

The Montessori effect

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1. Introduction

According to the Education review office (2007) in 2007 there were 95 Montessori preschools operating in New Zealand; this is a sharp increase from the 10 in 1985.

Montessori philosophy is an alternative method of education that is based on the research of Maria Montessori (1870-1952). This philosophy is founded on the concept of respect for children who are considered to be in the process of self-construction. In order to aid in children's development Montessori meticulously devised a series of materials that aim to appeal to children as they move through a series of sensitive periods. These are placed on low shelves as part of the prepared environment that has been carefully set up to allow freedom of movement while promoting independence. The role of the teacher is to guide children through the environment; presenting materials to children as developmentally appropriate.

For the purposes of this report the head teacher from a Wellington Montessori preschool, agreed to be interviewed about her views on Montessori and how the philosophy has impacted her teaching. In order to protect her anonymity, for the rest of this report she will be referred to as 'the interviewee'. Informed consent was given in response to an explanatory letter that was sent to the interviewee as an email attachment

(Appendix A). Interview questions can be found in Appendix B and the notes in Appendix C.

The interviewee has been a Montessori teacher in Europe and New Zealand for more than ten years. She has been head teacher of the Wellington preschool for 8 months, having taken over the post after a restructuring process that took place at the end of last year.

The preschool has been in operation in wellington under various names since 1976. It was begun as a parent co-operative where likeminded families met in each other's homes. Between 1978 and 1985 it operated out of a church hall in Kelburn. By 1990 the school had rapidly expanded and moved to the grounds of a primary school where it remains today. The school is still run by parents as a school council. All teachers are Montessori trained and are fully registered or have provisional registration.

2. Historical Background

Montessori was Italy's first female doctor, whose work as a general practitioner led her to become passionate about the plight of Rome's poorest families (Kramer, 1988). Through her post graduate research at the Psychiatric Clinic of Rome she began to work with children with special needs which led to her developing material that would help them to learn. These materials proved extremely effective over time with several of the children passing state examinations. This led to Montessori's investigations into the reasons why children with normal intellects were failing in the mainstream education system (Kramer, 1988). During this time, 1907,

Montessori was asked to take on the care of unsupervised children, aged 3-6, and living in the slums of Rome. It was here that she opened her first *Casa de Bambini* or 'Children's House' and was able to test her ideas when she began her work with 50 illiterate children (May, 2013). Through her observations of the children she developed a child centred, co-constructed curriculum using the methods and materials that she had used with the children of the Psychiatric Clinic of Rome. What she discovered was that preschool aged children wanted to learn and were able to provided they experienced an environment that facilitated them to do so (Thayer-Bacon, 2012).

According to Shuker (2004) The *Casa de Bambini* went beyond educating young children, it provided nutritional services, public baths and an infirmary for sick children. In the early 1900's this was considered as progressive practice. In another example of Montessori's innovative thinking, she viewed the children's house as being a place for bringing together the family's wellbeing with the child's education. As such mothers were expected to attend weekly meetings to discuss their child's progress and receive advice. Although, she omitted to include children's Fathers in her weekly meetings, this was indicative of the social context of her time. Even so, what she was doing links well to current pedagogy which is illustrated in Te Whāriki (Ministry of Education, 1996) in which the principle of family and community states "The wider world of family and community is an integral part of the early childhood curriculum." (p.42).

Montessori's Casa de Bambini was developed with the aim of caring for children of poor working mothers, so to were the first child care centres in New Zealand. In 1909, the first of these centres was set up in Wellington by the Catholic Church and provided free day care (McLachlan, 2011). In contrast to the crèche system that focused on caring for children, education for 3-5 year olds was provided by free kindergartens that were guided by Froebelian philosophy. Though, it should be said that by 1924 there were only 29 kindergartens throughout New Zealand (May, 2013).

It is not surprising then that by 1908 Montessori's successes were becoming newsworthy and attracted the attention of journalists, educators and royalty (May, 2013). In 1909 Montessori wrote her first book, the *Montessori Method* in which she detailed her philosophy, along with the story of her first *Casa de Bambini* (Thayer-Bacon, 2012; May, 2013). In 1910, according to Pickering and Carson (2007), the first New Zealander to be involved in Montessori education was Miss Newman, a lecturer from Auckland Teachers College, who visited Montessori's *Casa de Bambini*. However, it was not until an article in an American magazine, entitled 'An education wonder worker: The methods of Maria Montessori' (May 2013), appeared in Oceania that interest gained momentum.

