

Ms. Bev's Guide to the Montessori Curriculum

Ms. Bev (Bev Wolff) is the Director of the Montessori School of Pullman. She gladly shares this introduction to Montessori with you.

Contents

- Practical Life page 1
- Sensorial page 3
- Montessori Concepts page 4
- Language page 4
- Math page 7
- Cultural Subjects page 9
- Montessori Beginnings page 11

Practical Life

I remember a parent telling me that he did not pay good money for his child to learn how



to scrub floors! This was his daughter's current favorite work in the Montessori classroom, usually repeated more than once each day.

What is your child's favorite practical life work? The dressing frames, spooning, pouring, using tongs or tweezers, food

preparation, sweeping, opening and closing locks, watering the plants . . .

I also remember writing the initials I. C. O. C. again and again in the lesson plans I wrote during my Montessori training. This was shorthand for independence, concentration, order and coordination. So although the direct aim of a lesson in scrubbing the floor is to teach a child how to actually scrub the floor and care for the classroom, the indirect aim of this lesson, and all other practical life exercises, is to develop independence and the child's ability to focus and concentrate, follow a long and complex sequence of steps in an orderly way and to strengthen the hand in preparation for other activities, such as writing. Fine motor control and hand/eye coordination also develop through this work.

Updated September 2013

At the start of the school year and the start of the day many children choose practical life exercises. The work seems to help them settle into the day's activities and get ready for more academically challenging works.

There are so many practical life activities that your child can be responsible for in your home – dressing, setting the table, pouring and serving drinks for the family, clearing the dishes after a meal, helping to load and unload the dishwasher, feeding the family pet, watering houseplants, matching socks from the dryer, recycling the newspaper, putting his or her dirty clothes in the laundry basket, putting away clean clothes, dusting . . .

Children can also help prepare and pack food items for lunch at school. Sure, doing it yourself is faster, but when you do something for your child that, given enough time, he or she can do alone or with help, you deprive your child of an opportunity to grow in independence and responsibility.

One of the goals of education is to help students become independent and responsible citizens of the world. Practical life is one of the ways Montessori education helps achieve this lofty goal. That's pretty much what I told the Dad who was against lessons in scrubbing the floor. This lesson was just one small step on the road to independence. People like to be good at doing things.

When children work, work is not a “chore.”

A little understanding of the difference between the way adults and children approach work goes a long way toward making family activities rewarding for everyone. An adult works efficiently, using the least effort. Children work with every molecule of energy focused on the task at hand. An adult tires after working hard. Children seem re-energized and refreshed after periods of intense work. And of course, an adult's outwardly visible goal (a leaf-free lawn, for example) is of little consequence to the child wrapped in the rhythmic, whole-body experience of raking. When you work outdoors together this year, scale the task to the children's abilities, provide tools that fit their hands, step back, and enjoy.

Sensorial

Of all of the Montessori materials we have in our school, probably no piece is more recognized around the world than the pink tower. Several times I have seen a child who attended a Montessori School in another country react with joy when he or she sees the pink tower. “I know this,” the child says in another language, and begins to work.

You will get to know the names of some of the sensorial pieces of equipment – the brown stair, the long rods, the knobbed cylinder blocks, the knobless cylinders, the color boxes, the binomial and trinomial cubes . . . Montessori designed the sensorial equipment to offer young children concrete experiences in comparing and classifying their environment. The children explore the material using their senses, especially sight and touch. They learn about shape, size, length, color, weight, texture, sound . . . and are later given vocabulary to help classify their world. For example:

“This is long.”

“This is longer.”

“This is longest.”

Children are encouraged to work repeatedly with the sensorial equipment. They also often combine pieces of equipment, and develop their own variations. A child might match pieces of the pink tower and the brown stair for example.

I recently gave a tour of the school to a graduate student from Denmark. She is studying how math is taught around the world. She was very interested in the sensorial material as well as the math material. She felt that this sensorial material, with an emphasis on discovering patterns and relationships, would certainly help develop the mathematical brain, too.

Montessori’s sensorial equipment is similar to what is known as ‘sensory play’ in other preschool environments. What is different about Montessori’s equipment is the isolation of particular qualities. For example, each cube of the pink tower is identical, except for size. There is also a ‘control of error’ built in to the lesson. The material is designed, in much the same way as a jigsaw puzzle is designed, for a child to discover and correct his or her own mistakes. The child works until the pieces fit or match. There is nothing random or chaotic in Montessori’s sensorial material.

