



direction



Sadhana - Reflective Practice,
Spontaneous Living

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From the Editor

Let us take a moment to reflect on the state of Montessori two years down the line from the celebration of the Montessori Centenary. The demand for Montessori has exploded all around the world – in the Middle and Far East organisations and governments are clamouring to set up training centres and establish Montessori schools. In the UK Montessori primary schools are springing up all over the place – both in the private and state sector. In September we will have the first true Erdkinder project in the UK opening in Scotland. In addition, the government have set a statutory framework for our early years education that stresses both the importance of the child as an individual able to develop through his own activity and the need to provide him with the right kind of environment. Such an individual approach that offers the child choice and freedom can not really be delivered through a traditional curriculum – so what an opportunity for Montessori – we need to take every opportunity, every forum, every meeting with local government to let them know that we have a way to do it - and that Montessori should inform the training of all early years educators. The report from Montessori Education [UK] published in this issue of *direction* gives some guidance on this and the

full document can be downloaded from their website.

All of these things point to the need to assess and raise our practice constantly to make sure that we are offering all Montessori really has to offer. With this in mind we also publish an article by Dr Angeline Lillard on the importance of the Montessori materials where she asks what it is that is essential to Montessori practice – is it the materials or the principles that aid development?

What, then, is the kind of development that Montessori supports? In essence this was also the theme of this year's International Montessori Congress in Chennai earlier this year – Sadhana – 'a disciplined state of inner harmony.' To expand on this we bring you Kristin McAlister Young's reflections on Sadhana and its relationship to the Montessori concept of normalisation. This is also complemented by Lori Woellhaf's discussion of 'flow' – an apparently new concept – but as all Montessorians know 'flow' was discovered in that first Children's House 102 years ago!

Louise Livingston



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Montessori Society [AMI] UK

New Direction for the Montessori Society will support the AMI strategic plan

The Montessori Society has made the momentous decision to work towards establishing a 'professional' status. As many of you know, the Society is currently run entirely by volunteers. Since nearly all these volunteers also have other full time employment there is a limit to the time that they can devote to their work for the Society and this inevitably limits the scope of the Society's outreach. The idea of 'professional' status is founded on the idea of employing paid staff. With a full time paid office staff the Society would be able to significantly extend its activities. The impetus driving this has come from two sources. First, the messages given by the AMI UK Open Forum that took place last year at the Society's AGM. Secondly, AMI's new strategic plan for the next ten years which has set out an exciting and challenging role for its affiliates. The Montessori Society [AMI] UK is keen to be able to step up to this plate and deliver the AMI vision. As AMI's voice in the United Kingdom, it is clear that the Society needs to expand, in order to enable it to carry out the role it needs to play in this process.

We are also really excited to report that the new group membership option is taking off and we now have 140 families as members – if you would like to make sure that all the parents in your school can take advantage of the benefits offered by our membership you can download the group membership form from our website. If you run any kind of Montessori group such as MSA or MEYF you can also take advantage of this group membership and we are pleased that some of you have already taken up this option.

Montessori Society announces Sue Palmer as new President

We are sorry to say good-bye to our President of three years, Peter Jackson, who retired at our AGM. Peter has been a very hands-on President attending many of our committee meetings and offering much useful advice. His input to the development and launch of our new publication has been particularly helpful. However, we were thrilled to be able to welcome Sue Palmer as our President at the recent AGM. Sue is a renowned writer, broadcaster and consultant on the education of young children. She is an active campaigner for the protection of childhood and has a talent for attracting media attention to this cause. She is an avid supporter of Montessori and we are optimistic that her appointment as President will be of great benefit to us. When asked about this new appointment Sue said: 'When I was a primary school teacher I thought Montessori was all about 'education for

small children' – somewhere for a mother to send her child when she needed a few hours break and coffee with her friends. But over the last few years, since I started to mix with a few Montessorians, I've come to a completely different understanding of what the Montessori approach really is. I've met people who not only understand about child development but who also know how to support it. Not just in school but at home and in life. Not just while the child is at Montessori 'nursery' but right through to adolescence.

The more I mix with Montessorians the more I hear myself agreeing with what they say – because what they say seems to resonate so strongly with what I've felt innately for years... and what all my research for my books 'Toxic Childhood' and '21st Century Boys' confirms. I know that children, especially in their first seven or so years, need to develop according to their own natural rhythm and that education needs to be about facilitating this.

As I look around me now at what we are doing to our children I know that now, more than ever, we need to find a way to help them to develop naturally. Away from the screen-based entertainment that encourages them a sedentary, solitary, passively compliant lifestyle. Away from the confines of an adult imposed curriculum and the stress of continual rigorous testing. Away from the possessions that the commercial world brainwashes them into thinking they need. We need to help our children back to a natural developmental trajectory, one that will equip them live life as it was intended. I truly believe this is what the Montessori approach offers and I'm thrilled to have been invited to be the President of Montessori Society AMI UK. Thanks so much for letting me be involved in your wonderful work, and I hope I can be of some use.



0-3 Assistants to Infancy Course

We are most pleased to announce that the fifth 0-3 AMI Assistants to Infancy Course to take place in London, with Dr. Silvana Montanaro as Director of Training, will be given by the Institute soon. It will be run in sections, beginning early in 2010. We will shortly be sending further details to all those who have previously expressed interest. Places on the course are limited. Contact us if you would like to join this list or simply wish to make certain you are on it. Our 3-6 diploma course continues and if you are a parent you might be interested in the newly established mornings only part-time course.

June Workshops

There are still a few places left on the Workshops which will take place at the Institute in June. Topics this year include Embroidery, Music in the Montessori Classroom and Talking about Death and Bereavement with Children. These workshops are open to all - parents, teachers and students.

AMI Refresher Course 2009

This year's AMI Refresher course, to be held on the weekend of 11th and 12th July will be on 'Creative Expression'. This is a follow on from last summer's enormously successful Refresher on 'Creative Development'. The focus this time will be on how to help the children use their creativity to express themselves through Music, Dance, and Drama. We are excited that Rukmini Ramachandran, who runs the Montessori AMI training course in Chennai, India, will be presenting the Refresher along with the team of trainers we have at the Institute. Rukmini was one of the organisers of the AMI International Congress in Chennai this January. Further details and an application form are available on our website.

MMI Alumni Details

We love to contact Alumni directly, but if we do not have your email address it is more expensive and less eco-friendly. So please don't forget to let us have your up-to-date contact details, especially if you have changed your email address. Keep in touch with us at alumni@mariamontessori.org

Contact us for further information on any of the above:

Telephone: 0207 435 3646

Email: info@mariamontessori.org

Website: www.mariamontessori.org

Montessori Education UK

Launch of New Website

Over recent years Montessori Education [UK] has been supplying an ever-increasing amount of information to all sorts of enquirers interested in the many varied aspects of Montessori education. Because of the amount of printed matter that this involves we have been feeling guilty about the size of our carbon footprint.

For this reason we have commissioned a brand new website, through which we propose to conduct the bulk of the work of the charity. The website address is the same as previously, but the new website is much more sophisticated than the old one. It is pretty straightforward to create a website that acts as a showcase for information. It is another matter altogether to design one that will enable the accreditation systems to be administered on-line. This involves many more 'behind the scenes' structures and processes, and it has been getting this right that has taken the time.

But as with any sophisticated product, the nuts and bolts that make it work are not visible from the front. What the visitor to the website encounters is a wealth of information about the work of the organisation, as the national standards body for Montessori, and as the awarding body for school and training accreditation. Not only this, but details of interest to parents and students on the Montessori approach feature in our 'showcase'.

Now, however, everything is in place, and Montessori Education [UK] is delighted to announce that its new website is live. To celebrate its launch, ME[UK] is making available the full version of its important document, 'Montessori and the EYFS: Guidance for Teachers' as a free download to anyone who wishes to access it through the website.

This document represents a considered and practical view of the way in which Montessori fulfils the EYFS and is an indispensable support for teachers. So, visit www.montessorieducationuk.org to download your copy, compliments of ME[UK].

Helen Prochazka

Chairman, Montessori Education [UK]



My child is five and has been in a Montessori Children's House since she was just over two. I have seen her blossom into a little girl with purpose and I am amazed on a daily basis by the way she thinks. I would really like this experience to continue for her and I am considering Montessori Primary for her but I have one concern: with so much choice what will happen if she simply decides that she doesn't want to do some core subject like maths for example - could she reach eleven without gaining the essentials

You are right choice is still an essential element of the Montessori primary environment because we all learn more when we can choose what we want to know about. However, the primary aged child is not the same as the child under six. The young child has the kind of mind that simply soaks up information and his main task is to develop the parts of his personality - that is to acquire facility in his mother tongue, to gain control over his body and to learn about the world in which he lives so that he can learn how to live in his community - he does not decide what he wants to learn he learns it by simply living. The older child, on the other hand, has a mind that can reason about what he learns - he can choose to study dinosaurs or amphibians because he finds them interesting. So for this child we can set objectives and he can understand that it is important that he tries to achieve these things. In Montessori Primary he will be given some things that he has to do every week - and these will mainly be maths and language activities. The difference between this and the traditional system is that the objectives are set according to his individual needs and also he can decide when he does them. The only thing he cannot do is decide not to do them - he is expected to take responsibility for his *direction >> 5*

learning. For the rest of the time he can follow what ever interests him and his projects and research will be based on this. Stimulus for his imagination is given through the 'great stories' and his exploration is always inter-disciplinary because the stories help to weave together subjects such as history, geography and science - so that a child who is interested in animals might find himself embroiled in an investigation of habitat which inevitably takes him into physical geography and an investigation of size which takes him into maths - and of course all of this is written so he is also doing language work without even knowing it.

If you would like to know more about the Montessori Primary programme you can purchase the NAMTA publication 'What is Montessori Elementary?' from the Montessori Society.

Comments, Suggestions?

Please send in your letters to:

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I have heard people say that Montessori may be all right for girls but is not suitable for little boys who have so much excess energy and need to be able to run around. How is this excess energy catered for in a Montessori environment that focuses on the

It is true that one of the main aims of the Montessori approach is to help the child find engagement so that he can bring his actions under the control of his mind. This is essential for all children regardless of their sex. However children cannot be forced to concentrate. The route to concentration is through activity - children are not able to concentrate simply because an adult tells them to. Any activity that helps the children take control of their bodies must be done by helping them to use their bodies and so the children are offered activities that require them to do this - to scrub a table, to clean the windows or balance on a line for example. The control that the child gains in this way feeds into all of his physical activity and as a consequence he finds that playing sport and climbing trees all become a fulfilling experience for him. Furthermore because choice is an essential part of the Montessori approach the child is never compelled to sit at a table and concentrate and if at any one moment his choice is to dig up the weeds in the garden or clean everyone's Wellington boots then he is perfectly welcome to do so - there are plenty of activities that help soak up those boys excess energy!

I understand that the EYFS legislation sets learning goals for as young as 22 months and the ability to use a mouse and keyboard by 40 months. My Children's Montessori nursery does not even own a computer for the children to use. Does this mean that my children will be at a disadvantage when it comes to using computer technology?

