Teacher in secondary Montessori education[i]

Introduction

Montessori education is based on the theory and practical implementation created by Maria Montessori. Particularly in the implementation of her theory, Montessori wrote much more about children from 0 to 12. She formulated ideas about adolescents but they were not worked out in as much detail.

Montessori education evolved from Montessori's ideas. In this regard, some stick closely or very closely to Montessori's original ideas and implementations whilst others feel free to use these ideas as a basis and source of inspiration but take the liberty to adapt and redefine Montessori education according to advancing insights in development, upbringing and education.

The teachers in schools for secondary Montessori education in the Netherlands are among the Montessorians who have a freer view of Montessori education. In practice, this means that the schools for secondary Montessori education, the vmo schools, do not all use the same approach. This provides room for own adjustments, but can make it difficult to precisely state the character of secondary Montessori education– especially for new teachers at a vmo school.

Which is why in recent years, the vmo schools began a process to better establish their identity. The starting point for this is the "Montessori education in the 21st century" paper, a paper embraced as a guiding document by the Dutch Montessori Association. With this paper as starting point, the vmo schools have described the typical characteristics of vmo schools. This has resulted in a description of six characteristics that are then detailed in a book and illustrated with examples.

As a next step, it was decided to describe the behaviour of vmo teachers. The earlier mentioned NMV paper was again referenced for this description. In addition to the requirements the school subject places on teachers (subject knowledge) and the more general competencies teachers should possess, teachers of secondary Montessori education should meet the following requirements:

– Knowledge and skills about Montessori education, upbringing and development
– Pedagogical attitude
– Designer of the learning environment
– Guidance of learning processes
– Congruence in working with students, working in the school organisation and dealing with external contacts (such as parents)

The development of a classification like this is not completely free of duplication: there may be some overlap between the five sections and sometimes within the sections. In the remainder of this document, the five sections are first briefly explained and then further developed.

Basic knowledge of Montessori education is indispensible for vmo teachers. Because vmo schools in the Netherlands have a freer attitude towards the classic Montessori theory, it is necessary to understand where core concepts like "freedom within limits", "sensitive periods" and "prepared environment"- to name a few examples of concepts – come from and in what way they fit into the theory of child development.

It is often said about Montessori education that it is a pedagogy rather than a completely developed educational concept. A pedagogical attitude is asked of Montessori teachers, which, as it were, underlies the didactics. In internal review reports of vmo schools it has been established that the vmo schools show more pedagogical similarities than didactic. That's not to say that there are no didactic principles for vmo teachers. Two roles are distinguished in this document – that of designer of the learning environment and facilitator of learning processes – and these are typical of the role of the Montessori teacher. The student is central in the learning process and the teacher designs the environment to make learning possible and to guide in the best possible way.

Finally, the aspect of congruence is of a different order. This actually refers back to a deeper behaviour, as is also expressed in the fundamental pedagogical attitude. The developmental focus that teachers have regarding their students and on which they also

set up the educational process is reflected in the way they act in contact with parents and interact with each other within the school.

1. Knowledge and skills about Montessori education and about upbringing and development

Teachers in secondary Montessori education are at home in the theory and practice of Montessori education. Because Montessori education moves within the context of a changing educational practice in which new insights in upbringing and education are developed, teachers should be familiar with the current insights relating to the development of children in the areas of:
– Biological development
– Cognitive development
– Emotional development
– Moral development
– Social development
– Cultural development

In classical Montessori theory, the development of children is described in phases of six years from 0 to 24. The emphasis of the description is on the ages from 0 to 12; Montessori wrote much less on the ages that follow.
In Montessori theory, young children have so-called "sensitive periods"– phases in which they wish to practice certain functions (motor, mental and social). Montessori teachers see what children are sensitive to and adapt their material to this.
The sensitive period concept is much less applicable to the development phases of older children because the practicing of functions for many areas mainly extends to younger ages. However, basic knowledge of different aspects of development is essential for teachers in secondary Montessori education so that they can optimally align their education and guidance to the students.

2. Pedagogical attitude

We distinguish six aspects in the pedagogical attitude of Montessori teachers:
– Giving confidence
– Propagating self discipline
– Propagating respect
– Being involved
– Having an eye for differences between students
– Being an example

Giving confidence
Montessori teachers work from a belief that children/young people have the ability to develop: social-emotional, moral, cognitive, creative (in the broad sense of the words).