In 1912 the newly appointed education minister, James Allen, went to observe and learn from Montessori. According to May (2013), he returned to New Zealand full of enthusiasm for the Montessori Method. From this time up until 1922 Montessori materials were used in Wanganui primary schools and Kelburn Normal school. It could be said that Montessori

appealed to the thinking of the time; it offered an image of reform during a reform minded era (Shuker, 2004).

After the end of the First world war interest in Montessori began to fade as authorities began to question the Method in light of educational reforms that focused on patriotism and co-operation (May, 2013). However, as Shuker (2004) explains, the Montessori approach to education didn't completely fade away because it became part of the Catholic school system under the direction of Mother Mary. St Domitille until the 1950's.

Resurgence of interest in Montessori education in New Zealand began in the mid 1970's when an American Montessori teacher spoke to a group of New Plymouth parents (MMEF, 2014). In the late 1970's two Montessori trainers from the UK were invited to New Zealand to run workshops in Auckland and Christchurch (MMEF, 2014). According to the MMEF (2014), by the mid 1980's there were 13 Montessori preschools in New Zealand; all opened as a direct response to parent's needs. The interviewee's preschool was one of them.

It was during this time in New Zealand that it was becoming more socially acceptable for single mothers to keep their babies and for mothers to work. In addition, women were becoming better educated and began lobbying for quality in education and care for their children (Meade & Podmore, 2002). It could be said that this precipitated the renewed interest in Montessori education.

3. Literature review in the context of the interviewees responses

According to Bone, Cullen and Loveridge (2007), one of the underlying principles of *Te Whāriki* is the holistic development of the child. This is substantiated by the *Te Whāriki* document which contains the following aspiration for children: “to grow up as competent and confident learners and communicators, healthy in mind, body, and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society.” (Ministry of Education, 1996, p. 9).

In the opinion of the interviewee the key point of Montessori philosophy is that it too is a holistic approach to education that links well to the New Zealand early childhood curriculum, *Te Whāriki*. She went on to clarify that this kind of approach promotes physical and mental independence through which our children can achieve freedom. The way in which Montessori promotes holistic development is through the prepared environment which goes much further than the physical layout of the classroom and outside area.

The concept of the prepared environment has been explained by Montessori in her publications (see for example, Montessori, 1988; Montessori, 1967) and is succinctly summed up in Huxel (2013) who considers that the prepared environment supports children to make independent choices while encouraging curiosity, self-motivation and movement.

In physical terms the interviewee used the analogy of the prepared environment as a library. It is an ordered environment with shelves within reach that hold the books, magazine, CD's and DVD's. Fiction books are

stored by genre in their own section, as are the nonfiction books and DVD's etc. Children's items are stored in their own section, with picture books being stored in such a way as to be appealing (and reachable) to young children. There is usually only one of each item which means that someone else has a book that you want, you have to be patient and place a reserve. There are behavioural expectations too; we generally talk quietly so as not to disturb others and we handle the books with care. When choosing books with a child you would go to the children's section and help them choose those that are developmentally appropriate, for example, if your child was interested cooking you might go to the children's reference section and find a book aimed at children of their level, you wouldn't go and find them, for example, *Le Cordon Bleu Complete Cooking Techniques*.

As Montessori explains in her handbook (1965), in a Montessori classroom there will be shelves at the child's level on which there is usually only one of each material stored within each subject area of the Montessori curriculum. These areas are practical life, sensorial, art, maths, language and cultural. These materials have been very carefully designed so as to inspire children to direct their own learning. All the furniture in the classroom is child sized with many open shelves situated around the room to make it easy for children to access the materials themselves.