This is one of the areas where Montessori practice does indeed differ from that suggested by the EYFS. The thinking for this is based on sound developmental principles that have been a part of our practice for one hundred years but are now being backed up by current research. Of particular relevance here is the fact that the child needs to be engaged in real activities - what Montessori called 'purposeful activities' because these are the kind of activities that engage his mind and help him to adapt to the life around him. For example when the child is allowed to wash up his plate and utensils after his lunch he will learn that if he puts too much washing up liquid in the bowl it is impossible to get rid of the bubbles. He will learn how hard he has to rub to get all the Marmite off the plate and in doing so he will start to be able to control his hands for a real task - he is being prepared to take part in the life going on around him. Now it might be said that when we show the child how to use a computer mouse we are also preparing him to take part in the life going on around him - certainly there are plenty of computers in his life. But there is a crucial difference here - when the child uses a mouse to make a tower appear on the screen he is not seeing the real consequence of his movement - when we tap our fingers this does not *really* build a tower. The signals being transmitted between the child's mind and hand are confusing for the young developing brain. At this age the child is making

synaptic connections in his brain. These are made in response to the repeated activities that he carries out with his hands. The idea that tapping his fingers performs such a complex task as building a tower is not helpful to the strengthening of the bond between hand and mind.

There is no doubt that children will find the use of computers 'fun' and the many toddler programmes that flood daily onto the market are of great appeal to both adults and children - especially when they are accompanied by claims that they will help children to get 'an early start on learning' but this is not a good enough reason to allow our children to be exposed to something that is harming their development. World

renowned Psychologist Dr Aric Sigman tells us that 'computer use too early has long term detrimental effects on children's maths and reading. Early exposure may have long-lasting adverse effects on educational achievement'. He goes on to say that 'we should keep computers and televisions out of the classrooms and especially not in nurseries at a younger age'.

So then how will these children learn to use computers? There is no doubt that this is a skill they will need in the future. It may seem complacent to say this - but there is plenty of time for them to acquire these skills. If we look at today's teenagers do we have any doubt that they can use computer technology? Yet did they have a mouse in their hands before they could ride a bike? Children can be taught these skills easily when the time is right - when they have the kind of mind that understands easily what it means to use a computer and what it is used for - and its *not* to build the Pink Tower!



Report

Montessori and the Early Years Foundation Stage

Montessori Education UK reports on how easily the EYFS is fulfilled by Montessori but warns that the imposition of statutory goals for our young children cannot fail to compromise any child led approach.

The introduction of the Early Years Foundation Stage (EYFS) has created an opportunity for a new relationship between the Montessori movement in the UK and those academics, policy makers and local authority professionals involved in the care and education of young children. There is a strong concordance between the themes and principles that underpin the EYFS and those that guide Montessori practice. Drawing on the Birth to Three Matters Framework, the EYFS puts a new emphasis on children as active learners throughout the foundation stage. This new emphasis has in turn increased the attention given to the environments from which children learn. Dr Montessori was one of the earliest pioneers of educational practices based on these ideas. Today, Montessori communities have a unique contribution to make to the delivery of the EYFS because of the very different way in which they function to support active learning.

At the same time the EYFS poses a difficulty, in the form of the statutory targets, to those seeking to support active learning comprehensively. Over many years children in Montessori environments have comfortably arrived at the indicators of development described through the targets. Supporting children to this level of development has come about by planning activities that follow each child's deepest interests at any particular time. The emphasis on target-based planning within the EYFS could lead some practitioners to dictate a learning timetable to the children at the expense of following the interests of an active learner.

Montessori Education (UK) have written a document mapping Montessori against the guidelines given in the EYFS. The purpose of this document is to highlight how the EYFS can be delivered very effectively through Montessori environments, highlighting those areas where Montessori practice has a particular contribution to offer. Each of the

Themes and Principles is comprehensively addressed.

Montessori and the EYFS

A central idea of Montessori Education is that children have within them the power they need to develop themselves. Following from this is the understanding that it is through the child's interaction with his environment that this self-construction takes place. It is the child who needs to be active in his dynamic experience with the world around him. The task we set ourselves as Montessori educators is to provide children with an environment carefully prepared to meet their particular developmental needs and, through careful observation, to connect them with that environment, so that they can build themselves through their own activity.

The parallels between the Montessori approach and some of the main themes of the Early Years Foundation Stage are clear. The EYFS theme of 'A Unique Child' is based on the principle that 'Every child is a competent learner from birth who can be resilient, capable, confident and self-assured'. Similarly the EYFS makes the provision of 'Enabling Environments' one of four priorities. The emphasis placed on 'active learning' and 'learning through experience' within the theme of 'Learning and Development' is again very much in line with Montessori practice.



There are many sections of the EYFS that emphasise the importance of the child's own decision making, both in what they do and how they do it. Other parts of the EYFS emphasise that children are innately 'primed' to learn from the human and physical environments around them. This is a radical departure from traditional educational practice, which in general follows a curriculum decided by the adult, that determines what the



decision making shifts away from the adult, to the child

children should do and learn. In the Montessori approach decision-making for the child's day-to-day activities shifts away from the adult, to the child.

Montessori environments take these principles to their natural conclusion. The child enters an environment, which both in its contents and functioning, is designed to meet the particular physical, mental and spiritual needs of children aged between 2 ½ to 6 years. Within this space there are very few limits to the child's freedom and decision-making. A child is shown a variety of activities, is free to choose what to do and for how long. Through detailed observations of his choice and use of activities, further individual lessons are offered, giving him an increasing range of materials to explore. Children are free to use an activity until they decide to put it away. They are free to choose when to be active, when to rest and watch, when to look at a book, to go outside, to have a drink or prepare some fruit. When a child is choosing freely within an environment carefully prepared to support his independence, it is relatively easy to observe his real interests unfolding - those that are driven by developmental urges - and to support and follow these.

Adults will support children in different ways at different times, occasionally giving more guidance, but always with the intention of re-establishing the child as the active decision-maker, directing his own development. The limits to this freedom are few but clear - the safety of the child and the good of the community as a whole. Breaks for circle time or other activities are not scheduled; the children follow their individual rhythms within the community. When the natural development of a child is followed in this way, it reveals patterns that defy the notion of learning as linear and incremental. A four-year old may spend most of the year following an interest in shape, pattern and

numbers, and then explode into writing and reading at five, having previously shown only a cursory interest in linking sounds to letters. Many children are able to manage their own learning for the day with little or no direct involvement from adults.

The high levels of autonomy afforded to children within the Montessori approach provides early years practitioners and researchers with a unique environment to observe the natural tendencies of children in relation to learning and development.

The EYFS acknowledges that children are active learners innately 'primed' to learn from their environments, that they are 'driven to control and manage their world'. The themes of choice, of the child as an active learner, of decision

making and of environments that enable the children's independence are just some of the areas of synergy between the EYFS and the Montessori approach.

There is, however a difficulty in accommodating and supporting these emerging characteristics of children on a daily basis within a curriculum that is driven by a large number of targets.

'The statutory early learning establish expectations for most children to reach by the end of the EYFS. They provide the basis for planning throughout the EYFS, so laying secure foundations from birth for future learning. By the end of the EYFS, some children will have exceeded the goals. Other children, depending on their individual needs, will be working towards some or all of the goals - particularly some younger children, some children with learning difficulties and disabilities and some learning English as an additional language. Detailed guidance on the early learning goals and how to work with children to achieve them is set out in the Practice Guidance for the Early Years Foundation Stage.' EYFS Framework Document 1.0

The problem is not with any of the goals per se, for it is quite likely that children in a Montessori environment could be described as 'achieving' most or all of the goals at the end of the EYFS. In some areas by virtue of the materials and approach, children in a Montessori environment are likely to far exceed the goals (for example on problem solving, reasoning and numeracy). The problem is that the goals set out a detailed ideal of what a child should be in the August after their 5th birthday. If they remain, these goals will inevitably become the tools by which parents and practitioners 'measure' and compare children. One practical problem is that comparisons will be made between children who are nearly five and children who are nearly six.

But the wider question is whether the goals reflect the appropriate aspirations and expectations that we might have of children of this age. This is important as the EYFS states that these goals should 'provide the basis for planning throughout the EYFS'. With so many goals, 69 in total, it seems likely that there will be a tendency towards viewing the child's development target by target, rather than as a unified whole. If practitioners are planning around so many targets, the range for the child's decision-making and scope for independence can only be very limited. In Montessori environments planning would normally be based on supporting the development of concentration within each child, using the child's innate curiosity in the world as a means to connect them to activities.

Through this process, it is quite likely that most children will meet or exceed the EYFS goals but the arrival at these various skills, understandings or dispositions has come from the child, from the inside out. 'Retaining control of the curriculum' implies that it is the adult, not the child, who is directing the learning process. Montessori Education (UK) firmly believes that how the child arrives at these goals is more important than the mere fact of getting there. This means allowing children to take the time they need to explore the world in their own way, and so prepare themselves for the next stage of their development, the age of childhood between infancy and puberty.

Montessori educators have a vision of the characteristics they hope to be revealed by the child at around the age of six. These include a love of purposeful activity, spontaneous concentration, attachment to reality, sublimation of the possessive instinct, power to act from real choice, independence and initiative, spontaneous self-discipline, and joy. Broadly speaking, these characteristics are seen first fleetingly then more consistently, as a result of a child's engagement with interesting activities, freely chosen, which induce concentration rather than fatigue.

These aspirations focus on the character and personality of the child and their relation to learning. Such a focus makes the child's deep self-directed engagement with *any* purposeful activity the priority. Montessori experience is that once this takes place, and continues to take place, an innate interest in the world around them will ensure that the 6 year old child has acquired, often with great joy, the rudiments of his culture – its written language, its numeracy, its arts, customs and values.

All the materials in a Montessori environment, from a kit to scrub tables and trays of geometric shapes, to the sandpaper letters and golden beads (to explore the basic mathematical operations) have a primary aim of inducing concentration in a child.

Some of the activities may be quite complex. Some, such as cleaning the windows, may be very practical. In a Montessori environment it is the child's concentration that the adult is always seeking to support and extend. A strong engagement with an activity comes when the challenge matches the child's ability, the child knows what he is trying to achieve and has control over the outcome. Such a state of concentration or flow arises most frequently when the activity is freely chosen by the child. This is why there is such a great emphasis put on freedom in Montessori environments.

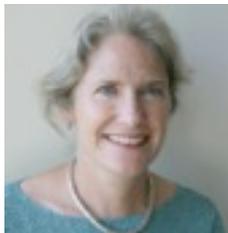
If a child has shown a strong connection to a particular activity, the adults will seek to extend the child's concentration through individual lessons with similar activities that have a gradually increasing challenge. A child's interest in a particular area of exploration may continue for days, weeks or months before it wanes.

Montessori schools across every continent demonstrate how young children are naturally inclined towards their culture and their world. They are innately primed, as the EYFS states, to learn from their environment. In these Montessori environments, carefully prepared to nourish children's developmental needs, children essentially teach themselves to read, write and subtract. The layout of the room and the design of the materials invite them to make connections, to explore and create. The Montessori approach provides evidence that children do learn without adults controlling the curriculum. For by freely choosing their activities in these mini-communities, children have shown that they have within them the motivation to learn, to persevere and to challenge themselves. Conversely, Montessori experience also shows that when adults dictate the learning timetable, the child's self-motivation can rapidly diminish. If planning is target-driven there is a strong inclination in adults to dictate the pattern of a child's learning, and in doing so squash the very spirit of enquiry we are seeking to support in children.

