

Will-developed Intelligence: Knitting begets Thinking!

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In 1920 Rudolf Steiner said:

"The more we take into account that intellect develops from the movement of the limbs, from dexterity and skills, the better it will be."

This motto stands behind the whole Waldorf curriculum and especially the Handwork and Craft curriculum. Learning through doing and learning through making are fundamental principles of Waldorf Education.

Out of activity and movement arise thinking and understanding: creative, living thinking is movement internalised.

When we think of movement, we think primarily about the activity of the limbs. The limbs are the instruments of the Will. The Will is the power within us that allows us, through our deeds, to interact with the world. Will activity lays the foundation for our thinking. The brain has billions of active neural passageways which, when correctly exercised, allow us to make connections and patterns.

Intelligence is formed through movement, activity and manual dexterity. Mental operations bring about real thoughts when prepared by physical action, which is Will activity. Throughout the whole of Waldorf Education, movement is promoted by means of imaginative play and teaching, speech work, singing and music, modelling, eurythmy, games, handwork and crafts. Doing is an integral part of every Main Lesson.

We will focus in this article on Handwork and Crafts and on the importance of manual dexterity in the development of intelligence. Recent research has indicated that the use of the hands has laid the foundation of the development of the brain. The size of the brain of our ape ancestors increased according to the increase in tool use.

Walking upright frees the hands from simply supporting the weight. This allows for the development of new skills. The structure of modern man is the result of the changes that came with a tool-using way of life. Human structure, especially uprightness and the changes in the structure of the hands, and in particular the thumb, makes human behaviour distinctive. Having enough brainpower to know, or guess, what the brain itself was doing, marked a transition to consciousness which is often identified as a special characteristic of Homo Sapiens.

New experiences and new environments became available through the freeing of the hands and the adaptation of the wrist and fingers. Through hand signals, bodily gestures, vocalization and cooperative tool manufacture and use, conditions were created for the development of language. Survival prospects were also greatly increased.

Increasing refinement and specialisation of the manipulative skills brought about complex social structures, cooperation and competition within the human sphere. These brought forward the evolution of the human brain. We may conclude that intelligent, purposeful use of the hand is an elemental force in the birth of the mind.

Professor Bergstrom, a neurophysiologist from Sweden, talks about "finger blindness" which can occur when we don't use our fingers. The very rich network of nerve endings in our fingertips is connected with neural passages in the brain. If these nerve endings are not

activated by the work of the hands, the individual's all-round development is thwarted. If we neglect to develop and train our children's fingers and the creative form-building capacity of their hand muscles, then we neglect to develop their understanding of the unity of all things.

How does education accommodate the fact that the hand is not merely an icon of humanness, but often the real life focus, the lever or launching pad of a successful and genuinely fulfilling life? Why did Rudolf Steiner insist that each child should learn to knit, both boys and girls? This was quite a revolutionary idea at the time.

He said if we do knitting with the children, we are working on their minds. Capacities are built up for logical thinking, forming judgements and solving problems. In knitting we are following a thread. One stitch in a row affects the one before and after, just as each step in a logical argument. We can discover faults in our knitting and thinking by unravelling these steps or stitches. When we are knitting we are making patterns, which corresponds with making patterns in our brain. When we repeat the movements, the connections become stronger, we become skilful. Our thinking is in our fingertips.

Activating the will in Handwork strengthens will activity in all subjects. Learning one thing makes it easier to learn another. If we make patterns, seeing, recognizing and using patterns becomes easier for us. Confidence in one subject carries over into another. For healthy human will, we need movement, flexibility and fluidity in all the three soul forces: the thinking, the feeling and the willing. Through the activation of the imagination, the senses and the limbs, a harmonious development can be achieved.

The natural world is experienced through the senses, which are connected to the vital processes of life, such as breathing, digestion, growing, and reproduction. If a child is deprived of sense experiences, it can hinder their development and personality. Handwork and Craft expand the potential for a rich sensory experience. Working with different natural materials such as wool, cotton, wood, clay and the elements of earth, water, fire and air in the different craft processes, the child is connected to the world, and can perform purposeful deeds. The basis for a rich, feeling life is provided, which is a necessary mediator between the forces of the head and those of the limbs. A healthy mental activity is connected to the feelings of the heart. Too much mental activity can result in cold, cruel thinking, or selfishness. We need to bring enthusiasm, interest and warmth of feeling into our thinking.

Judgment is required for healthy limb activity. We need to bring purpose into our physical work. An imbalance will result in too much feeling, anger, and depression. The interest and attention enlivens the activity of the breast system, the lungs and the blood. It is this activity that keeps the brain functioning. It is the activity that keeps matter alive.

Today we can observe a lack of balance in the stimulation of the senses; either through an over stimulation, or a deprivation. This, together with a lack of movement, calls for a more practical, hands-on education. The activities that for centuries provided children with stimulation for healthy movement and sense experience are disappearing. The child no longer participates in activities like cooking, making bread, scrubbing, chopping wood, and digging the soil. We need to restore the children's connection to the natural world and provide opportunities for healthy purposeful movement.