What is your child’s favorite piece of sensorial equipment?

Montessori Concepts

In order to understand the Montessori Language and Math materials, it will help to understand some basic Montessori terms and concepts, so think of this section as ‘indirect preparation’ for later discussions!

Indirect Preparation Montessori designed her materials carefully, so that not only do they directly teach a concept, such as the names of geometric shapes, but also indirectly prepare for a later concept to be taught and practiced. As an example, think of all of the Montessori materials and puzzles in the classroom that have tiny knobs for grasping. When the children grasp these knobs - to remove a puzzle piece or a cylinder from the cylinder block, for example - they are strengthening their ‘pencil grasp’, and are indirectly preparing their hands for writing.

Repetition All of the activities in a Montessori classroom are designed to be repeated. If you are learning something new, such as how to play tennis, one lesson followed by one practice would certainly not be enough for you to master the backhand. Similarly, if a child has a lesson with the sandpaper letters, one lesson followed by one practice session is not enough to learn the sounds of all of the letters and how to write the letters. Repetition leads to mastery.

Control of Error Many Montessori lessons and pieces of material are designed with a built in control of error. What this means is that a child can see for himself that he has made a mistake, and will work to correct the mistake without a teacher having to intervene. When you work with a puzzle, and a piece doesn’t fit, you try it some other place, or try another piece of puzzle. That is an inbuilt control of error. If you can’t get all of the pieces back and close the lid on the binomial or trinomial cube, then you don’t need a teacher to tell you that you need to try again. You already know that you made a mistake! You will try again until you get it right.

Language



Montessori observed that between the ages of birth and six, a child is in a sensitive period for the acquisition of language. Think how much a child learns during the first six years of life. He or she

Updated September 2013

goes from babbling and practicing making sounds (da – da – da, ma – ma – ma), to simple labeling of nouns (“shoe”, “cat”) to simple sentences (“go park”) to complex sentences, and an ever expanding vocabulary (“I think I’d like an egg for breakfast”). During these six years a child masters most of the structure and grammar of his or her language. Mistakes made earlier, such as “Daddy goed to work”, or “fishes”, are corrected.

Children also begin to crack the code of written language and begin to learn about reading and writing. When a child labels a picture ‘HS’ for horse, he is showing that he understands beginning and ending sounds. Middle vowel sounds are more difficult.

The sandpaper letters and object boxes are important tools for the teaching of reading and writing. With the sandpaper letters, a child feels the letter, sees the letter and hears the sound the letter frequently makes. Recent research has backed up what Montessori knew – most children learn better using a multi-sensory approach. The object boxes, containing interesting miniatures that begin with a target sound (e.g. astronaut, alligator, apple . . .) add a kinesthetic quality to the lessons. The child has something to move around. He or she can also sort objects from two or three boxes, or play “I spy”.

Montessori teachers use a ‘three period’ lesson to help their students learn letters and sound associations, and new vocabulary. In the first period, the teacher gives the student new information or vocabulary (“This letter makes a ‘s’ sound”, “This is a cylinder”, “This color is called pink” . . .) In the second period, the child shows that he or she can recognize the new vocabulary. The teacher might ask the child to point to “the equilateral triangle” or “Africa” or “smooth” or “the letter that makes the ‘s’ sound. . . In the third period, the child names and/or independently uses the new vocabulary.

The Montessori classroom is rich in the possibilities of learning new vocabulary, skills and concepts. Even when washing a table, a child is preparing for future language lessons. The child washes the table from top to bottom, left to right, indirectly preparing the child for reading and writing, as that is the direction we read and write. Every piece of Montessori equipment that has a tiny knob (the puzzles, the knobbed cylinders . . .) prepares the child to write by developing fine motor control, eye-hand coordination and the correct pencil grasp. The metal insets are another piece of equipment that helps a child develop the necessary skills to write.

Updated September 2013

The moveable alphabet is another essential piece of equipment in the language curriculum. A wooden box contains many 'cut out' letters arranged in alphabetical order. When a child uses the moveable alphabet to write a word, such as 'dog', he or she thinks about the beginning sound, what letter makes that sound, and then finds that letter in the box. Next he or she might find the letter that makes the ending sound, and finally turns his or her attention to the tricky middle vowel sound.

