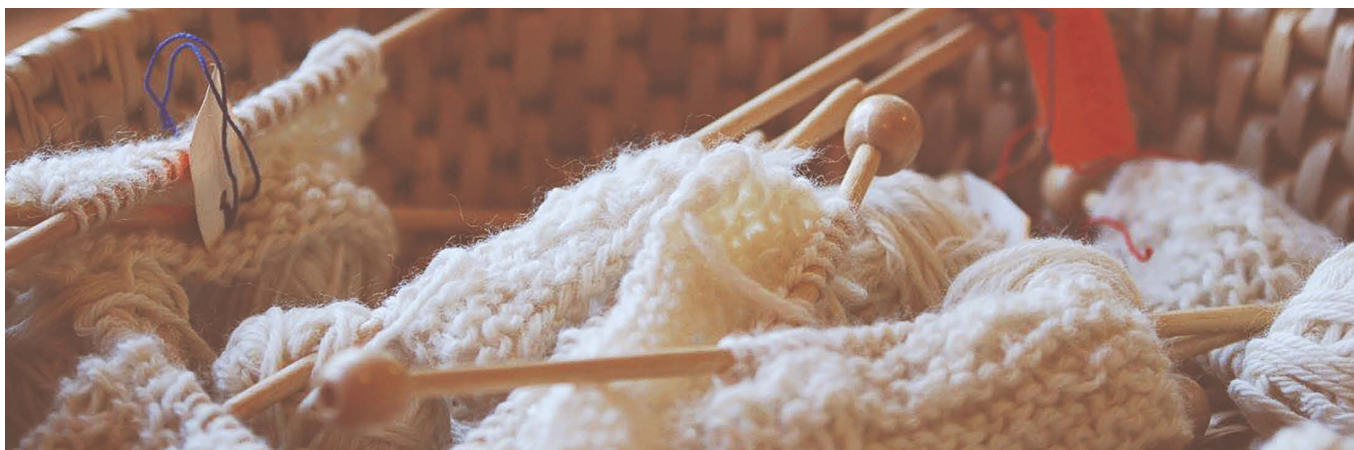
Today's child has a much more sedentary learning lifestyle – with many hours spent sitting in a classroom, or in front of a

screen that may actively engage their young minds but certainly not their hands. 'Nature-deficit disorder', a term coined by Richard Louv in his book *Last Child in the Woods*, is a modern-day phenomenon that brings attention to the fact that more and more children are spending less and less time outdoors and having a wider range of behavioural problems as a result. If we follow the research breadcrumbs, we can see that this is potentially catastrophic for our species, whose brain capacity has evolved precisely because of our engagement with our hands as tools to be usefully employed.

Bringing real meaning to the importance of hands-on learning, organisations such as Pyrites Living and Learning with Nature ([www.pyrites.org](http://www.pyrites.org)) provide young people with opportunities to engage with experiential learning through craft. In Steiner schools, the Waldorf curriculum is founded on an experiential approach to learning, and hence handwork is an important and integrated part of the overall curriculum. As the rise in popularity of Forest Schools, cultivating the 'outdoor classroom', and the Montessori method attest, refining and developing motor skills in children who are engaged in an act of creation are considered clear priorities. The repetition of such skills and the 'practice makes perfect' approach provide children with ample opportunities to be successful learners and revel in their own accomplishments.

There is much truth in the old adage 'nimble hands make nimble work'. By engaging our children with their hands, we truly nurture creativity. This is how we can ensure that the next generation of learners have the logical thinking and problem-solving attributes required to navigate their way through the future.

Whilst there was something quite magical about realising my creative vision and bringing it to life when knitting my tank top, I still remember getting in a muddle or dropping stitches. With knitting, however, you just have to follow the thread. Sometimes it is necessary to unravel what you have done in order to correct a mistake and see where you have gone wrong. The pattern of



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## *MindBuilders: what can you do at home?*

Sibylle Janert, a psychologist and autism expert and the author of *Mindbuilders' Play Manual*, has many practical suggestions for supporting healthy development, play and behaviour at home, including these:

*1. Draw with crayons.* Avoid felt-tips and easy-writing materials before the age of 6 years. Crayons require more strength and greater manual dexterity. This develops children's will and sense of groundedness and will support their speech development too.

*2. Get involved with household chores.* Allow children to help with simple chores such as peeling vegetables and cooking food. Letting them clean the sink or use the vacuum cleaner offers them practical skills and helps them to develop in other ways.

*3. Recycling box.* Keep a box of materials for recycling in the living room – this can include such things as empty yoghurt pots, cardboard toilet roll inners and cereal boxes. Let your children make something out of nothing, without the play being pre-labelled by commercial characters and costumes. It is very healthy for children to allow their imaginations to lead their play – and this will help their social skills later on.

*[www.mindbuilders-consulting.org](http://www.mindbuilders-consulting.org)*

knitting offers an important blueprint for life and demonstrates how sometimes the unravelling of mistakes can make what we create in the future even more beautiful.

It's never too late to start a creative project. With the research stacked up on the considerable health benefits for your child's brain development, that's just another great reason to get your children actively involved in making something worthwhile. ●