The teacher is a vital part of the prepared environment and can be a guide for children or an obstacle. Montessori makes this very clear in both *Dr Montessori's Own Handbook* and *The Secret of Childhood*. She points out that the single greatest task of the teacher is to prepare themselves in

such a way as to be in a position to build responsive reciprocal relationships with children. In *The Secret of Childhood* Montessori meticulously explains that it is important for teachers to be respectful of children and ask themselves if their actions are helping or hindering children. This concept is corroborated by Gibbs (2006) who considers an ability to engage with children at their level is an important part of being a professional teachers. In addition, Huxel, (2013) supports this model and extends it by suggesting that teacher's reflectiveness also encompasses their relationship with other members of their teaching team.

The interviewee also had similar views of the role of the teacher. She said that the teacher is a guide and a "reflective practitioner who keeps learning and never takes knowledge for granted". In addition the interviewee described teachers as the "dynamic link between the child and the environment." This means that as Montessori (1965;1972) said the teacher models respect for the child and environment and as part of this their role is to find just the right moment to present materials from the environment to the child.

The Montessori materials are probably the most recognisable aspect of a Montessori preschool environment. As the interviewee explained; "Montessori introduced materials to the children and then observed to see what would happen; making changes as appropriate." The materials that are used in Montessori classrooms today have been meticulously designed to meet the developmental needs of children by appealing to them as they mature through different sensitive periods.

Lillard (2008), provides an interesting insight into the history and purpose of the Montessori materials based on her research of the Montessori Method. As part of this research Lillard also cites the amount of experimentation and thought that Montessori put into designing her materials. A good example of this is the pink tower which is a set of 10 cubes that get progressively smaller. The relationship of the cube sizes is no accident; they have been specifically made so each block is 1cm longer on all sides than the previous block, with the sizes ranging from 1 cubic cm to 1,000. The blocks also get exponentially heavier as they grow in size in order to illustrate the size difference sensorially as well as visually. It is not entirely clear as to why the cubes are pink but Montessori mythology suggests that it is simply because that was the colour that the carpenter had available at the time.

The materials serve many specific purposes and have been developed in the context of all the other materials. Importantly, all materials have an inbuilt control of error (Lillard, 2008). For example the knobbed cylinders are a set of 10 cylinders of varying dimensions that fit into corresponding holes set in a block of wood. If one cylinder is misplaced then the last one will not fit, thus giving the child the message that they need to change some of the other blocks around. The purpose of this is to promote independence and freedom by giving the child autonomy over their work.

In her book *The Discovery of the Child* Montessori describes the hand as being the instrument of the intelligence, which is why she designed her materials in the way that she did. A century later, current brain research is

corroborating her findings. An article by Bourne (2009) highlights the work of Dr Stephen Hughes who is a neuro psychologist who has studied the neurodevelopmental benefits of Montessori education (Bourne, 2009). Through his research Hughes has found that the Montessori emphasis on repeated, self-directed hands on learning with multi- sensory materials provides the optimum environment for brain development. In particular, he found that when motor movements are repeated, they become a template for the brain that elicit new experiences (Bourne, 2009).

One major criticism of Montessori philosophy is that it is too rigid and undervalues the role of play and imagination in children's development (For example, Bodrova & Leong; May, 2013; Chattin-McNichols, 1992). When asked about this, the interviewee felt that this misunderstanding arose from the use of the word 'work' versus play. She said "Because we respect children and value what they do we use the terms work and play interchangeably." With regard to creativity and imagination the interviewee said "We want children to have an understanding of the real world and imagination comes from their understanding of this." "Fantasy isn't helpful for development. Children are not equipped cognitively and emotionally to understand fantasy that comes from the adult mind."

Unsurprisingly, Montessori's writing on this subject shows similar sentiment (for example, Montessori, 1965; 1972). Through her research, Montessori was trying to find a way of supporting the development of children's imagination and creativity. She proposed that imagination comes from a foundation in real world experiences rather than through adult constructed

fantasy. After all, at the basis of Montessori's theory is the concept of the child being in the process of self-construction. Imposing an adult agenda of ideas, especially through modern media devices, is an obstacle to young children's development. This argument is backed up by Woellhaf (2014) who has also studied neurological research that confirms that early childhood is a distinct phase of life in which children are absorbing the way in which their natural world works. They do this through sensorial exploration and observations of everything in their environment. In doing so they are creating the neurological pathways that are the building blocks of their intellect.