The child in a Montessori classroom has lots of opportunities to build an amazing vocabulary and a solid understanding of how our language system works. Stories, songs and rhymes shared during circle time, journal writing, plays, conversations and a library full of interesting books enhance our language curriculum.

At the Montessori School of Pullman we also introduce children to French. This is a second language for some students, and a third or more language for other students. During this sensitive period for language, children have an amazing ability to learn more than one language. Recent research on language acquisition and the brain has found that introducing children to a second language during the early years has long lasting results. Students exposed to a second language have brains that are tuned into the possibility of there being more than one way to say something.



A is for Apple

Here are some ideas to try at home to help develop your child's literacy:

Play 'I Spy' with beginning sounds.

Teach your child lots of nursery rhymes and songs.

Let your child see you reading.

Read aloud to your child every day. Retell favorite books and stories.

Listen to recorded stories in the car.

Provide books and a place to read. Include magazines. Keep books in the car.

Go to the library.

Read your grocery list out loud.

Math



Children in a Montessori classroom are given many opportunities to build a solid foundation in math. Even before the young children begin work in the math area, they are being prepared to be successful by previous work with much of the sensorial material. It's not a coincidence that there are ten long rods, ten pieces of the pink tower, ten knobbed cylinders in a block and ten knobless cylinders in a box.

Working with this material, the children get a good sense of what 'ten' looks like! The work in the sensorial area also helps the children develop a sense of order. They arrange items from smallest to largest, for example. The children look for patterns. A sense of order and an ability to see and use patterns all help a child to succeed in math. This is another example of what we call 'indirect preparation' in Montessori.

Children begin their work in the math area with lessons with the number rods. These rods, similar to the long rods from the sensorial area, are painted red and blue. The rods are used for counting from one to ten. They can be combined with the sandpaper numerals or number cards. Later, a child can use these same rods to explore addition. The 'six' rod and the 'four' rod, when put together, are the same length as the 'ten' rod. Other materials designed to build a child's ability to count to ten include the spindle box and the bead stair. The spindle box has ten compartments, marked zero through nine. The child also has a box containing forty-five spindles. The child counts one spindle and places it in the compartment marked 'one', and then counts 'One, two', while placing two spindles into the compartment marked 'two', and so on, until all compartments are correctly filled, and there are zero spindles left in the spindle container. With the bead stair, the child counts colored beads on a small bar. The beads in the bead stair are color coded. The 'five' beads on the 'five' bead bar are always light blue, for example. This color-coding system continues throughout the Montessori math material, and will later be a help to the child using colored bead bars to learn multiplication. These same bead bars from the bead stair will also be combined with the golden 'ten' bead bar to form the teen numbers. Thus, a child learns that the numeral 'eleven' stands for one 'ten' and one, and the numeral twelve stands for one 'ten' and two. This is a good introduction to how our decimal system works.

There are many other pieces of material specifically designed to give the children a concrete understanding of the workings of our decimal system. Just like the pink tower and the sandpaper letters, the golden beads are some of the best known and most recognized of all of the Montessori materials. Montessori's bead material is also heavily copied and used in other educational settings, too. When the children handle the golden bead material they get a very concrete sense of our decimal system. The bead material consists of individual golden beads, 'ten bars', 'one hundred squares' and 'one thousand cubes'. The thousand cube is a cube made from a thousand golden beads. This cube is big and heavy compared to an individual bead – in fact, one thousand times bigger and heavier! All of this material can be used to learn about bigger numbers, and to work on addition, subtraction, multiplication and division. A child learns about exchanging with this material. Ten individual beads can be exchanged for a 'ten bar', and vice-versa, etc.

The bead chains continue this work with the decimal system. The 'hundred chain' is a chain made up of ten 'ten bars' joined together. The child practices counting to one hundred. The thousand chain is a really big work. Counting from one to one thousand often takes more than one work session. By the time a child counts one thousand beads, he or she truly knows how 'big' a thousand is! Other bead chains are based on the colored bead bars of the bead stair, and follow the same color coding. The short 'five chain' consists of five 'five bars' joined together, representing 5 squared. The long 'five chain' consists of five 'short chains of five' joined together, representing 5 cubed. A child learns to skip count with these chains in preparation for multiplication (5, 10, 15, 20, 25). Indirectly, these chains are preparing the child for working with squares, cubes, square roots, and algebra . . . and future success with math!