The EYFS has created new possibilities for collaboration between Montessori practitioners and their counterparts in the mainstream sector. Montessori Education [UK] welcomes the broad themes that guide the EYFS and the re-focussing of attention on the incredible formative powers within children. It is hoped that this summary, and the full document 'Montessori and EYFS: Guidance for Teachers' will go some way to explain how the Montessori approach to planning and practice comprehensively embodies the child-led approach articulated in the EYFS themes. It is also hoped that examples of Montessori practice will show how the full development of young people can take place when education is child-led, without the need for statutory learning targets.

Features

How Important are the Montessori Materials?



Angeline Lillard, Professor of Psychology at the University of Virginia and author of the award winning book *Montessori: The Science Behind the Genius* writes about the number of non Montessori materials that she sees in many Montessori environments and considers how these materials may be effecting the application of the Montessori approach.

Over the past five years I have visited scores of Montessori classrooms, most of them in the US and Canada. Many commonalities were observed. For example, in almost every one, children usually freely choose their activities, and engage hands-on with material objects. They take care of the environment, wiping up their own spills, and dusting and sweeping. And there are always identifiable Montessori materials, like the Pink Tower and the Metal Insets, on low shelves spread throughout the room. Where the variety comes in most strikingly is in the preponderance of other materials that are available and in use. What might the presence and use of these alternative materials mean for the children and their education and development? We cannot know the answer short of controlled studies, but I think the issue warrants deep consideration.

The Montessori materials have an interesting history. The initial ones were developed by Seguin for working with mentally retarded children, and were adapted by Montessori in the early 1900s. From there she modified the originals and added to them. My impression, from her books and from conversations with people who have access to unpublished lectures and have spent time with people who worked directly with her, is that tremendous thought and experimentation went into the development of these materials and their use. The Pink Tower, for example, is not merely a tower of blocks of increasing size, but instead is a carefully calculated instrument to educate the senses and the motor system, and to implicitly introduce the decimal system and the notion of cubing. Each block is one centimetre longer on all sides than the one that came before, and there are ten such blocks going from one cubic centimetre to ten. The increasing size is reflected not only visually but also haptically and barically: each block is heavier by an exponentially increasing magnitude. I do not know why it is pink, rather than blue or green; perhaps it was simply the colour paint the

carpenter had on hand that day, but given the thought that went into the other aspects and some other materials perhaps it was not chosen randomly. The child uses the Pink Tower in a specific way: carrying each cube to a rug, and then reassembling the tower from memory, from largest to smallest cube, carefully centring each subsequent cube over the preceding one. The material is treated with great care; the teacher is to intervene when materials are handled roughly. When finished, the tower is admired then carefully dissembled [in the early days it was knocked down, but this was a rough use of the material] and returned to its original location.



Dr. Montessori watched children in the classroom and thought about their developmental needs; she developed materials that she thought would suit those needs; and she then watched the children with the materials, and revised and refined them until she thought she had a material that would meet one or more specific needs. So for example there are ten Metal Insets, not three or fifteen, because she found that different numbers did not entice the child's interest in the same way. To get the children to engage and stay engaged with the Metal Insets—and thereby learn concentration and to hold and handle a pencil and the names of the ten shapes and to experiment with colour and design—she found they needed ten. The Sandpaper Letters are cursive because Dr. Montessori saw it as easier for beginning writers to keep the pencil on the paper, flowing from one letter to the next, rather than stopping and beginning again for each new letter. And so on: the choice of materials was very intentional, and those who spent the most time with Dr. Montessori or her immediate contacts can offer an endless stream of the many considered and purposes for each of the materials.

Not only does each material have many purposes, but there is also little redundancy across the materials, and redundancy is highly intentional where it exists: for example, there are many small knobs to assist development of the pincer grip because it is considered so important to develop. But given a set of Metal Insets for holding and handling a pencil and following a specific line, there was no perceived need for stencils or other objects for that purpose. With Red Rods to exercise working memory (the amount of information one can hold in mind at once), by having the child walk across the room to retrieve from a pile the rod just longer or shorter than the one just placed, one did not need the game of Memory in the classroom.

In addition, each material was developed in the context of all the other materials. The Solid Cylinders [or Solid Insets] set in motion thinking



about changes in dimension, leading to the Pink Tower with three dimensions changing [three being easier to perceive than two], then the Brown Stair with two, then the Red Rods with just one. And the Red Rods would lead into math in the context of what came before (just mentioned) and after (Red and Blue Rods). Mastering the pencil with the Metal Insets set the child up for writing in the context of the child having also learned how to form the letters and knowing what they represent. This knowledge was conferred through use of the Sandpaper Letters. The Metal Insets without that other supporting material would not lead to writing. And so on. By design the materials have this complex interweaving nature, so one material feeds into or plays off another.

Dr. Montessori developed a specific set of materials to work together not only within the classroom, but also across classroom levels. The set within each classroom was intended to be about the right size set for a child to master in about three years in the classroom [or six years in Elementary for the full program]. And the materials the child would see in the next classroom not only referred to the materials in the earlier classroom [or was even the self-same material, used in a more complex way], but also required the understanding conferred by that earlier material.

In sum, then, the original set of materials, as it had evolved by her death in 1952, comprised a specific set of materials for each classroom level, carefully designed to confer specific understandings through repeated use and in the context of other materials, selected to avoid most redundancy, and quantified to allow mastery in about three years in a classroom.

As Montessori has evolved, we might say two courses have been taken. One course has been to keep very much to Dr. Montessori's sets of materials [at each classroom level], with few changes; for lack of a better word I will call this the Traditional approach. The second approach, which I will call the Modified Montessori approach, has been to adopt modifications in a democratic fashion, with each teacher trainer and teacher making decisions about new materials to add to the set [or in cases what to take out]. Some of the added materials are readily available commercially and are not special to Montessori [puzzles]; others are presented at and sold at Montessori teacher conferences or are in Montessori catalogues. The result after some fifty years of this is a wealth of alternative materials in many Montessori classrooms, materials in whose creation Dr. Montessori did not have a hand or mind.

What are some of these materials, and what might be the consequences of their inclusion in the classroom? One common category of modified

materials I see is puzzles, games, and crafts projects. Children might be on the floor with a large puzzle of different animals from all over the world, or of planets of the solar system, or just a fantasy puzzle or a tangram. Or they might be playing the game of Memory or chess, or making valentines or collages from magazines. Children are often very engaged in such activities, and in classrooms that offer a lot of them, I have seen 90% of the children doing such activities while the Montessori materials gather dust in the corners. Because of the popularity of such materials for the children, a teacher trying to 'Follow the child' might well decide to put in more. Why are children preferring these materials, and what is the impact?

For the why, I am not sure. Perhaps it is because they are familiar; perhaps it is because it is what they see other children doing. Something I also wonder about is whether the teachers are not conferring to the children the sense that the Montessori materials are very, very special. In classrooms where children use the Montessori materials, teachers appear to present them as if they were presenting something magic, and the teachers also take great pains to encourage the children to strive for perfection in their every movement—not only in how they handle these special objects, but also in how they walk across the room, push in a chair, and so on. There is a level of attention to detail—keeping the pencils sharp, keeping objects straight on the shelves—in the teachers that seems to be inherited by the children that inspires an attitude to the material that goes along with its use. Maybe that is a difference in classrooms where children gravitate to the materials.

What are some of the impacts on the child of using other materials instead of Montessori ones? Consider the puzzle. Puzzles engage the hand, but do so in a very different way than many of the other activities Montessori designed. They teach spatial relations, redundant with other materials, like the Puzzle Maps, which also teach geography. The child learns to trace the Puzzle Map pieces first with their finger and then with a pencil as they recreate the maps on paper. Movement is aligned with cognition. And the child learns a fixed set of relations: France is always by Spain. This is not the case with many other puzzles; for example, in a puzzle of animals, each animal's appearance next to another animal might be arbitrary [giraffes next to polar bears, for example]. Children do not appear to be learning the animals by learning their shapes, because I never see them trace the outlines of these puzzle pieces—and besides, unlike countries, animals change shape when they move. So what children are learning from these other puzzles is more limited. And by doing those puzzles instead, children are not learning the geography they could be building on later as they advance to other materials.

Another category is materials that the Traditional group would place at different levels, the 0-3 or the Elementary classroom: colourful wooden pegs in a board with holes, or a model of the solar system. Clearly there needs to be allowance for children to have materials from a higher or lower level when needed, for example class size regulations might keep a child back. But sometimes I think teachers include materials from other levels not to meet the needs of an individual child but to enhance the Traditional set of materials. There are also cases of materials that do belong in the classroom but in which they are being used by children who are too old: for example, a 5-year-old just learning their Sandpaper Letters. Sometimes there would be good reasons for this, but in some classrooms with lots of modified materials my sense is that the children were busy doing puzzles at three and four, so the teacher is trying to get some letters in before the

« In classrooms where children use the Montessori materials, teachers appear to present them as if they were presenting something magic »

child leaves the classroom. But if feeling sandpaper is more engaging at three than at five (is it?), the teacher has created a challenge to interest, a problem which goes back to the presence of puzzles in the classroom earlier but is coming out in age-inappropriate targeting of materials. Sometimes changes can have consequences far down the line, consequences that might not be anticipated early on.

Yet another category of modification is alternative Practical Life materials. Practical Life is of course not set in stone: teachers are supposed to design their own Practical Life activities. But what I see very commonly is that the importance of the 'Practical' has been forgotten. Practical Life activities were intended by Dr. Montessori to have a practical purpose in care of the self, community, and environment. In the first Children's House, children were taught to bathe themselves, not a doll; they then went around the classroom and really cleaned what needed cleaning. As she wrote in Dr. Montessori's Own Handbook whereas some children have a toy kitchen in which to pretend to cook (and so on), 'This method seeks to give all this to the child in reality—making him (sic) an actor in a living scene'. Still today, the child washes a table in the classroom because the tables do need washing. The child polishes his or her own leather shoes, so they

will look shiny and nice. The child arranges lovely flowers and sets them around the room for beautification, waters real plants for their sustenance, irons napkins and makes muffins for snack, and so on. Real, true purposes. The main exception to this is the Dressing Frames: we don't normally button up cloths in wooden frames. The reason for making this exception was well-considered: it is difficult for small hands to learn to button, zip, and tie. It is often hard to reach and manipulate these objects on one's own clothes, and another person might not willingly stand as a model for the time it might take a beginner to accomplish the task—even were their buttons and zippers easy enough to reach and work. The Dressing Frames give the child a place to analyse and practice the movements needed for actual work with clothes. But very few activities require special apparatus like the Dressing Frames.