A teacher who has confidence in the capabilities of his/her students:
– Gives students the space to practice building knowledge and skills
– Encourages students to explore their own capabilities and challenges them to push their limits

Elaboration
The practice space that teachers offer is not unlimited: there is freedom within limits. The space is limited on the one hand by rules from education legislation, such as central exam rules and PTA's. On the other hand, teachers or the school organisation itself also limit the space in order to offer students a clear and safe environment.
Teachers give assignments that provide space in content, in time and also in location (the place where students work). In time: longer than from lesson to lesson or week to week, but within established lines that can change per year or school. In content: examples include research questions, work assignments, practical assignments,

presentations, projects. In location: students work in the subject classrooms, in other work areas (where it suits) and also outside these.
Teachers provide appropriate guidance on the process and the product, adapted to the needs of the (group) students. Some students require little or no guidance, others require (much) more.
Teachers also give students adequate space to make mistakes and provide guidance on learning from errors.

Propagate self-discipline

A core concept in Montessori upbringing and education is "freedom within limits". That appears to be a paradoxical term: how can you be completely free when you have limits as well? In Montessori education, there are degrees of freedom appropriate for the ages of the children and the context in which students together form a community. Even the youngest children at a Montessori primary school know that they should not disturb fellow students and that this limits their freedom.

Students learn that dealing with freedom within limits particularly entails them learning self-discipline. Establishing discipline through rules and systems of rewards and punishments is much less effective than teaching students self-discipline. It involves both self-discipline regarding social behaviour and self-discipline in the work. The latter helps provide students a clear structure in which they have plenty of room to practice and learn to shoulder responsibility.

Elaboration
Teachers at a Montessori school are part of a community that is not directed by a large number of fixed rules, but by manners that ensure that everyone can flourish as an individual within a larger whole. This requires from teachers the willingness to listen, talk, call others to account and be accountable.

Propagate respect

The basis of propagating respect is the equivalence between the teacher and his/her students. Equivalence: valued equally as people. That is not the same as equality: teachers and students have different roles and shoulder responsibility from their own positions.

A teacher who propagates respect:
− Calls students to account in a positive way for what they do: with optimism and confidence about the desire and ability of the students to learn
− Communicates at eye level
− Gives students careful feedback on their behaviour to teach them to look critically at themselves
− Allows students to practice respectful behaviour

Elaboration
Teachers call students to account for their behaviour, not about their person. The principle is that the teacher and student have the same goal: the student's success. Punishments and rewards should not be the first drivers of behaviour. It is more about the appropriate connection to situations than about the application of rules. Teachers who call students to account are also accountable themselves.
Teachers teach students where the limits are and make the students jointly responsible for monitoring these limits.
Practicing behaviour occurs, for example, in collaboration assignments in which the teacher composes the groups so that students learn to work together with people other than just their friends. Practicing debate helps promote listening to each other's points of view. The principle is that respect is not forced, but is a process of seeing and being seen.

<u>Being involved</u>
Involvement begins with the desire to get to know another out of genuine interest. Involved teachers:
– Are aware of relevant data from the (school) life of their students
– Can react empathetically and create a bond with their students

Elaboration
Teachers not only know the names of their students; they are actually interested in their ups and downs inside and (sometimes) outside of school and make space for giving time and attention to this.
Teachers are aware of relevant information: students have the right to a fresh start if something goes wrong, not to dwell on any earlier mistakes. It is about responding to actual student behaviour, not second hand views.
The involvement has limits arising from the professional conduct of teachers. A close involvement entails the risk of losing professional distance. This is reflected, for example, in taking on the role of counsellor or taking the role of friend too far. Teachers should at all times be aware of their role as teacher.

<u>Having an eye for differences between students</u>
Teachers are able to perceive differences between students and to attune their actions to this.

Teachers who have an eye for differences:
– Can align the guidance of students in the area of tension between the average standard and the individual potential.
– Are able to put their pedagogical attitude into practice in working with individual students, small groups and classes.

Elaboration
Through observation and reflecting together with students on strengths and weaknesses (read more in "Reflection"), teachers allow all students to reach their potential as far as possible. Although there is a natural tension between individual student potential and the group average (in level and pace), teachers are able to ensure a good balance in programme and guidance. They use a wide variety of methods for this purpose.

<u>Being an example</u>
Teachers show their pedagogical knowledge and skills partly by leading by example in their interactions with students.

Teachers who lead by example:
– Are aware that they are a role model for students
– Show vulnerability
– Also show that they themselves are learning: curious and inquisitive

Teachers realise that students emulate and identify with them. That knowledge requires a good balance between closeness and distance.
Teachers are also accountable. For example, they ask for feedback and acknowledge their mistakes, e.g. if they don't immediately know the answer to a student's question.