Here are some ideas to try at home to help develop your child's numeracy:

- Count out loud – as you climb stairs, for example, or put pennies into a piggy bank.
- Practice one-to-one correspondence in daily activities. As an example, your child can help set the table, giving one plate, one cup, one napkin, etc., for each person present at the meal.
- Teach your child lots of counting rhymes and songs. (One, two, buckle my shoe . . .)
- Check out number books from the library (*How Big is a Million?* *Counting to 100*, etc.)
- Share – in preparation for division. Your child can share a bowl of grapes, or raisins, for example, among family members and/or friends.
- Point out numbers as you go about your daily activities – on traffic signs, addresses, money, clocks, telephones, computers, calculators, grocery stores . . .
- Play board games together, such as 'chutes and ladders'
- Let your child see you counting/working with numbers



Cultural Studies really set the Montessori Preschool apart from other preschool programs. Maria Montessori's aim was to provide the children with the whole world in the palms of their hands! Just think of all of the topics studied in depth in any typical year at Montessori – North, South and Central America, Asia, spiders, birds, mammals, reptiles, vertebrates, the ocean, the human body, volcanoes, islands . . . The topics of study involve geography, history, art, literature, music, research, vocabulary development . . . and include the use of many Montessori materials (maps, flags, nomenclature cards, such as parts of the bird, fish, volcano), as well as the use of artifacts, books and visitors to encourage interest.

Our students also participate in many holiday celebrations which help develop an appreciation of the richness and diversity of human culture. We learn about and celebrate Ramadan, Eid, Rosh Hashanah, Halloween, Fiesta, Election Day, Veteran's Day, Thanksgiving, St. Lucia Day, Saint Nikolaas' Day, Christmas, Hanukkah, Martin Luther King Day, Inauguration Day, Valentine's Day, Chinese New Year, Presidents' day, Nowruz . . . Our cultural celebrations often involve special foods, stories, songs, dances and traditions. When you come to school to celebrate your child's birthday, this is part of our cultural studies. Our ceremony of 'walking around the sun', and sharing photographs, artifacts and stories is an introduction to history. Our life stories are a part of history.

Recently I was part of circle time when the teacher encouraged children to share what they already knew about whales. A best practice in education encourages us to begin with what students already know, generate questions of interest for future study and to then reflect on what we learned. As a class, the students already knew that whales were big, they lived in the ocean, they sang, they swam, they had backbones, they had tails, fins and blowholes, some ate plankton and others ate fish like salmon . . . The conversation allowed for a review of vocabulary the children already knew, such as vertebrate and microscopic. The children readily shared questions they had about whales.

Updated September 2013

The teacher encouraged the questions. “These are all really interesting questions. I can’t wait to learn more about whales.”

Similarly, I was part of circle time in another class when the WSU Raptor Club came to visit. Our students listened so attentively and asked so many great questions, such as, “How many eggs does this bird lay?”, “What do they eat?” Our students recognized many of the birds brought to the school, such as the Barn Owl, and used very specific vocabulary, such as talons, ear tufts, predators, raptors, prey. The WSU Raptor Club was impressed with our students’ knowledge, but even more impressed with our students’ focus, interest, attentiveness, and questions. This is the same response I got from my South American friend who visited to talk about life in Peru. She was so impressed with our students’ questions, interest and curiosity.

Dr. Marty Gottchaux visited both classrooms one year. Marty is a geologist and igneous petrologist. She talked to one class about volcanoes, and to the other class about islands, especially volcanic islands such as Hawaii. I found the interaction of a university research professor and a three year old truly a beautiful and enriching experience!

Montessori education encourages students to focus on the fundamental needs of all human beings and living things. The way we live (our ‘culture’) depends on where and when we lived, and what was available to us to meet our fundamental needs. This approach to the study of science, history and geography really encourages our students’ curiosity and encourages a respect for the rich diversity of our world, while recognizing similarities.

Our aim, like Maria Montessori, is to provide our children with the world in the palms of their hands!

A Morning in the Life of a Montessori Beginnings Student

Have you ever wished you could be a fly on the wall and watch what the two year olds do at school? Well, hopefully, this is a close second to the real experience – a written record of my observation of the children on the morning on Thursday, March 21, 2013. This should give you a taste of a typical morning in Montessori Beginnings at the Montessori School of Pullman. The day was a typical early spring day on the Palouse – very changeable, with sun mixed with snow mixed with clouds.