Modified Practical Life activities are ones that do not reflect what we actually do: polishing a model shoe instead of the shoe one wears, lifting cotton balls with tongs and moving them from one jar to another [one might use tongs with ice or olives, but not cotton balls!], using a dropper to move liquids from one vessel to another for no purpose other than the movement, hammering plastic nails into clay—why? We do not know whether children of three to six years of age detect the difference between polishing their own shoes and a model shoe, or have a different sense about grating soap simply to practice grating versus grating cheese for a pizza they will make. But one would expect they do: children begin to form action plans at a very early age, and Practical Life without a further purpose is like an isolated part of an action plan, like a factory worker who is only allowed to put in one screw over and over and never see the whole. The question arises as to whether children in classrooms where Practical Life activities serve a practical purpose engage in their work with more heart than in classrooms where they reflect this modification?

Finally, there is the category of using materials for purposes for which they were not intended. For example, I have seen children combine the Brown Stair with the Knobless Cylinder to make towers, take animals from Language Boxes, ignoring the language cards, and make the animals converse and play, and use the Red Rods as guns. Is this kind of play with materials okay or not? As I discussed in Chapter 5 of *Montessori: The Science Behind the Genius*, there is research suggesting it would not be: that children who used the animals as toys, for example, would have more trouble making the symbolic link to their representation of a real animal as denoted by the language card. Seeing elements of the Brown Stair as a pillar of a building would cloud the child's capacity to see it as one of a series

of similar objects of gradually changing dimension.

Related to this are modifications that involve using the materials in non-standard ways, for example, having the Long Bead Chains go in a circle. What does it do to the child's understanding of skip counting when the chain circles rather than extends? Does it change it? I would suspect so, based on research in cognitive psychology showing how our spatial metaphors map to our understandings. For example, if I say, 'Let's move the meeting back a few days' whether you take this to mean 'farther into the future' or 'nearer to the present time' will depend on whether you have been primed to think about yourself moving. (2) Representations of space profoundly influence thought, and it might not be the same exercise to put a bead chain in a circle as to extend it in space. Likewise, to make the Pink Tower from a picture of a Pink Tower might not be the same as remembering what the Pink Tower should look like—it surely is exercising different skills.

What do all these modifications mean for Montessori? Research is clearly needed, but the issues deserve discussion now. When one puts a new material in the classroom, has one given it the same degree of consideration that Montessori made in coming up with the Traditional set? For store-bought materials, did the designer give it the same degree of consideration as Dr. Montessori gave the materials that were in her core set by the end of her life? How does the new material fit the set already in the classroom? What other material should the child use less of, now that there is an additional material to use? How do these new materials fit into the sequences laid out by Montessori?

Another issue to consider is that certain of the modified materials obscure what is unique about a Montessori classroom, since most pre-school classrooms offer puzzles, games, and crafts. If children mainly engage with these sorts of activities rather than the Montessori materials, then what makes Montessori unique, what makes it Montessori? Does it all come down to the free choice [which many pre-schools have to some degree] and the *presence* of the Montessori materials even if they are not used? To what degree does a Montessori education come from repeated use of the materials, and to what degree is it only about a teacher's attitude towards and treatment of the children?

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Features

Supporting Bilingual Children

This is an excerpt from a lecture given by Irene Fafalios at the Montessori Society AGM in London in 2007. Irene explains the different forms that bilingualism takes in today's multicultural society and how as teachers and parents we can support children who speak more than one language.



What do we mean by bilingualism? Simply defined a bilingual person would be one who has the ability to speak two languages. I could further qualify this initial definition, by saying that a bilingual person is one who has been exposed to two languages from birth. But a bilingual person is also one who has immigrated to, or chosen to settle in another country and has had to learn a second language later on in life. A bilingual family is one in which at least one member has a different mother tongue from the others. But again there are many instances - for both parents may speak the same language which is different from the language their child is becoming proficient in at school, or, the two parents may have two different native languages, and perhaps communicate using a third language. According to Jim Cummins (1) bilingual education exists when two languages are used as a means of instruction, in order to attain proficiency in the one language. When this proficiency is obtained, then bilingual education is stopped. However, there is also bilingual education, which is in fact instruction primarily or exclusively in one language, in order to

 **Our language not only expresses our emotions, it is our emotions.** 

maintain both!

Bilingualism has to do with language, of course. Language is not just something that has to do with the neural pathways that connect the linguistic centres of our brain - language touches our very identity. As Montessorians we know that we become that which we absorb in those first three years of life. The language we are exposed to as infants clearly provides us with an identity that goes well beyond images and experiences or linguistic skills. In absorbing a language we are not just absorbing a way of communicating. In absorbing a language, we become a member of our human group. Our mother

tongue is laden not only with all our mother's being and emotions, it is also our native tongue - belonging to a particular people, a particular community - and is therefore laden with all their beings, their histories, their tragedies, their triumphs. Our language not only expresses our emotions, it is our emotions. Our language is our heritage. In assuming a language, we are taking on a heritage. In continuing and developing this heritage we are continuing and developing, in fact, a language and together with that language - ourselves!

It is therefore important that as teachers and parents we are aware of one or two factors, which will explain the child's behaviour towards us, and will in turn determine our behaviour towards the child. Broadly speaking, we could say that there are two main categories of bilinguals:

The Elitist Bilingual is one who speaks English and French... English and German - who by being bilingual attains social status and prestige, has great social advantages, opportunities and access to universities and prestigious jobs. For this person, bilingualism is a very positive factor: since two languages, exposes the individual to two cultures, two literary traditions and hence to a huge wealth of cultural and moral ideas - ideally making of the individual a far more tolerant, flexible and adaptable person. Greater interpersonal and communication skills are acquired, thereby raising the individual's confidence and self esteem.

The Non-Elitist Bilingual is the migrant, the refugee asylum seeker, the one stricken by poverty, illness, high birth rates, poor education - people who are socially excluded precisely because of the two languages they command. Children of these families realise that their own family and home culture serves as a handicap. They feel increasingly excluded and negative feelings about themselves, their background and their origins, are reinforced by the wider community - the dominant society. This lack of self-esteem and confidence becomes

apparent early on in their school performance and their gradual withdrawal and disinterest is reflected in their low academic achievements.

We see therefore, that it is not bilingualism per se which is the disadvantage, but it is the peripheral society's attitude that influences our perception of specific bilingual situations. The bilingual child is seen as one who has great advantages if the two languages it speaks are French and English, but not so if it speaks Greek and Albanian. Children who speak two languages and who feel accepted by both cultures will identify with both. However, when the two cultures have unfriendly relations, then it is often the case that children are instead shunned by both cultures. This however is not a bilingual issue – it is clearly a political issue with distinct social and psychological repercussions for the bilingual individual.

Schools can play a very important role in offering both children – but particularly the non elitist bilingual – the sort of support required to raise self esteem, provide a sense of self worth and confidence that will enable them to survive and succeed in a seemingly hostile society. As teachers, we need to confront our own experiences, feelings and prejudices on these issues, for they unconsciously creep in to the classroom and very subtly colour our interactions with various children. Our awareness and sensitivity to our own reactions and to those experienced by the children in our care, is crucial if we are to provide each individual and his or her family with the sort of help and support that they might need.

One of the primary concerns of parents, who find themselves in a bilingual situation, is the question of whether they should continue to speak the home language to their child. The truth is that there have been many attempts in the past to convey the message that the bilingual child is at a clear disadvantage. People felt that bilingualism caused linguistic handicaps, emotional conflicts and cognitive confusion in children. So there were many attempts to prevent children from speaking their home language either in school or at home, on the grounds that this was detrimental to their development and to the nation at large.

The first thing we need to convey to parents is that bilingualism is not a pathology – it actually seems to do you good! So long as a supportive environment affirms a child's identity, then research indicates that bilingualism can positively affect both intellectual and linguistic progress and that there are distinct cognitive, communicative and cultural advantages to having access to two linguistic systems (2). It seems that bilingual children show a greater sensitivity to linguistic meanings, may be more flexible in their thinking and show greater analytical and problem solving skills. (1). This

conceptual development in two languages allows the transference of academic skills across two languages, and enables young children to acquire an awareness of the structure and function of language itself.

What we can do as teachers is to encourage and help parents find a fixed pattern for language use in the home, for this makes things much easier both for the children learning the languages and for the adults in their day to day life with two (or more) languages.

One such pattern is **One Parent One Language** where the two parents each speak two different native languages and each consistently speaks their own native language to the children. Emphasis must be given to the words 'native' and 'consistently'. Consistency is of the utmost importance, so that children may have a clear idea who speaks which language and to whom. Bearing in mind what we know about the child and his sensitive periods for order and language in the first six years of life, this should not surprise us. For me it is the most efficient and efficacious model for all concerned.

Another pattern could be **The Minority Language at Home** or **The Foreign Home Pattern** where everyone speaks the minority (non-community) language at home and the community language outside. This also is a very good pattern to recommend to parents – it is simple, clear and functional.

In a bilingual family the parents will certainly have to invest time in sustaining an equally strong and rich linguistic environment in terms of songs, stories, riddles, tales, jokes and tapes. It is important that the child receives the same type and degree of linguistic stimulation in both languages, where possible. Above all, however, it is important that the family enjoys its bilingualism. No child should be coerced into speaking a language when it does not wish to. Asking children to say something





in a certain language for a guest to hear is humiliating and embarrassing. A bilingual family is nothing special and is increasingly less of a phenomenon. A child should see it as a natural part of his family life. It is then far more likely that children will grow up enjoying being bilingual and that both languages will be kept active.

The significance of keeping the home language alive is apparent in recent research that shows how the development of this first home language helps the development of a second or third language. In the past it was thought that if the child is not proficient in the language of instruction, i.e. English, then more time should be given to learning English and less time to his home language. However, research shows that in order to gain greater proficiency in the language of instruction, it is best to sustain and support the home language. This is because of cross language transfer, where skills, knowledge and cognitive strategies that a child has, are transferred between the first and second language - by acquiring and developing one language well, the child gains a universal understanding of language that makes it much easier for him to learn and become proficient in a second or additional languages. But what do we mean when we talk about 'proficiency' in a language? We have two levels of language acquisition that are relevant to bilingualism:

Rapid Language Development – Social English

In this instance the speaker learns the surface language patterns and can, within a very short period of time – usually one to two years - sound like a native speaker. This informal, superficial language skill, in which short, simple sentence structures are predominant, is what is also referred to as “conversational”, “playground” or **Social English**. Social English requires a smaller vocabulary than Academic English. Children use Social English with peers and adults in relaxed, playful, informal situations. It is the first type of English that we hear our young English Learners use, and it is important

for teachers to remember that each child will develop this skill at his or her own pace.

Academic Language Development

Studies have shown that it takes school-age bilingual children five to seven years to master Academic English that requires longer, more complex sentence structures as well as a larger vocabulary than Social English (1). It is important for teachers to remember this time factor, so that when we come to assess language development, we do not immediately label this child as having language difficulties or disorders.

So far we have given emphasis on the importance of supporting and maintaining the home language, throughout a child’s education, for better acquisition and proficiency in the language of instruction. However, we should make it clear that our aim should never be to have a totally balanced bilingual person – there is no such thing. There is always a dominant language, which may also be expressed by the use of different languages in different contexts.

The relationship between first and second language development and learning is never one where the two are equal. Although it seems that the key factor in the acquisition of bilingualism is the age of exposure to the two languages and the type or extent of exposure to each language, it is very difficult to develop the same skills in both

« the development of this first home language helps the development of a second or third language »»

languages.