3. Designer of the learning environment
In Montessori theory, the prepared environment is an environment set up by the adults in which students find everything for the development of new functions. The prepared environment consists of four components: the organisation, the physical space, the work materials and the guidance. Because the specific role of teachers is described in this document, we use the narrower term of "learning environment", which is understood to include the real or virtual environment in which students work (classes and other

workspaces at school, an electronic learning environment) and materials used by teachers. We distinguish four aspects in the design of the learning environment:
– Design and layout of a suitable learning environment
– Design and layout of a challenging learning environment
– Design appropriate materials
– Pay attention to the outward form of the learning environment

Design a suitable learning environment
Teachers design a learning environment suitable for their students. That is to say:
– Tailored to all students in the group (class, cluster group or other work group)
– Clearly arranged so that students can find their own way

Elaboration
Teachers tailor the learning environment. This means that they (if possible) respond to the different learning styles (variation in processing and editing opportunities; head, heart and hands) and the differences between boys and girls. They offer appropriate choices between individual work and collaboration in the learning environment.
Teachers shall ensure that the learning environment is clearly arranged. It is an open learning environment, which means a learning environment that offers choices. It is also a selected learning environment, in which the teacher has determined the layout he/she thinks best suits the students.

Design a challenging learning environment
Teachers design the learning environment so that it stimulates students to progress a step further. In the "zone of proximal development", students can (partly) accomplish the learning activities, but not always entirely independently. The challenge and motivation to progress further in learning is lost if the students cannot take that extra step. Challenge then turns into disappointment and demotivation. In other words: the design of a challenging learning environment places demands on the ability of teachers to properly estimate the capacities of their students.
 A challenging learning environment:
– Encourages students in (critical) investigation; autonomous thinking
– Encourages students to discover interrelationships

Elaboration
Teachers ensure that they provide resources to students in their design with which they can investigate these reality areas themselves (inside and outside school). Through investigation, students learn to critically question reality and their own investigative method, so they learn to think and assess autonomously. In investigating a reality area, students learn to see connections by viewing and analysing from large to small and from small to large.
Teachers ensure that students regularly work with productive learning materials (presentations, papers).

Design appropriate materials
Teachers are themselves designer of the learning environment. This means that they own the material and are not mere distributors of materials devised by others (e.g. publishers). It means that teachers choose existing learning material that is suitable for Montessori education, they adjust existing material to make it suitable or they create suitable material, possibly with guidance of or together with an expert.
In addition to substantive materials, teachers provide:
– Substantive work guides and assignments (tutorials)
– Planning material
– Testing material

Elaboration

Criteria for choosing suitable material for students are the learning objectives that teachers (and subject sections) establish from the vision of Montessori education on the one hand and the learning objectives set by the government, for example, core objectives and attainment targets on the other hand. In addition to the substantive goals, the Montessori method also sets requirements on the material.

Although material produced by publishers often meets the criteria for Montessori material on a number of points, it's often necessary to adjust the material on a number of points. In some cases, Montessori-suitable material cannot be found. In that case, teachers can create materials themselves, usually supported by didactic experts.

Adapting and supplementing material includes, for example, designing supplemental assignments, writing substantive work guides that allow students to independently get a grip on the learning material and creating tools such as work planners.

Testing material should align as closely as possible with the Montessori vision and substantive learning objectives. Teachers should always ask what the goal of the test is and which materials go with it. They possess theoretical knowledge about testing and have a repertoire of testing material.

Paying attention to the outward form of the learning environment
Teachers ensure that the learning environment is cared for (and remains that way!) and is attractively designed. In this way, the learning environment designed and maintained by the teacher is a model for the manner in which students can independently give shape to and maintain their own learning environment. The learning environment is:
– Clearly set up (planning, structure)
– Neat, tidy and orderly
– Up to date

Elaboration
Ensuring for a clean and attractive learning environment relates to the set up and care of the work space for students; the tools for students (materials, assignments, work guides); the virtual learning environment (e.g. electronic learning environment).
Teachers provide maintenance on a basic level: cleaning black/white boards, resetting tables after a test, displaying material so students can find it and also put it back.
Teachers make students jointly responsible for the care of the learning environment by giving them a part in the shaping and maintenance of the learning environment.
Keeping up to date means not only replacing damaged material, but also adjusting outdated material.
Finally: the teacher is also a part of the learning environment. Criteria such as well-groomed and tidy also apply to teachers.

4. Guiding the learning processes
We distinguish four aspects in guiding the learning processes:
– Establish and track the learning needs of students
– Intervening
– Teaching responsibility
– Reflection

Establish and track the learning needs of students
Teachers in Montessori primary education see what students are sensitive to and offer appropriate materials in relation to this. Teachers in secondary Montessori education must also be able to establish where students are in their development. This applies to the various aspects of development: cognitive, in actions and in social-emotional functioning (motivation and well-being). These aspects influence each other and can facilitate or hinder learning.

