May 2004

News Letter

Nature's Classroom Montessori

Dear Parents,

Throughout the year our hope has always been to offer inight into Montessori philosophy and to present the finest method of academic education. We have also hoped, perhaps more importantly, to foster the values of stillness (the silence game), wonder, joy, compassion, peace and care for the planet.

"The aim of education should not prepare young people for careers, but enable them to develop a respect for life." - Norman Cousins

It is our hope that our Montessori graduates will be guided by these qualities. We wish them well as they begin a new chapter in their lives.

A few more words about caring for our planet...

The children that surround us today are the adults of the future. Fostering a passionate care for the health of our planet in the formative years of our children's lives can become a powerful motivation in later life. They will be making critical decisions affecting the quality of our air, land, water, forests, and wildlife.

Now is the time to help our children care about what is happening to our planet. We desire to have the children see the necessity of using fewer disposable materials and less fossil fuel energy. We encourage the children to become aware of their behaviors and make conservation a habit. We motive the children to consider the question, "How did you help the planet today?" We model behaviors as well as offer suggestions to the children, such as turning the water off while brushing teeth, drawing on both sides of a piece of paper, using cloth napkins rather than disposables, and so on.

"Our main task is to see that human technologies foster rather than destroy nature... our education needs to prepare us for that role." -Thomas Berry

In closing, we would like to express our most sincere gratitude. We have been truly blessed with a wonderful group of children and families. The warmth, laughter, and encouragement have made each day a great pleasure. We would also like to honor the dedication of many talented people who helped in too many ways to mention who make this school such a special place.

- Fondly, Sandra Freese

New Resource Library for 2004 - 2005 School Year

Miss Stacey will be working on a special project during the upcoming school year. She is planning to create a Montessori resource library to make articles and information available to our parents. She is currently beginning to gather resources together. Once organized, we will make these resources available in a library "check-out" system.

We will also continue to include information about the Montessori philosophy of education and the Montessori Method. This issue includes information about the "sensitive periods" of the child, including a description of each period and its importance in the development of the child.

This issue also contains an article dealing with the benefits of the Montessori Method when teaching "at-risk" children. It contains many examples of classroom work that benefit all children, explaining in detail not only the work itself, but the importance of the work and how it benefits the child. We hope that it may be of interest to you!

Dates to Remember

Friday, May 28th

8:30 am	Parent/Student Arrival
8:45 am	Brunch Set-up
9:00 am	Group Hike to the Pines
10:00 am	Brunch
11:30 am	Dismissal for All Students

Have a Wonderful Summer!

Asia Day Events at NCM

The students had an exciting opportunity to conclude their studies of Asia. Several work areas were prepared with cultural activities and the teachers dressed in clothing representing India, China, and Japan. A fourth country, South Korea, was represented by some very special guests.

CHINA

Mrs. Freese showed the students how to use chopsticks. The students had the opportunity to practice what they had been shown when they were presented with bowls of rice. Once they had enjoyed their rice, they were given a lesson in Chinese calligraphy. Mrs. Freese showed them the difference between our familiar American numbers (1 - 10) and the numbers written in Chinese. The students then had the opportunity to do some calligraphy of their own.

SOUTH KOREA

Master Crouch Sr. and Master Crouch Jr. of the Wisconsin Taekwondo Academy were our special guests for the morning. It was a great treat for the students and we are very grateful to them both. They instructed the students in a variety of techiques, including blocks, kicks, and punches.

The students were very excited to try their moves on the padded equipment that our guests had brought with them. The students learned how to raise and hold their arm at the proper angle to block something moving toward their head. They learned how to stand so that they could balance themselves for a martial arts kick or punch.

Each student received personal attention from their patient and highly skilled instructors. The students had a wonderful time. We would like to thank the Wisconsin Taekwondo Academy as well as Master Crouch Sr. and Master Crouch Jr. for sharing this Korean martial art with our students. For anyone interested in learning more about the Wisconsin Taekwondo Academy, feel free to visit it at 421 McKenzie Drive in Mukwonago.

JAPAN

Mr. Rudi paid a visit with a tasty treat. He placed seaweed on a bamboo mat and then put sticky rice, cucumber, and carrot slices onto the seaweed. He showed the students how to roll the seaweed and its contents into a long tube for slicing. The students then enjoyed a slice of sushi with a cup of green tea.

Mr. Rudi also spoke about the honor code of the ancient samauri warriors. He showed the students his prized katana, the beautfiul samauri sword that had recently been shipped to him from Asia.

INDIA

Miss Stacey introduced the students to the art of henna handpainting, a beautiful and common practice in India. She painted each student's hand in a traditional design. The students then partook of a mild curry dish for a small "taste of India."

The Absorbent Mind and the Sensitive Periods

Dr. Maria Montessori used the term "Absorbent Mind" to describe the transformation porcess which occurs in the young child who absorbs impressions from his/her environment. The term "absorbs" is not used as a sponge taking in water, but more like a growing crystal. The child takes impressions and fits them into an inherited intellectual structure. The structure is not static, but changes and unfolds as the child grows. The structure and pattern unfolding are basically the same for all children; the difference is the varying experiences that the mind has been exposed to at each stage of the structure's unfolding.