There are three ways to acquire and develop a second language:

Simultaneous Bilingualism applies to children who are exposed and who develop both languages more or less at the same time. The pattern of language acquisition that such a child follows is very similar to a child who learns each language separately i.e. it follows the usual path of language development.

In bilingual preschools, the ideal would be to have native speakers for both languages spoken, thereby reflecting and supporting what is going on at home. We need to be aware how important it is to model appropriate language for children at this stage. We need to listen patiently to attempts the child makes to express himself verbally, and be aware how sensitive bilingual children are of mistakes they

make or might make.

We need to provide children with opportunities for appropriate use of specific language, both in group situations and on a one to one basis with friends. A mixed age group is ideal for exposing children to a variety of opportunities for language use be it in conversation with one another, where they can express their feelings and explore their ideas in both languages, or be it in activities that children organise themselves. Children who are reluctant to speak are sometimes more forthcoming if we organise games where they can imitate or repeat what someone says.

Successive Bilingualism applies to children whose home language is well established and they learn the second language when they come to school. Children acquiring a second language generally go through the following four stages of language acquisition (3). Being aware of this model helps us have reasonable expectations of children.

1 The child who enters the preschool understanding hardly any English, will either stop talking altogether and use nonverbal ways of communicating, or he will use his home language, which may not be understood by others but which is his only means of communication. Eventually of course, children no longer use their home language with those who do not understand it. However, it appears that continued use and development of the child's home language, will benefit children as they acquire English. For this reason we should not discourage parents from using the home language at home during this time.

2 Children then go through a silent or nonverbal period. This stage can last from one to twelve months. If we are not aware of this stage, we might think that the child is having difficulties and consider professional intervention. This silence however, is the silence we find in the young infant, who is still absorbing his language, prior to speaking it - where an understanding of the language precedes his ability to use it. During this silence, a lot of listening is taking place, as well as acute observation of the gestures, sounds, facial expressions etc. that accompany any language. The child is trying to make sense and find meaning in this jumble of sounds and movements. If children find themselves in a safe, secure situation they will gradually start making a few attempts at speaking - combining gestures and facial expressions.

The role of the adult at this stage, is to 'let the child be'. We need to ensure that the child finds himself in a linguistically rich environment where things are being said, exchanged, explained, sung, read, written and recounted, so that children may absorb all the sounds, structures, words, gestures etc., that they require. I have found that using images and

materials to reinforce what is being said, a lot of pointing and dramatic gestures etc. all help to convey meaning to a child who is able to understand in fact much more than what he can say. We must respect this creative silence, since we know full well that although voiceless, the child is creating his new voice and with that will also come his identity.

3 The next phase begins when children start cracking the code of this new language, usually in a telegraphic or formulaic way i.e. they will use a few words, or phrases without understanding how they really function in order to communicate mainly action, possession or location e.g. 'me home' 'I like...' 'Gimme...' 'I want...'. We respond to these efforts, by showing we understand and by verbalizing the complete phrase of what the child is saying. We help by repeatedly giving him these formulaic phrases, which he will quickly pick up and which will serve to communicate to others his basic needs and feelings.

4 Finally, the child comes to the fluid language phase, where he is able to use his second language like all surface users i.e. he becomes proficient in Social English. We find children are constantly experimenting in the use, form, sound, purpose and intent of both languages. They love to play with language and we should not worry about this trial and error phase. On the contrary we need to support and encourage the child's attempts at



speaking, accepting all the mistakes made in pronunciation, syntax and expression but ensuring that we respond using the language correctly. We help by giving all the appropriate names of objects, emphasizing key words in sentences, repeating important words in context and coordinating, where necessary, actions with language, so that we may optimize the child's understanding capabilities, thereby enhancing his self esteem.

Receptive Bilingualism refers to children who are able to understand two languages but express themselves in only one. These are children, who have been exposed to the language prior to coming to school, through television for example, or through older siblings who may be learning English in school and may speak it amongst themselves. This is a fairly common experience for many children, although they are not considered fully bilingual.

As preschool teachers we can support parents in their work, by being aware of the different languages spoken in our environment and finding ways in which we can include these languages in our daily exchanges, without confusing our three to six year olds. We can make children aware of the languages within their school community, simply by naming them. We can encourage children to say a word - a greeting - a song - in their home language - or we can talk about a culture which a specific child can relate to - and there we often see that the child's initial embarrassment, is coupled with a sense of pride and joy.

In all instances and across all age groups we need to show our children through our behaviour (and not through sermons) that cultural diversity enriches our interactions and enhances our existence. Bilingualism does not cause language or identity problems. The way we manage bilingualism, however, is what causes the problems. We really need to rethink and reassess the messages that our children are receiving. The microcosm of the school - the learning community - is one place where we can affect societal attitudes as regards the bilingual child and 'inferior' or 'superior' cultures. We need to start talking not so much about bilingual people, but about bilingual environments.

Montessori schools can play a very important role in helping individuals and communities find their identities and become strong. We have an educational system based on respect for all living things. One way we reflect and convey that respect to our young learners, is by encouraging them to discover the immense diversity that makes up our planet. All of life's manifestations however great, or small reflect a diversity that is awesome. We need to cultivate and encourage in our children an attitude which does not stand in fear, but which welcomes such diversity. Such an attitude is generated, once

my own little world, myself, my family, my family's history, has found a safe place within me. Once that is secure, I can easily accommodate other little worlds, other selves, other families, other families' histories.

Irene Fafalios has AMI diplomas at 0-3, 3-6 and 6-12 and ran a Greek language community school for Greek speaking children, called the Greek Afternoon, in a number of neighbourhoods all over London, for 15 years. She also set up and ran the North London Bilingual Montessori Nursery of St Michael of the Holy Cross, affiliated to the The Hellenic College of London.

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Sadhana - Reflective Practice, Spontaneous Living



Inspired by the theme of the 26th Montessori International Congress in Chennai Kristin McAlister Young reflects on the connections between Sadhana and Montessori philosophy and our hope for a new humanity

Sadhana: The mind and body coming together to perform complex multi-level tasks, initially with awareness but eventually lived and carried out without effort. Mindful action. Good work done well with inner guidance. Being in the moment, touching the human spirit, a disciplined state of inner harmony. (1)

Reflective practice, spontaneous living (1) ... what a beautiful description of the Montessori way, and Sadhana, what a powerful topic for the 26th International Montessori Congress. I had not intended to write a reflection, but after attending the Congress in Chennai, I felt that not writing would perhaps be a missed opportunity to capture an important moment - a moment brought about by the choice of Sadhana as a topic during a time in our global society when so many are talking of a new way of living life in connection with others and in contact with the deeper self that Sadhana refers to. I offer this reflection in recognition of the foundational nature of Sadhana in our work and as a celebration of our role in support of life and the slow evolution of a new man born from the normalised children we support. However, I also take this opportunity to issue a call to action to go beyond our work with the child to follow Dr. Montessori's directive to the adult fully. This point was specifically mentioned by the congress organisers:

'As the child develops, the actions of the body and mind are knitted together in creating the fabric of the self. Practitioners, young and old, must engage in the thoughtful practice of central Montessori principles in everyday life. Through our every conscious action we must seek to live our theory.' (2)

Whether as a Montessori parent, administrator, teacher or trainer, we must *literally* 'follow the child' on his journey to the new consciousness of connection that human evolution is heading towards.

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Sadhana's place at the heart of Montessori work

I am so grateful to have attended the Congress for it provided a centring point: a chance to reflect on and to evaluate what we are really doing and to understand that the common foundation of our practice is Sadhana. It is the very act of repeatedly making a connection between the body, mind and a deeper universal presence that is the true power of education. Further, it is in supporting and developing that connection that the individual moves beyond action for his own benefit to action for the benefit of all, thereby truly becoming a new man.

The fundamental nature of this connection is seen in many aspects of the child's life under six. It is felt in the rapt attention of the new born held inches from a lovingly present parent. It is almost palpable when the toddler loses all sense of time as he works peacefully to scrub a table. It is seen in the rapture with which a child watches a first presentation and the concentration with which he repeats. Once the child experiences Sadhana, it will call to him to repeat. At this point he falls in love with awareness, presence, and concentration. He has achieved a flow experience where the 'talking mind', the intellect, ego, and external whims, deviations, and obstacles are silent. The child experiences unity with that deep guide that leads him towards development and towards life.

However, the child under six is in constant conflict between this repeated sensorial impression of unity through moments of Sadhana and the tendency towards separation inspired by the crucial development of the will and intellect. This tension between connection and opposition is a necessary process, because it is only in identifying as separate that the will takes form and it is only through individual work that the intellect grows. If this growth is balanced by repeated experiences of Sadhana, the sensory impression of unity and the

peace it inspires in the child takes precedence so that the will and intellect are relegated to their appropriate importance. They become tools for the child who lives in connection, rather than guiding principles leading the child to life in opposition. The end result is, in fact, the arrival of the truly normalised child- a child that lives in connection to the universal... a child who lives Sadhana... with all those beautiful qualities that emerge from a life led in connection.

Connected deeply with his centre, the child then moves into the elementary plane and encounters Cosmic Education. He learns that every particle of his body was once born from a star, that the blood that runs through his body was once water in the primordial ocean and that he is in effect over 4 billion years old! In keeping with the Montessori philosophy, the Children's House child first has the repeated sensorial experience of the deep and vital centring of self and connection to the universal through the process of normalisation. Once this connection is no longer an effort, but is lived, we give him language to name that abstract concept - a concept that would have been impossible to understand without the sensorial base. We give him the Great Lessons of Cosmic Education. As Dr. Montessori said:

'Let us give him a vision of the whole universe. The universe is an imposing reality and an answer to all questions.... All things are part of the universe and are connected with each other to form one whole unity. The idea helps the mind of the child to become focused, to stop wandering in an aimless quest for knowledge. He is satisfied having found the universal centre of himself with all things.' (3)

Though it is in the period under six that normalisation occurs, the power of Sadhana is only partially developed if the child is abandoned at this stage. It is as if we have let him experience sounds, quantities of numbers, notes of music, shapes of leaves, and the feel of countries on a map, but have not then given him the language to extend this concept outside himself. He is left with a deep and lasting connection, but the full power of his conscious mind has not been brought to bear on this organising principle of the universe or his connection with it.

In the adolescent community, the child ventures out of his family and peer group and brings this conscious understanding of connection to and responsibility for the universe into conscious action. He has felt, understood, and now acts. During this entire time of elementary and adolescent life, the child still needs repeated practical experiences of



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connection to a deeper self and discussion which places

him in identity with the universe. The child is still vulnerable to the power of his own developing ego and intellect; necessary tools for the conscious mind, but champions of separation and competition if allowed to run wild. In the absence of these repeated moments of Sadhana and engagement of the intellect in conscious understanding of connection, the ego again takes hold, strengthening itself through the concept of separateness. Also, if abandoned at this stage, the child is left swimming up current against the majority of human beings whose actions may still be informed by good intent, but intent which stems from serving the old human brain - the intellect and the ego. The elementary and adolescent communities help to protect that connection to the universe so that in his encounters with the world, the child hears the quiet voice of the 'we' through the competing din of the 'I'.