This therapeutic work starts in the Kindergarten where imaginative play is encouraged and household tasks are performed and imitated. This will activity in the Kindergarten progresses through the school years from play into meaningful work through craft and technology.

Learning through doing ascends from the limbs to the head. Reflection and analysis of what the hands have made bring consciousness into the intelligence of the limbs. Between the limbs and the head the choice of materials, colour and texture provide rich nourishment for the feeling life. The artistic experience transforms those feelings into a basis for aesthetics and sound judgement. There is a rhythmic process of exchange taking place.

When the child learns to make beautiful, useful things, a social awareness will arise and appreciation for the work of others, as well as knowledge and respect for the source of the materials, the natural environment, tools, resourcefulness, and recycling principles. It is important not to waste materials. Craft activities need to be experienced within a context related to the rest of life.

Intelligence arises through movement, activity and manual dexterity. It is not directed to finished thinking. It understands what is in movement or still in a state of becoming. It does not arise from the intellect alone, but from the working together of the faculties of thinking, feeling and doing. The intellect itself is primarily concerned with reasoning and the acquisition of knowledge. It focuses on *grasping* facts, that which already exists or is known.

Intelligence is concerned with making patterns, understanding patterns and opening up new patterns. Here the foundations are laid for forming judgements. Mental operations such as reaching conclusions, forming judgements and comprehension are the result of taking actions into the mind and coordinating them there; *picking up and following a thread*. When prepared by physical action - by an activity of the will, mental operations bring about real thought.

In the creative process of making, the child engages with the material world. In so doing s/he develops an interest in it, develops skills, self confidence, a sense of purpose, a sense of achievement, a sense of belonging, an understanding of the needs of the world and a wish to actively participate. In addition the senses are developed.

The renewal of education and of social, economic and spiritual life as Steiner suggests, depends on the ability of the coming generations to bring about something new and constructive out of their own inner resources; something that was not there before. They can do that if they learn to understand what is good, beautiful and truthful, - which are spiritual qualities at the heart of Waldorf Education.

Can cut from here.....

I will illustrate very briefly how we try to implement this in the Handwork lessons. It would be impossible within this talk to give a comprehensive list of all the projects and activities that support learning in our school, or even in Handwork alone.

Coming from Kindergarten, the children in class one learn to knit a toy, a farmer, an animal, or a ball, usually knitted in one piece whilst the child is still in a dreamlike consciousness, at one with the world. They will also felt a ball and start a weaving project. The knitting and weaving movements awaken their consciousness whilst the senses are educated through different textures and colour.

In class two we raise the level of competence in knitting by practice and the introduction of purl stitches. Knitting has to be sewn up, and stuffed to form a doll or a gnome.

In class three the children learn a new skill: to crochet, and make objects like marble bags and recorder cases which are used at school. They also make a hat in the round, measured to their own heads.

When they arrive in class four, the children are ready for a more individual expression of who they are, as they are by this stage aware of their own uniqueness and sometimes alone-ness. Mirroring is a harmonising activity in cross-stitch work, which itself awakens the child and sharpens the thinking. Working with form and colour combinations each finished work is highly individual. The children may also make a piece of felt to sew into a pencil case.

Having studied animals in class four, the children in class five choose, draw and model an animal; make their drawing into a pattern and create a four-legged three-dimensional model.

In class six the children stand firmly on the earth like the Romans they study, and a project for their feet is an appropriate craft activity. They make slippers.

For the science lessons in class seven, aprons are sewn and decorated, whilst finally, in class eight, a piece of clothing for the middle realm of the body is manufactured using a sewing machine, i.e. A shirt, skirt or trousers.

In the course of classes one to eight the idea is that the children learn to dress themselves from head to toe, acquiring skills in knitting, crochet, cross-stitch, felting, and sewing. Their senses are activated, their will strengthened and a foundation is laid for mental activity and the development of intelligence. When they leave our school we hope they will go on learning from life, their whole life long.

Flexibility and adaptability are necessary attributes for the future when our children will most likely have not one, but many careers. In our often insecure world, a strong, well-directed will is of great importance. They will need to design a world of work that supports human development: work that enables the individual to unfold and reach his highest potential; work which serves the needs of humanity and the natural world in a selfless way; work that serves the resolution of conflict and solves the world's problems.

Our hands and fingers have the skill

To make a thing and do it well.

Our head to tell us what to do

Our heart to choose the shape and hue

Our hands, our head, our heart, all three

Our thanks to You

Who gave them to me.

(This is the Handwork verse for class three)

References and further reading

Study of Man by Rudolf Steiner

Will-Developed Intelligence by D. Mitchell and P. Livingston

The Hand by F. Wilson

I have been supported and inspired by the work of the Hiram Trust and its dynamic director Bernard Graves. They are involved in actively promoting experiential learning. See their website for further information: www.anth.org.uk/hiramtrust

* From our series of Monday Night Talks. The evening was very lively and we all learnt to cast on in knitting and made several small projects to take home.