To finish this section, it would be appropriate to attempt to convey the interviewee's passion for Montessori philosophy using her own words. "I am an idealist and humanist and I believe that the Montessori Method is a tangible tool that contributes to a better society. I think it's a magic, watching children unfold in front of our eyes and reaching their potential."

4. Key Issues in Montessori Education

The Ministry of Education (2010) proposes that thoughtful and meaningful use of ICT in early childhood classrooms is a means for supporting children's development. However, as has been argued by Woellhaf (2014), in Montessori schools technology is considered to be an obstacle to young children's learning.

The issue for Montessori teachers is to review the research and come to a consensus about what technology might be appropriate to their classrooms. The Ministry of Education (2010) provides some clarification about

meaningful use of technology, for example, children using digital cameras to take photos or making copies of art work using a photo copier. This is clearly very different from the computer technology that Woellhaf (2014) discusses in her article.

One suggestion for addressing this issue is for schools to undertake a self-review on how ICT is used in their settings.

Another suggestion would be for teachers to undertake professional development on this topic.

A second key issue for Montessori education is divisiveness. The way in which teachers implement the Montessori Method can be quite varied. Lillard (2008), suggests that teachers either strictly adhere to the use of Montessori materials or that take a modified approach by incorporating activities such as puzzles into the classroom. She goes on to question how to define a Montessori school, particularly because there are no restrictions on any school using the Montessori name. For example, is a Montessori school one in which there are some materials on the shelves, regardless of whether they are used or not?

MANZ (Montessori Aotearoa New Zealand) is an organisation that promotes Montessori education in New Zealand. Its purpose is for member schools to work together to promote quality Montessori education (MANZ, 2014). It is currently working towards creating a cohesive approach to Montessori education across its member schools. As such it is developing a quality assurance programme called *The Journey to Excellence* in collaboration with Massey University. This programme has involved a group of schools

engaging in self-review projects and then sharing their work with other teachers by making presentations during the Montessori conference earlier this year. The purpose of this is for schools to develop a system of shared quality practice through reflective collaboration (MANZ, 2012).

In order to address divisiveness it is recommended that Montessori schools take full advantage of *The Journey to Excellence* programme and actively engage in collaboration.

5. Conclusion

Despite being founded over 100 years ago Montessori education has stood the test of time. The philosophy is based on Maria Montessori's observations scientific observations of young children. She began her work in early childhood education in the slums of Rome, working with the children of employed mothers. Montessori provided more than just a centre for education; she delivered health care and a public baths (Shuker, 2004). Her thinking was to support children by bringing together their education with the wellbeing of their families. This links well to current pedagogy through the *Te Whāriki* principle of family and relationships (Ministry of Education, 1996).

Current neurological research supports the Montessori concept of the hand being the instrument of intelligence (Bourne, 2009). Research by neuropsychologists has found that repeated motor movements create templates in the brain that are the foundation for further learning (Bourne, 2009).

The interviewee said that one of the key concepts of Montessori is the holistic approach to education. Again, this links well to *Te Whāriki* which has been founded on the concept of holistic development (Bone et al., 2007).

One major criticism of Montessori is that it is too structured and de-emphasises the value of the play. The interviewee along with literature on the subject have answered this critique by proposing that young children are in the process of self-construction. By imposing adult constructed ideas that children are ill equipped to handle we are actually putting obstacles in the path of their development.

Two key issues impacting on Montessori education are embracing technology and divisiveness within the teaching community. In order to address issues around resistance to technology in general it was suggested that teachers conduct self-reviews and/or attend professional development on the subject.

Divisiveness is an issue that has been highlighted by the literature (Lillard, 2008). Fortunately, this is being addressed by MANZ who are in the process of working with member schools to create a system of collaboration (MANZ, 2012). It would be advantageous for Montessori schools in New Zealand to fully participate in this programme in order to reap the benefits.

A limitation to this report is that *The Journey to Excellence* was not discussed with the interviewee. As the head teacher of a MANZ member school it is likely that the interviewee would have some insight into the system and how or if it benefits the school.

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