We see the effects of repeated experiences of Sadhana in the adult who emerges. Interestingly Montessori educated adults seem to find themselves searching for work they feel passionate about. Work must mean something. It can be simple - a landscaper, a carpenter, a writer, but it is something that the individual can completely lose himself in. The individual is on a quest to fulfil that need for a direct link to the universal - a search for 'flow', for the experience of Sadhana. If that child has been able to put language to this concept, he will have undergone a fundamental shift to a cosmic identity and this shift then informs all his actions. The end result of a life supported to reach its fullest potential is nothing less than a new man - a man who naturally feels connection to the universe, who finds meaning in the deepest moments of unity and who works consciously for the benefit of all. Many lives put together - what is that if not the evolution of the human being and the resulting fundamental peace that Dr. Montessori spoke of?

This is the power at the heart of the Montessori philosophy, but it is also a trap. We as Montessori parents, teachers, trainers and administrators, feel that we are doing our part to usher in this new world by the nature of the work that we do. At the same time, we often feel that, deprived of a Montessori education ourselves, we have missed the sensitive period of connecting to the deeper self and becoming ourselves that new man. We console ourselves that at least we are supporting life from its beginning and helping the new man to emerge in others. With the greatest respect, I would say that this is not enough.

Sadhana and the adult's ability to evolve consciously

The spiritual element of Dr. Montessori's work is always a factor at every Montessori gathering, but to be a part of an entire Congress dedicated to this point is a signal that there is something greater going on right now in our world. We are perhaps at a parallel point in our human evolution where humanity, like the child under six, has reached the maximum tension between disconnection and connection. We have lived under the illusion of separateness because it helped to strengthen the tools of the will and the intellect and this was perhaps a necessary evolutionary stage. However, we have also experienced moments of universal connection and we are increasingly realising both cognitively, through the new physics, and spiritually, through sadhana, that this connection is real. We are at a point where we will either allow ourselves to be guided by that deep connection, using our will and intellect as tools, or we will continue to live in opposition, under the mistaken impression that these tools are sufficient guides in and of themselves for humanity. I believe that humanity is ready to become normalised. To make that shift, we must seize the moment and *participate actively* in human evolution.

Dr. Montessori pointed out that we alone among living things are not locked into behaviour by instinct, but rather are endowed with the ability to

bring about our own evolution consciously. Though she spoke of the child who emerges from this education as a new man, she also told us that we should 'follow the child'. Admittedly this phrase is commonly interpreted as a comment on observation and a point of method, but I would argue that taken in context with her other writings, it is also a call to action. Dr. Montessori's main requirement of her teachers was to 'learn to live better' and to do so consciously with the child as our guide.

'Our teacher therefore must also be the 'Spirit Child'—or rather the vital urge with the cosmic laws that lead him unconsciously. Not what we call the child's will, but the mysterious will that directs his formation—this must be our guide.' (4)

« Dr. Montessori's main requirement of her teachers was to 'learn to live better' with the child »»

'In serving the child, one serves life; in helping nature one rises up to the next stage, that of super-nature, for to go upward is a law of life. And it is the children who have made this beautiful staircase that mounts even higher. The law of nature is order, and when order comes of itself, we know that we have re-entered the order of the universe. It is clear that nature includes among the missions she has entrusted to the child, the mission of arousing us adults to reach a higher level. The children take us to a higher plane of the spirit and material problems are thereby solved.' (5)

Dr. Montessori did not intend for us to stop and watch as the child mounts the staircase, but to *follow* and she told us *how*.

'Nature inspires both parents with love for their little ones, and this love is not something artificial... the love we find in infancy shows what kind of love should reign ideally in the grown-up world. A love able, of its own nature to inspire; to sacrifice the dedication of one ego to another ego, of one's self to the service of others.' (5)

Dr. Montessori spoke of two instincts at work as the basis of motivation in the human being - that of self-preservation and that of care of the young. The beauty of children calls out the instinct of care of the young and inspires this deep selfless love. However, if we are to achieve the peace that Dr. Montessori envisioned, we must extend that love beyond the adult-child relationship. We must evolve from actions based primarily on the instinct of self-



preservation to actions based on a wider concept of beauty of children calls out the instinct of care of the young and inspires this deep selfless love. However, if we are to achieve the peace that Dr. Montessori envisioned, we must extend that love beyond the adult-child relationship. We must evolve from actions based primarily on the instinct of self-preservation to actions based on a wider concept of care for the young: simply care - care for the earth, for each other, for each and every particle that was born from the original supernova. If we recognise our interconnectedness, is there really a difference between care for the child and care for an adult, the worm, the soil or water?

Stemming from our daily experience of Sadhana which makes us uniquely sensitive to the interconnectedness of life, our cognitive understanding of our cosmic identity and from our simple presence with and dedication to children, Montessori practitioners are often already drawn to acts based on the instinct of care of others rather than self-preservation. As I sat surrounded by such wonderful people at the Congress, I was keenly aware of how much simply living with children and being mindful in our practice brings out the best in humanity. This evolution happens spontaneously in the classroom - it is the staircase the children have built for us.

However, so often we allow ourselves to revert to the instinct of self-preservation as we exit our home or classroom doors and are assaulted with the world of adults and their own actions based primarily on self-preservation. So often, instead of extending the same understanding we do to the not-yet normalised child who is faced with obstacles, we shut out the adult he has grown into. As Montessori adults, we have learned to be patient, compassionate, responsive, loving, and non-judgmental. All of this comes fairly naturally to us as great gifts from the child and our work, but we have a unique opportunity and a responsibility to *choose* to be that person *all of the time*: not only with children, but also with adults and with the universe. We have the opportunity to choose to live like the normalised child each and every day.

What a new world we would have if it were populated both by children who had grown up living this way naturally as well as adults who make a conscious choice to recognise our identity with each particle of the universe and decide to treat each one with the same love and compassion we show for the child. What a world we would have if, by making that choice with intentionality each day, eventually we live it effortlessly.

Conclusion

I believe that we are at a tipping point. There are many signals that the consciousness of the world is ready for the shift from a culture based on

disconnection and self-preservation to a culture based on care, connection and unity. Montessori practitioners have a unique responsibility because, by the nature of our work, we are aware of this shift in consciousness and we met the new man. We know what she looks like.

We have seen the child who lives every moment with great peace and joy - whose main purpose seems to be to love. We have met the child who approaches conflict with interest and understanding, not judgement. We have seen the child who does strive to be a leader, but lives naturally with such great care for others that she inspires others to try just a bit harder to live better - until it becomes effortless for them as well. We know the child who will give a treasured possession to another in need without the slightest hesitation and we recognise that this act comes from a place of strength and great wisdom. We've seen the child who withholds help lovingly to allow others room for accomplishment, but stands ever ready should they falter. We know that child who makes comments that are wise beyond her years, so much so that we are struck by the simple beauty of their observation and the essential truth of their words - a truth that comes from a place that resonates deeply within us. We've met the child who finds beauty not only in the butterflies, but in the slugs and leaves and stumps of a forest floor - simply because it is part of the circle of life, part of what *is right now*. And we know that adult, perhaps few and far between, who refuses to let others tell them they are being idealistic or naïve, but live with great integrity simply because it is what feels right.

As Montessori adults, we dream of a world filled with the future man born from this child - it would truly be a new Earth, but to wait for the slow tides of evolution would be to ignore what we have seen and the experiences we have lived as adults privileged to do the work we do each day. We have a duty to this Earth to choose to live consciously now to love unconditionally now, and to show great compassion for each particle of the universe in whichever form it takes and at whatever developmental point it finds itself. Billions of years have gotten us to the point that human beings can consciously decide to evolve and we Montessorians have seen the face of the new man in the light of the eyes of a five year old child. I choose to follow her.

1. From 26th International AMI Congress website at www.montessoricongress.com.
2. From 26th International AMI Congress slideshow at www.montessoricongress.com.
3. Montessori, Maria. [1996] *To Educate the Human Potential*: Clio Press Ltd.
4. Montessori, Maria. [1989] *The Formation of Man*. London: Clio, p. 16.
5. Montessori, Maria. [1988] *The Absorbent Mind*. Oxford: Clio Press Ltd.

Yesterday's Discoveries Today's Science

Did Maria Montessori Discover Flow?

'The first thing I particularly noticed was a little girl of about three busy slipping cylinders in and out of their containers. These cylinders are of different sizes and have corresponding holes into which they fit like a cork in a bottle. I was surprised to see so small a child performing this exercise over and over again with such intense interest. . . I began to count the number of times she repeated the exercise. I then decided to see how concentrated she was in her strange employment. I told the teacher to make the other children sing and move about. But this did not disturb the child at all in her labours. I then gently picked up the chair in which she was sitting and set it on top of a small table. As I lifted the chair she clutched the objects with which she was working and placed them on her knees, but then continued with the same task. From the time I began to count, she repeated the exercise 42 times. Then she stopped as if coming out of a dream and smiled happily. Her eyes shone brightly and she looked about. She had not even noticed what we had done to disturb her.' (1)

Over 100 years ago, as she observed the children in her just-established Children's House in Rome, Montessori noted that this experience gave her one of her first insights into the child's mind. She was struck by the child's absorption, at an age where she would have described attention as fickle. As she saw such involvement happen again and again, she noted further that 'every time children emerged from such an experience, they were like individuals who had rested. They were filled with life and resembled those who have experienced some great joy.' (2)

News of the method that produced such amazing powers of concentration in children spread around the globe. One man wrote: 'Go to a Montessori school and watch. . . In five minutes . . . you will have seen a miracle. . . you will see concentration such as you have never seen in infancy before; you will see new and wonderful types of children, sweet-voiced, gentle, graceful, full of a passion for order.' (3)

In 1990, a Hungarian research psychologist and professor of human development named Mihaly Csikszentmihalyi published the results of 25 years

of studying and gathering survey data on a concept he termed as 'flow'. He described 'flow' as the phenomena of being completely involved in a challenging activity for its own sake; involvement such that the passage of time went unnoticed – being in 'the zone', or 'the groove'. His data was gathered from 75 high school students who were contacted via beeper at random points during the day and asked about their feelings at that moment. Unsurprisingly, the adolescents were unhappy most of the time, except, surprisingly, when engrossed in a challenging task that was using up maximum effort and skill. These experiences of 'flow', led to a sense of serenity and intrinsic motivation that pushed the individual to experience more flow. Csikszentmihalyi was hailed as having discovered the secret to happiness, and governments and their leaders, sports experts and business magnates from around the world rushed to absorb flow theory, or the theory of optimal experiences, into their policies and programs.

But it was in the Montessori method that Csikszentmihalyi found the application of his research in education, application that had been going on for the best part of a century, in prepared Montessori environments that seemed designed to support and promote flow experiences at every age level. He was so struck by what he saw that he called for a research study of flow in Montessori schools. His collaborator, Dr. Kevin Rathunde, in 2000, published his paper 'Montessori Education and Optimal Experience: A Framework for New Research', and in 2003 his research study, 'A Comparison of Montessori and Traditional Middle Schools: Motivation, Quality of Experience, and Social Context.' The study, which compared 150 Montessori middle school students with 400 from traditional schools, revealed that the Montessori students showed more positive motivation, better quality of experience in their academic work and greater feeling of a positive community for learning than students in the traditional settings.