The morning began like so many mornings with the teachers greeting children at the door.

“Good morning. We are so glad that you are here today!”

The children all came inside, hung up their coats and other belongings, washed their hands and were soon choosing their own work. From 8:30 – 9:20 is the first work session for the Montessori Beginnings students. So what might your child choose? A puzzle? Looking at a book? Farm animals and the barn? Pouring or scooping? Building a tower? Making a train with Duplo blocks? Painting at the easel? These are all options that children chose.

At 9:20, Ms. Jamey turned over the rainstick to get all of the children’s attention.

“It’s time to clean up all of your work and line up by the door to go to the gym.”

The children helped count the number of children in line. There were eight children at school.

“Who is missing today?” Ms. Jamey asked.

The children went through the names of their friends until they realized that Ritvik and Lewis were absent.

The children went in a line along the hallway, up the stairs, along the second floor hallway to the gym. Along the way, they looked at a display case of rabbits and Beatrix Potter books, listened and heard music from the Kaya studio, waved to the big kids from Ms. Sudha and Ms. Jane’s classes, and much more. There is always plenty to see and hear and talk about on route to the gym. In the gym, the children played for about twenty-five minutes with big and little balls. On another day, when the weather was better, the children played on the playground. They could dig, climb and run around.

Once the children returned to the room, it was time for circle or community time. Ms. Jamey read a story, “Five Little Ducks.” After the story, the children joined in the alphabet song as Ms. Jamey pointed to letters and pictures. They sang, “Apple, apple, a, a, a, Bird, bird, b, b, b” all the way to “zebra, zebra, z, z, z.” When they reached the end of the alphabet, several children clapped and said, “Good job, friends.” (Very cute!)

After a fifteen minute circle time (good focus for such young students), it was time for one of the favorite songs. It was time to ‘jump up and down’ to the music, before washing hands for snack. Snack today was bell peppers, cheese sticks and hummus. After sitting with their friends and eating snack, the children cleaned up – glasses in one container, and plates in another container, trash in the trash can.

Next came the second work period, from about 10:35 – 11:20. What might your child choose to do in this work period? There are so many fun choices.

At 11:20, the children were all once again gathered in a circle on the rug. They sang three songs – ‘Open, Shut them,’ ‘Slippery Fish,’ and ‘Old Macdonald had a farm.’

Updated September 2013

Then it was home time. The teachers and children sang the goodbye song, and children joined their parents for home time, or settled down to eat lunch.

And so ended another fun morning at the Montessori School of Pullman!

Our youngest students participate in learning activities also drawn from the already described areas of the curriculum – practical life, sensorial, language, math and the cultural subjects, but at a level appropriate for their development. Practical life and sensorial works are favorites. They love pouring, scooping, spooning, cleaning, sweeping, washing, cooking, feeling interesting objects, matching colors . . . The teachers spend a lot of time in vocabulary and language development – reading books in small groups, singing songs, talking, asking questions, answering questions, naming things, and signing, too. In math, we work on one to one correspondence, and counting – stairs on the way to the gym, children in line, blocks in a tower. The children participate in cultural subjects, too. A focus on Hawaii, for example, might include sampling tropical fruits, trying on a grass skirt, listening and dancing to hula, looking at pictures, matching shells, matching models of animals that live in Hawaii.

Gross motor development is also developing rapidly during this year, so the children are given lots of opportunities to move – to run, jump, hop, climb, roll, dance and also to refine their movements. We also have a ‘small climber and slide’ inside the classroom. Inside we walk. We walk around another child’s rug. We sit in a chair. We walk carefully and balance work on our trays. We carry a small pitcher of water to the lunch table.

A lot of social development takes place during the Montessori Beginnings year. For several students this is a first group experience away from parents and home. Learning to separate from parents, bond and build relationships with others, make friends, take turns, join in conversations and activities with others, are all important social skills. We also practice skills of grace and courtesy, learning to say please and thank you, to say excuse me, to greet friends and teachers, to say goodbye, to blow our noses using a Kleenex, to hold a door for others. This practice helps build confidence in our interactions with others.

Updated September 2013

Last, but not least, the teachers work with the families to help the child potty train. We also teach children proper handwashing techniques, and when we should always wash our hands!