

## What defines a Montessori school?

By: Jaap de Brouwer<sup>1</sup> and Patrick Sins<sup>2</sup>

<sup>1</sup> Montessori teacher trainer and researcher in the research group Alternative Education, Saxion University of Applied Sciences. [j.debrouwer@saxion.nl](mailto:j.debrouwer@saxion.nl)

<sup>2</sup> Professor Alternative Education, Saxion and Thomas More University of Applied Sciences. [p.h.m.sins@saxion.nl](mailto:p.h.m.sins@saxion.nl)

*In our work as educational researchers we regularly visit Montessori schools in the Netherlands and have noticed that there is great diversity in the way these schools realise Montessori education. With more than 100 years of experience, one would expect that there is an unambiguous implementation of the Montessori concept. Dutch Montessori schools apply Maria Montessori's ideas on education in idiosyncratic ways. And so we ask ourselves: what actually defines a Montessori school? And how can we assess the diversity in the implementation of the Montessori concept?*

### Classic versus supplemented Montessori

Professor of Psychology at the University of Virginia, Angeline Lillard, has been studying the effectiveness of Montessori education for over 25 years. Her studies demonstrate that Montessori schools outperform conventional schools on learning outcomes, executive functions and social competencies (e.g. Lillard, 2012; Lillard & Else-Quest, 2006; Lillard et al., 2017). Yet, these results do not apply to all Montessori schools.

In her 2012 study on the effectiveness of Montessori preschools, Lillard roughly discriminates between two forms of Montessori implementation: the classical Montessori school and the supplemented Montessori school. The classical Montessori school implements the programme that adheres closely to Montessori's original ideas as outlined in her books. These are schools who include 3-hour work-cycles, have mixed age classrooms with a trained teacher, and use a specific set of Montessori materials. In supplemented Montessori schools, however, in addition to using Montessori materials, other conventional materials are used and work-cycles may be interrupted.

In her study, Lillard found that children attending classic Montessori schools outperformed those in supplemented and conventional schools in terms of learning outcomes, executive functions and social problem-solving. Children in supplemented Montessori schools performed equal to children in conventional schools on these measures (Lillard, 2012). Although both classic and supplemented schools consider themselves "Montessori", Lillard's study shows that their outcomes are different.

### Defining a Montessori school

Although classic Montessori programmes are associated with significant gains in learning, classic Montessori schools are in the minority. For example, only 28% of all public American Montessori schools indicate that they apply a strict form of Montessori education (Murray & Peyton, 2009). When considering the implementation of the Montessori programme in the Netherlands, this percentage will be even much lower. More importantly, the distinction Lillard makes between either classic or supplemented Montessori does not leave room for much nuance in characterising how Montessori schools implement the concept. The typology Lillard employs does not reflect the multiple variants in which Montessori schools exist. In research this poses us with a problem, since it is difficult to pinpoint precisely how aspects of Montessori education relate to particular outcomes. Therefore, a more fine-grained measure is needed to define the ways in which the Montessori concept is implemented in schools.

During our lectures, workshops and school visits we noticed that Montessori teachers and principals have different ideas on applying the Montessori programme in their school. When asking these Montessori professionals about how they define a Montessori school, most of them respond by stating

that: “when you enter a Montessori school you will notice it immediately: there is this peaceful harmony and the respectful interaction with each other. You can see it in the teacher's attitude. It is the way the children behave.” Although this may be all true, this feeling needs to be operationalised in order to assess the implementation of the Montessori concept more reliably.

This begs the question of how we can reliably assess the implementation of the Montessori concept taking several dimensions in which schools may differ into account in our research on the effects of the Montessori education.

### Identifying differences

Together with the members of the Dutch Montessori Research Group, we conducted a study investigating the differences in the ways the Montessori concept is implemented in Dutch Montessori schools. We translated and adapted a questionnaire that was developed by Murray, Daoust and Chen (2019). The questionnaire consists of self-reporting items asking teachers to rate (on a 4-point scale) the extent to which they agree with particular statements about their classroom. This instrument employs three hypothesized dimensions of Montessori implementation: structure, curriculum, and freedom. Every aspect consist of several questions Montessori teachers can answer in relation to their own class. ‘Structure’ involves the ways in which the group is organised and how children are instructed to foster their individual learning needs (“Observation used for daily lesson planning”). ‘Curriculum’ concerns the structured sequence of lessons and materials that represent an integrated approach of the several disciplines (“Most instruction with Montessori materials”). ‘Freedom’ involves the extent to which children are left free to make choices (“Choose their work/activities”). There are two versions of the questionnaire, one for teachers working in early childhood, which contains 13 items, and one for elementary teachers, which contains 18 items.

In total 449 Dutch Montessori teachers of 96 Montessori schools completed our questionnaire. Of these, 131 were early childhood teachers, 148 lower elementary teachers and 130 upper elementary teachers. In the figure below the means and standard deviations are provided for Dutch teachers in early childhood (EC: 3-6 year olds), lower elementary (LE: 6-9 year olds) and upper elementary Montessori schools (UE: 9-12 year olds).