Flow in Montessori

Rathunde's findings on how the Montessori environments align with flow theory and prove so conducive to optimal learning experiences can help us understand better oft-misunderstood points about the Montessori method.

Two people peer into a Children's House – there's a child scrubbing every inch of a step with all her might, another filling a page with precisely written numbers, another grading coloured tablets from dark to light. One observer thinks 'This all looks too serious, surely children need to have some fun.'

Montessori observed that the experiences of concentration that took place in the Children's House were not limited to art, music, or sport, but

extended to tasks that an adult would find seemingly burdensome such as learning to read or write and as seemingly mundane as scrubbing a table. Her observations led her to discover that the child between the years of zero and six has a deep, driving hunger for certain types of activity that are needed in order to develop normally as a human being. The child connects deeply to an environment that responds to these sensitivities (i.e., for language, coordination of movement, sensory exploration, among others), with activity that manifests intense effort and spontaneous concentration. As the child finds in the environment opportunities for action that satisfy his inner needs, this prolonged concentration is accompanied by a joy and peace. 'The child who concentrates,' Montessori writes, 'is immensely happy.... Love awakens in him for people and for things. He becomes friendly to everyone, ready to admire all that is beautiful.' (4)

In the first days of the first Children's House, Montessori had chosen to keep what was felt to be the burden of learning writing and reading out of the classroom, she admits 'I was a victim of the prejudice that the teaching of reading and writing should be put off as long as possible and should not be introduced before a child was at least 6'. (5) She soon observed, however, that as a result of the children's experience in exercises of practical life and sensorial training, their intellect and skills had developed to the degree that writing and reading became interesting and a desirable new challenge to them. Because of the sensitive period for language and for coordination of movement in these early years, exactly what writing is about, it actually proved a more fertile field than the later ages for spontaneous concentration in writing to take root. When the development of handwriting is offered at the right time, in the Children's House, it becomes a flow experience, with children eager for new challenges to perfect their strokes - in great contrast to the drudgery it becomes if forced to master it after the sensitivity for coordination of movement disappears.

'... less than a month and a half later . . . when the children in the elementary schools were laboriously trying to forget the strokes and angles which they had learned with so much trouble. . . two of my pupils. . . were writing neatly without erasures and smudges; and their writing was later judged to be comparable to that of children in the third grade.' (6)

The secret to flow experience in the Montessori approach is to offer at the right time. If offered at a time when the activity fulfills a developmental need, flow experiences around academic work - something the Rathunde study found not very prevalent in the traditional schools - take place. The Montessori



method is all about education simply facilitating development by offering that material which a child needs for his self-construction at the particular moment it is needed.

It is no surprise that the results of Rathunde's study showed that the 'Montessori students reported a significantly better quality of experience in academic work than the traditional students. . . . Montessori students were feeling more active, strong, excited, happy, relaxed, sociable, and proud while engaged in academic work. They were also enjoying themselves more, they were more interested in what they were doing, and they wanted to be doing academic work more than the traditional students.' (7)

Let's go back to those two people, peeking into the Children's House. The other observer thinks 'It looks like too much fun, surely they can't be learning anything much.'

Rathunde reminds us, however, that there is a strong distinction between 'flow' and 'fun'. Flow requires high challenge, whereas fun does not. Because the study showed results of higher flow occurrence in the Montessori middle schools than in traditional ones, we know that it was in the Montessori schools that the children's skills and challenge were meeting at high levels. Flow theory suggests that when challenges and skills are both above average for a student, the conditions are optimal for flow experience. The lack of flow experiences in a traditional setting suggests that challenge is being pitched either too high or too low for a child's skills.

And back we go again to peeking inside the Children's House. The directress appears to be studiously ignoring a child having great difficulty doing up the buckle frame, sitting with tongue between his teeth, trying again and again to pull the strap to put the pin in the hole.

One of the great tasks of the directress is to protect 'flow' when it occurs – even from our adult desires to offer help, useless help that becomes an interruption.

'In the first Children's Houses in Rome, Dr. Montessori was surprised when the young children did not spontaneously assist other children in difficulty. Rather, they held back – as if remembering their own recent labours and subsequent triumphs. Little children understand that everyone has to figure things out for themselves.' (8)

There is a faith too, in the design of the materials, to offer a 'control of error' or provide feedback to children while they are engaged with an activity, pointing them towards their goal, so that such feedback does not come from an external source that can be felt as a criticism or evaluation.

Montessori was equally careful to caution against interrupting flow by the other extreme, offering encouragement or praise to a child concentrating. A 'good job!' can break one's focus as easily as a 'That's not right.'

By protecting the flow experience, the directress is leaving in the child's hands the better tool towards achieving success, the strength derived from unbroken concentration.

'The good teacher becomes a protector of a child's focus; distractions in the environment are eliminated to avoid disorder and the dissipation of energy, thus allowing the child to receive clearer feedback that can help sustain concentration and flow.' (7)



Perhaps this is part of the reason why Rathmunde's results also show that 'Montessori students reported more support from teachers, more order in the classroom, and a greater feeling of emotional and psychological safety. The findings here are clear and simple to interpret. The Montessori students were much more positive about the quality of their school environments. Overall, the Montessori students saw their teachers as more fair, friendly, and interested in them; did not perceive as much chaos in the environment in terms of disruptions and misbehaviour; and felt safe from the emotional pain associated with putdowns by teachers and students.' (7)

Is that window into the Children's House still there? Back for another look at that teacher. . . 'It seems like she's doing a lot of watching, and not much talking.'

Rathmunde's study is quick to come to the directress' defence:

'By preparing the environment with care and intelligence beforehand, the Montessori teacher has additional time to accomplish another crucial task: becoming an astute observer of a child's subjective experience. If one cannot detect when a child's concentration wanes and boredom or anxiety sets in, it is impossible to create an environment suited to optimal experience. This art of observation is often more subtle and 'passive' than traditional approaches and more in line with traditional conceptions of wisdom. The wise person knows that indirect approaches are often the best way to help others help themselves. Similarly, the directress must know what to say, and what not to say, insofar as it might affect the child's intrinsic motivation. A premium must be placed on knowing when not to interrupt the child and when to step in with a new challenge.' (7)

Another peek – let's look around the walls this time. Where are the charts with gold stars for good behaviour?

The Montessori teacher uses no rewards or punishments. 'No one,' said Montessori, 'who has ever done anything great or successful has ever done it simply because he was attracted by what we call a 'reward' or by the fear of what we call punishment.... Every victory and every advance in human progress comes from some inner compulsion' (8)

Because flow experiences are enjoyable in themselves (Czikszentmihaly termed 'autotelic'), there is no need for reward, as the reward is in the activity itself. The reward is the flow experience, and the deep sense of joy and satisfaction that come with it – no gold star could compare.

It is an attitude that contrasts sharply with traditional education, which often seems oriented towards the belief that there is no way a child will want to do what is constructive to their development and thus that he must be asked only to do the bare minimum – only expected to learn to count to 20; or pressured with the reminder of how such work is essential to their future careers. Work must be sustained by either carrot or stick – gold stars or naughty steps.

If offered the right material at the right time, children are drawn to self-construction, will work at it untiringly and with great joy. This is why in the Montessori Children's House the reward for doing addition sums is to then offer an even trickier problem, for overcoming a challenge is to offer a further challenge, for being able to count to 20 is the prospect of being able to count to 100, then 1000, then to explore counting in groups. As skills increase, the challenge continually increases, and the opportunity for continuing that flow experience does not end.

Can you see the whole of the Children's House from that window? It seems full of children busily involved in their individual work – where is the socialisation?

Annette Haines noted 'The richness of the social atmosphere in a Montessori classroom is not obvious to the casual observer.' In the years of 3-6, children are more drawn towards individual activity than working together – understandable, for it is at this time that so much work is going into the construction of the self. It is in this side-by-side involvement, each in their own interest, that the basis for social life begins, for the development of social behaviour has its foundation in the development of concentration.

'The first essential for the child's development is concentration. It lays the whole basis for his character and social behaviour.' (9)

It seems a paradox that the beginning of the social life is concentration. But it is the advent of concentration that allows a child to self-construct, to work on those varied aspects of the personality that need to be put together for a productive social life. For the capability to participate socially involves the ability of the child to act.

'Montessori believed that when children concentrated, their personalities were changed. Timid children lost their shyness and fearful children became at ease. After completing a cycle of activity, children seem refreshed and satisfied. They demonstrate 'higher social impulses' - they walk calmly about, quietly watch other children work without disturbing them, or come to a friend to

share some little confidence or story. . . ' (8)

Rathunde's study supports this and reveals a greater feeling of social cohesion in the Montessori schools. While the children at the Montessori schools reported feeling that they were working with friends and classmates, the traditional students reported feeling that they were with classmates but not friends. Rathunde attributes this to the difference in the kind of work that goes on in either school – while in Montessori classrooms, if children are not working alone, they are moving in and out of small groups based on shared interests rather than ability levels. In the traditional schools children are more likely to be sitting as a class together listening to a teacher. This is supported by data he gathered that showed the Montessori students spent less time in passive listening activities, thus less time in activities unlikely to generate flow.

All those years ago, Montessori noted the same:

'To them [traditional teachers], social life consists in sitting side by side and hearing someone else talk, but that is just the opposite. The only social life that the children get in the ordinary schools is during playtime or on excursions. Ours live always in an active community.' (10)

Let's leave the Children's House window for a moment, and have a sniff around the kitchen. For surely the only way such calm and discipline can be achieved is through some magic herb or spice.

 we find an amazing being, filled with characteristics we never would have thought possible of children 

Ask about the Montessori method, and you might hear from one person – '*Montessori method? Too much freedom – children can choose to do anything they want.*' And from the next person, '*Montessori method? Too much discipline – they have to sit and concentrate.*' But Montessori called these two seeming contrasts, inseparable, (not freedom versus discipline, but freedom *with* discipline) and flow theory agrees.

'in a Montessori classroom children are free to make the right choices, not any choice of activity' [11]

Freedom of choice is necessary for flow experiences



to take place, for flow experiences are born of interest. But the child's freedom must exist within the supporting of conditions for flow experiences – flow takes place when one has the freedom to engage in a chosen interest without being disturbed, and when one takes on a challenge that one's physical and cognitive skills are capable of meeting. The Montessori environment creates such conditions by protecting concentrated work, and by presenting activity based on each child's individual interests and capabilities, such a child continually finds appropriate challenge for his growing skills.

'According to optimal experience theory, a school or family context enhances flow experience by both (a) supporting students' interests and [freedom] (b) challenging students to work at developing those interests [discipline]. For example, if a school context were only supportive, children would be susceptible to 'fooling,' or jumping haphazardly from one interest to the next without focusing on a goal. Conversely, if a context were only challenging—the more typical condition in most middle schools and high schools—children would be susceptible to 'drudgery,' or being told what to concentrate on without an emotional investment in what they were doing at the moment.' (7)

Why Flow?

We've explored how the Montessori environment is uniquely supportive of flow experiences, but let's look at why it is important for flow experiences to take place.

There is a school of thought that maintains that the effort of academic work simply must be gone through, and that feelings of flow (interest, intrinsic motivation, and positive experience) are either utopian ideals or frivolity – not that relevant to the child's future prospects as an adult.