A teacher who establishes and tracks the learning needs of the students:
– Is able to identify student behaviour
– Is able to observe student behaviour

- Is able to evaluate student performance in different ways
- Can systematically register student progress

Elaboration
The cycle of detecting, observing, evaluating and registering is newly defined and established for Montessori primary education in the Montessori Child Monitoring System (MKVS). The structure of this system is also useful for secondary Montessori education. Knowledge of the cyclical structure of learning is necessary for detecting (discerning conspicuous behaviour) and observing (targeted viewing): knowledge acquisition and processing, providing meaning, application and analysis and synthesis.
Teachers are aware of the different ways students learn: learning styles.
Teachers also possess the elementary knowledge of the most common learning disabilities such as dyslexia, so that they can appropriately connect to it.
Teachers evaluate student progress in different ways: by diagnostic tests and also by learning dialogues and various types of presentations, verbal and written (portfolio). Teachers systematically record their observations in a tracking system used by the school, which consists of more than just numbers.
Establishing and tracking the learning needs of students is a process in which students are involved by means of reflection discussions.

Intervening
Teachers intervene in various ways in order to guide student learning. These interventions follow as closely as possible the observations of the student learning needs.

A teacher has a repertoire of interventions, such as:
- Introducing new material
- Demonstrating
- Exploring curricula
- Action-oriented intervention

Elaboration
When introducing new learning material, teachers link to existing knowledge. An important element in the introduction is generating curiosity: that motivates students to later independently investigate the learning material. Precision is important when introducing new learning material, both substantive (e.g. an exact definition of concepts) and procedural (e.g. explain no more than is necessary; making clear agreements).
Unlike the classic Montessori lessons in primary school, "demonstrating" in secondary Montessori education doesn't have a fixed form. Teachers that demonstrate are aware of the differences between students and adapt their actions to this, e.g. by making demonstration more or less lingual and/or visual.
Teachers who explore learning material with a student or a group of students ask questions that help students in formulating and further investigating their knowledge. Teachers conduct these kinds of educational discussions with individual students, groups and classes.
Teachers conduct action-oriented intervention by helping students determine what steps are needed to acquire learning material. They also provide assistance in planning and working through the material.

Teaching responsibility
Guiding learning processes focuses on allowing students to take responsibility for their own learning as much as possible.

To pass on the responsibility, teachers provide:
- Learning materials that offer a structure in which students can make choices themselves
- Guidance according to the principle of diminishing leadership

– A programme and/or methods in which students shoulder responsibility themselves, individually or in a wider context

Elaboration
Guidance in teaching responsibility occurs through the material and the teacher. The material provides the structure that corresponds with the development level of the students. At the same time, within this structure there is sufficient space for students to make their own choices. These can be choices regarding time or different forms of processing. Teachers guide students in content and process. The guidance suits the students: students who require less guidance receive less guidance. Ensuring suitable guidance also means that teachers sometimes actively intervene in the guidance in order to help students further. This happens, for example, by approaching the students on their (learning) behaviour. The basic principle is that teachers work on helping students learn to take increasing responsibility for their work.

Reflection
Teachers teach students to systematically think about their work, e.g. about knowledge acquirement and learning strategies.

Tools to teach students reflection are:
– Implementing learning dialogues (with individual students and groups)
– Other forms of verbal and written feedback

Elaboration
Teachers focus their teaching and guidance in such a way that there is room to reflect with students. This places demands on the programme, which should be more than completing worksheets finished with a test. There is space for giving and receiving feedback, for implementing learning dialogues and for other forms of feedback. Digital learning environments offer new possibilities in this respect. It is increasingly about searching for the most effective forms, in which there is a trade-off made between the value of personal contact and the speed of new media.
Teachers are able to listen and can ask the proper questions in the right way. When teachers give feedback, they do so in a way that causes students to think: giving space, involving students.

– **5. Congruence in working with students, working in the school organisation and dealing with external contacts (such as parents)**

The fifth section is of a slightly different order than the previous four. This isn't about working directly with students on education and guidance, but about the work of teachers in the organisation and their contact with others, such as parents. The aspects of pedagogical attitude described earlier in this document - confidence (development-oriented), respect, involvement, having an eye for differences – also form the basis of work for teachers (and school leaders) in the school organisation and in contact with persons other than students.
In the school organisation, this becomes visible in:
– Openness regarding education and organisational development
– Trust in colleagues
– Recognition of different opinions within a team
– Willingness to cooperate
– Attention to each other and care regarding procedures

In contacts with parents and with external authorities, characteristics of teacher working methods are:
– Open and empathetic
– Trustworthy and professional approach to confidentiality