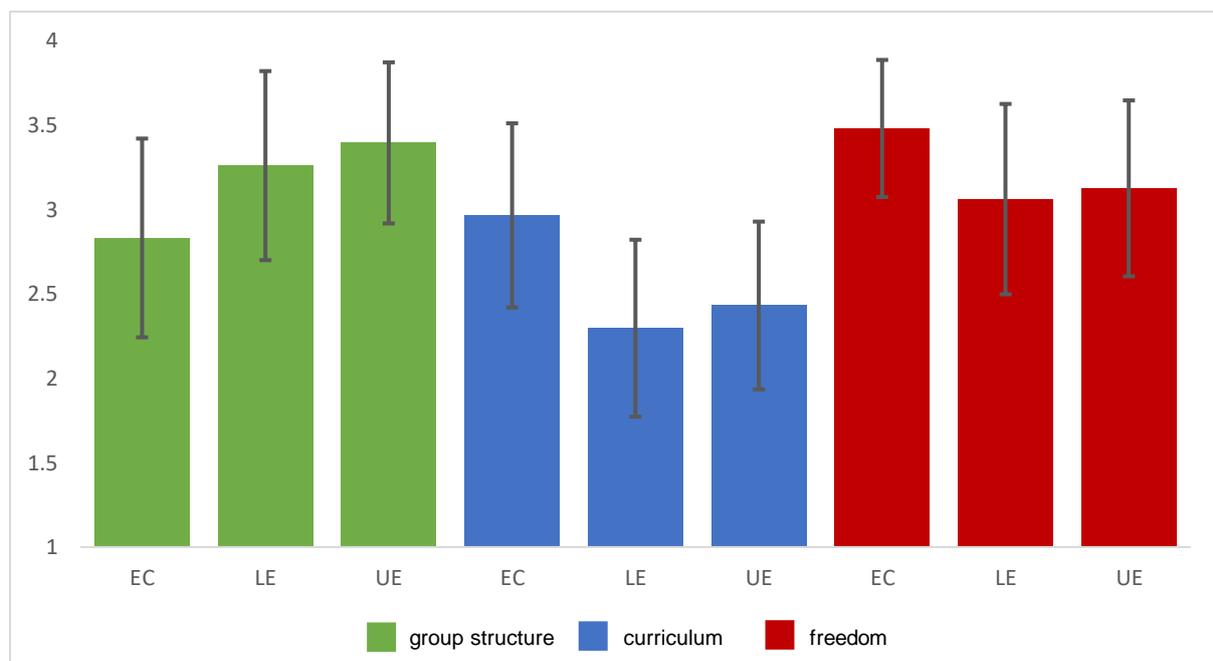


Figure 1: Means and standard deviations of Dutch Montessori schools per age level on the aspects group structure, curriculum and freedom.

In our sample, we did not find teachers implementing a classic Montessori approach, as advocated by Lillard: no teacher provided a maximum score on each of the three aspects. In addition, not all aspects of Montessori are equally present in the classroom. For instance, curriculum is scored much lower compared to the other Montessori aspects, especially by teachers in lower and upper elementary grades. Finally, teachers' responses vary in the scores within each aspect. For instance, within the aspect 'Freedom' some teachers rated their class with an average of one, while other teachers scored their practice with an average of four.

Thus, our more fine-grained way of assessing the implementation of the Montessori programme shows multiple variants of how the Montessori concept is implemented in the Netherlands. Indeed, there is a great deal of variation in the implementation of the Montessori programme.

### **European Montessori teachers**

Our study shows that Dutch teachers implement the Montessori concept in rather diverse ways. Presumably because the implementation of the Montessori model is subject to adaptation to local culture, government policy or as a result of new educational insights. We expect to find similar results in other European countries. To test this assumption, we have asked over 200 European Montessori teachers to complete our questionnaire in order to find out how their answers compare to our Dutch sample. We are currently working on analysing our data. However, we still need more European participants to make our results more robust.

During the Montessori Europe webinar on Thursday 4 February, we will discuss our study in more depth. We will discuss the questionnaire and its significance to measure Montessori implementation, show some initial results of our European sample, and present, discuss and review our idea to transform the questionnaire into an observation tool which Montessori teacher can use as a tool for self-reflection. Ultimately, our aim is to collaboratively reflect on the question of how we would like to define and enhance our Montessori practice.

### **References**

- Lillard, A. S. (2012). Preschool children's development in classic Montessori, supplemented Montessori, and conventional programs. *Journal of School Psychology, 50*(3), 379–401.
- Lillard, A. S., & Else-Quest, N. (2006). Evaluating Montessori education. *Science, 313*(5795), 1893–1894.
- Lillard, A. S., Heise, M. J. R., Eve, M., Tong, X., Hart, A., & Bray, P. M. (2017). Montessori preschool elevates and equalizes child outcomes: a longitudinal study. *Frontiers in Psychology, 8*.
- Murray, A. K., Daoust, C. J., Chen, J. (2019). Developing Instruments to Measure Montessori Instructional Practices. *Journal of Montessori Research, 5*(1), 48-87.
- Murray, A. K., & Peyton, V. (2009). Public Montessori elementary schools: A delicate balance. *Montessori Life, 20*, 26–30.