'Many skeptics will look at these results and say, O.K., the students have better experience in school, they like their teachers, they feel more connected to their peers—so what? How does it affect what really counts—their education and achievement?' (7)

Studies have shown however, the link between these positive affects and positive outcomes both in the child's present, and in his future, as they result in superior student achievement, talent development, and positive career outcomes.

Given the beauty and the power of the flow experiences, it is a shame that they are not so frequently experienced by adults. Only 15-20% report experiencing it daily, and 15% report never experiencing it.

Montessori had the unique perception to see that not only was it important to have flow experiences, but these experiences were characteristic of normal development as a human being, and supremely important in the early years. Concentration and flow experiences are not the exclusive domain of supermen or gifted children, but the birthright of every child.

Flow experiences in the years of childhood from zero to six when crucial human development takes place are what tell us the child is finding what he needs to self-construct normally as a human being. These habitual flow experiences at this age, result in a six year old who has been able to develop to the fullness of human potential.

It is a process that can only take place in these years, as windows of opportunity for these crucial acquisitions close at the end of this period, whether their needs have been filled or not. If a child has been able to develop normally, to construct himself as a human being as manifests in repeated flow experiences in these years, we find an amazing being, filled with characteristics we never would have thought possible of children - able to concentrate, persevere, initiate, filled with gentleness, compassion for others, joy, and a deep love for the world.

Montessori talked of development in the years following infancy as tasked simply to 'keep alive the natural continuation of this state of normality.' (13) This involves the placing of the developing child in environments that continue to support his self-construction at each age, such that his daily educational experiences are characterized by flow.

It is often hard to find such environments. By the adolescent years, numerous studies paint a picture of the lack of flow experiences, in findings of a drop in intrinsic motivation and the adolescent's perceived value of academic work. While in the early part of the century this was attributed to the onset of puberty and an inevitable occurrence, most researchers now believe the negative change results from a *'mismatch between the typical learning environment at school and an adolescent's developmental needs'* [7] Montessori's observations support that flow occurs in environments and conditions where developmental needs are being satisfied. However, flow is now not often found in academic work. Adolescents thus seek flow experiences outside their school. Activities that provide enjoyment are often those that have been designed for this very purpose. Games, sports, and artistic and literary forms were developed over the centuries for the express purpose of enriching life with enjoyable experiences.

It is sad to say that to find examples of flow experiences, we need to look either to childhood, or later, to experiences outside the classroom. If education is to aid the development of the fullness of human potential and lifelong learning, we need to have an expectation that flow experiences be part of it.

'But it would be a mistake to assume that only art and leisure can provide optimal experiences. In a healthy culture, productive work and the necessary routines of everyday life are also satisfying.' (12)

Lori Woellhaf

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The Pageant of the Seasons

Autumn comes softly, shedding her leaves,
Shining with harvest of berries and sheaves.
Smoke from the bonfire, mist everywhere...
But wait, what comes next?
There's a chill in the air.

Winter comes spikily – ice, frost and snow,
Trees bow their heads as the winter winds
blow,
Icicles shimmer this shivery day...
But wait, what comes next?
The wind's dying away.

Spring comes in daintily, trailing sweet flowers;
Buds burst to life in her sunshine and showers;
Lawns fill with daisies, a carpet of lace...
But wait, what comes next?
Feel the warmth on your face!

Summer comes sultrily, long lazy days,
Buzzing of bees in the heat and the haze,
Sunshine and seaside and sand in your toes...
But wait, what comes next?
Petals fall from the rose...

Autumn comes softly, then wild winter days,
Green shoots of springtime, summery haze
A pageant of changes, of colours, of weather –
The cycle of seasons
That goes on forever...

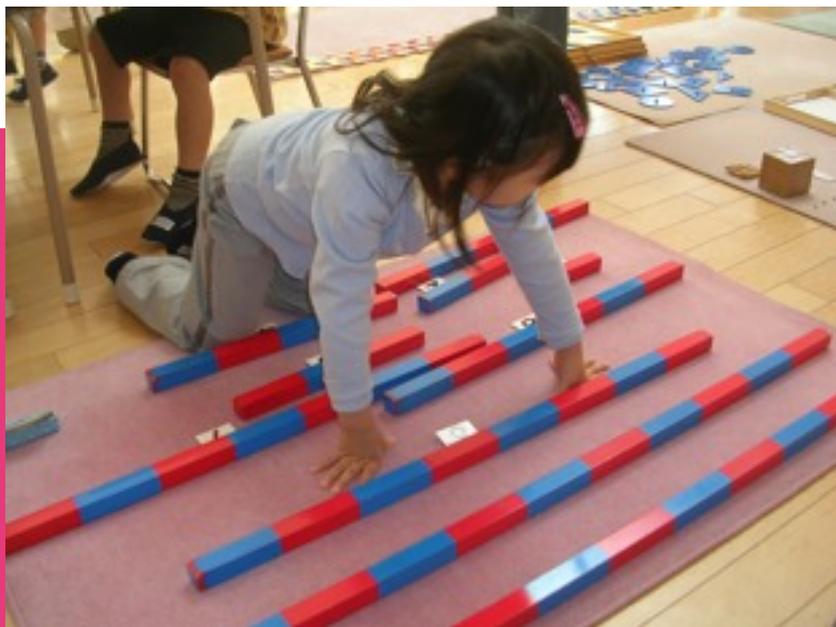
Sue Palmer, 1995

Regulars >>>

Dear Maria...

How do you Teach Mathematics?

The educational charity Every Child a Chance Trust has commissioned a report prepared by KPMG which says that 30,000 children leave primary school each year unable to do simple calculations. Furthermore, the research said that there was a significant link between poor numeracy and antisocial behaviour. As for older children, it was determined that teenagers leaving school without basic maths cost the taxpayer £1.9 billion a year due to unemployment. [1] With this apparent failing in mind, we ask how Montessori approaches mathematics.



Dr. Montessori recognised that children are born with a particular kind of mind, one that is naturally inclined towards order. This 'special' mind is what gives humans the ability to make judgements and to calculate; it is how we have progressed in fields such as engineering and architecture. Dr. Montessori called this 'the mathematical mind' - a term borrowed from the French physicist and philosopher Blaise Pascal. Montessori felt that, if we are to support development, then we must offer mathematics at an early age since this is the kind of support that is appropriate for the kind of mind that we have. She observed:

'Great creations come from the mathematical mind, so we must always consider all that is mathematical as a means of mental development. It is certain that mathematics organises the abstract path of the mind, so we must offer it at an early age, in a clear and very accessible manner, as a stimulus to the child whose mind is yet to be organised.' (2)

through his senses and through movement, that is, through hands-on manipulation. She concluded that she needed to provide mathematical concepts in a concrete form, which would be accessible to the children's senses. A prime example is the material used to introduce the concept of quantity: the Number Rods. These wooden rods are painted in sections of red and blue so that each section represents the addition of a unit. The rod for two is therefore twice as long and twice as heavy as the rod of one. That the rod for ten is ten times larger than that for one is strikingly apparent.

In traditional education, on the other hand, mathematics is taught in a less hands-on manner. The child is given the abstract symbol as a starting point. Beads on a thread may be used to practise counting to ten, but it is more often done aloud or in the form of songs. Recognising the symbol and counting up to ten does not imply an understanding of what these numbers mean; they are simply words to be said in

Montessori also knew that the child aged six and under learns

sequence. Furthermore, counting individual objects such as beads requires the child to make the additional mental step of grouping objects together in order to come up with the quantity. Far clearer is the Montessori approach of presenting the idea of the quantities as a whole using the Number Rods. As Dr. Montessori wrote,

'When, on the other hand, in ordinary schools, to make the calculation easier, they present the child with different objects to count, such as beans, marbles etc., and when, he takes a group of eight marbles and adds two more marbles to it, the natural impression in his mind is not that he has added 8 to 2, but that he has added 1+1+1+1+1+1+1+1 to 1+1. The result is not so clear, and the child is required to make the effort of holding in his mind the idea of a group of eight objects as one united whole, corresponding to a single number, 8. This effort often puts the child back, and delays his understanding of number by months or even years.' (3)

The Montessori approach offers another concrete experience in the form of the Golden Bead material used to introduce the

material used to introduce the Decimal System. A child of four can see without being told the differences between one, ten, one hundred and one thousand: one unit is represented with one golden bead whereas one thousand is a cube made up of one thousand golden beads. As the child handles the material in a series of different activities the contrasts are enforced by the comparative weights and volumes of the items. The fact that the child has been given a vision of the whole scope of the Decimal System inspires wonder and a desire to explore further. In traditional schools the larger quantities are not introduced until the child is much older; this child is proud to say 'I can count to 100' whereas the Montessori child, having truly grasped the idea of the Decimal System can count on indefinitely.

Mario Montessori Jr. made the following remarks on his grandmother's method:

'It is to her credit that she devised a means of introducing highly abstract concepts in a concrete way so that children could explore them at this early stage. A child manipulates them, performing actions and in the meantime, through this sensomotoric experience, gets acquainted with the principle or concept involved' (4)

Numerals are generally introduced in a traditional school by giving dotted outlines of the numerals which the children trace over with a pencil. This offers the dual challenge of controlling the pencil whilst also following the outline provided. In Montessori this skill is learnt as a separate activity. The Montessori approach to introducing numerals focuses only on the symbols themselves using the Sandpaper Numerals: cut-out sandpaper numerals from zero to nine mounted on painted wooden boards. The child learns the shapes of the

symbols using his senses as he feels the rough sandpaper and simultaneously absorbs its appearance and its name as he listens to the teacher saying each numeral aloud.

Although initially the child sits with the teacher to learn these numerals, he will also take part in games with them and will practise writing them on a chalkboard and on paper. Repetition is an integral part of the Montessori approach; Dr. Montessori observed that the child possesses a mind capable of effortlessly taking in unlimited information and so the more frequent his experiences, the deeper they are imprinted in his subconscious. In addition, children actually enjoy repeating these activities and will choose to do so unprompted.

Before the child even touches a piece of mathematics material he has spent lots of time preparing himself indirectly to work in a mathematical way. When, aged three years he spends time pouring water from jug to jug he observes and judges relative quantities. When he scrubs a table or polishes a mirror he learns how to set about a task in a logical way and to concentrate on a problem until it is solved. When he works with the Sensorial materials he is constantly required to sort, to look for similarities and differences and compare and contrast different series - all of these critical for his later work with mathematics.

The child is free to explore the material for mathematics material at his own pace,

without pressure. The materials are designed with a 'control of error' so the child is always able to assess his own progress. He is introduced to the concepts of addition, subtraction, multiplication and division in group activities where he is given an actual concrete experience of the meaning of these functions. For example, he experiences addition as the putting together of two quantities that results in the production of a larger quantity and multiplication as a special addition in that it is the putting together of quantities that are all the same. The working in groups appeals to his need to interact socially at this age in sharp contrast to the solitary approach of the traditional 'worksheet'. The Montessori approach results in the concepts being fully understood at a time when it is easy for the child to understand as long as the ideas are presented to him through the manipulation of concrete materials. By the time the children are six years old they have a solid knowledge of mathematics that will stand them in good stead not only for further study, but also for many other aspects of everyday life.

Gayle Wood

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