The "sensitive periods" help provide the right materials for the building of particular skills. In her many years of observing children, Dr. Montessori was able to work out a general outline of the "building schedule" of faculties that are being developed. The child possesses an unusal sensitivity that is unlike that of the adult both in quality and capacity. Take the sensitive period for "small detail"; it's easy to be drawn to the brightest, loudest, biggest, fastest objects when drawn to

small things. This sensitivity holds the child's attention there for extended periods of time, fostering the ability to focus. Having the ability to focus and concentrate are cornerstones to academic learning.

For example, you are sitting with your child reading a colorful picture-book of a circus. In the center ring the lion-tamer has the roaring lion seated on a stand. You child says, "I like the lolly." Sure enough, in the corner of the page, way in the back row of people, a young child holds a lollipop!

Having particular stimuli and experiences available at critcal periods of the intellectual strucutre's unfolding are ideal, as your child's Montessori classroom shows. Allowing the child the freedom of exploration among sensory activities lays the foundation for the child to construct himself, mind and body, as an efficient, free and autonomous being. We call this our prepared environment. This prepared environment is one of the characteristics of the Montessori Method of education. Through training, parents can also become aware of the sensitive periods and determine whether or not the child's needs are being met.

The Sensitive Periods

LANGUAGE

This is the first and longest of the sensitive periods. It has its beginning when a child is barely 4 months old and continues until the child is approximately 5 years old. The focus of the period changes from learning the construction of the language to the development of actual words and a vocabulary that is relative to the child's culture. Following that stage, a child becomes interested in how language is put together to form complete thoughts verbally. Later (between the ages of 3-1/2 to 5) a child will become interested in the physical symbols used for language and will eventually show a desire to read. The child will be particularly interested in sandpaper letters at the age of three and loves to trace the letters sensorially. Between 4-1/2 and 5-years old, this love of letters and symbols will lead to a love of reading.

Montessori believed that if a child is not exposed to language at this critical stage that a child would not be able to develop any language and often spoke of the "wild boy" of Aveyron as an example. She also made her point here that since the child is brought up in an adult world - surrounded by adult objects - it was imperative that adults learn patience and allow the child to handle and explore his environment. She believed that "through taste and touch, the child absorbs the qualities of the objects in his environment and seeks to act upon them. Equally important, it is through this sensory and motor activity that the neurological structures are developed for language." Montessori concluded, therefore, that the tongue, which man uses for speaking, and the hands, which he employs for work, are more intimately connected with his intelligence than any other part of the body. She referred to the them as the "instruments of mans' intelligence." (Paula Polk Lillard, *Montessori: A Modern Approach,* p. 34)

ORDER

This sensitive period begins during the child's first year of life and will be evident until the child reaches 5 years of age. It is most sensitive and evident at approximately the age of 2. During this time, there is a critical need for the child to feel secure in her environment, to know what to expect and to feel comfortable in a routine. Dr. Montessori believed that children depend so much on the order of the environment that the "terrible twos" or tantrums seen at that stage are a reflection of the instability the child feels when something (an object or a routine) does not meet the ordered expectations of the child. "It is important to understand that Montessori saw a clear distinction between the child's love of order and consistency, and the mature adult's milder pleasure at and satisfaction in having everything in place. The child's love of order is based on a vital need for a precise and determined environment. Only in such an environment can the child categorize his perceptions and thus form an inner conceptual framework with which to understand and deal with his world." (Paula Polk Lillard, *Montessori: A Modern Approach,* p. 33).

TINY OBJECTS AND DETAILS

This sensitive period shows itself as the child nears 2-1/2 years of age. Children are particularly interested in what is tiny, for example, seeing one tiny little ant in a mound of sand. This period is not one of the most easily recognized and, since adults are frequently more interested in getting to where they are going or completing the task with which they are involved, it is a period which is frequently not indulged.

REFINEMENT OF THE SENSES AND SENSORIAL EXPLORATION

At approximately 3-1/2 years old, the child is very involved in sensorial exploration and between the ages of 4 and 6 years the same child will be focused on refining the senses. "This is the period in which Montessori gives the children the sensorial materials. These not only respond to the child's natural interest in sensorial impressions, but - by the activity which they stimulate - refine the senses, perfecting their function." (E.M. Standing, *Maria Montessori: Her Life and Work,* p. 129)

SOCIAL GRACES

From 3-1/2 until 6 years of age a child is very interested in what is correct socially. It is a wonderful time to help the child recognize what is considered good manners for the culture in which the child lives - the family, the school, and the community. What is RIGHT is important - what is just - and what is expected of the child. Montessori believed that "if we leave these things to be taught at a later age, the special and spontaneous interest in them will not be there, having vanished to give way to interests of a more intellectual nature." (E.M.Standing, *Maria Montessori:Her Life and Work,* p. 131)

OTHER SENSITIVE PERIODS

From 3-1/2 to 6 years of age the child will also exhibit special interests in precision in movement and in numbers. While exerting time in perfecting movement skills, the child "...not only tends to the normal development of the mind, but also affects the whole personality, bringing contentment, concentration, and inner nourishment." (E.M. Standing, *Maria Montessori: Her Life and Work,* p. 135) The child's interest in numbers will be a precursor to later mathematical works.

Following the age of 6, children will still have sensitive periods, but not as many and these may, perhaps, be less intense. These periods will include interests such as group dynamics and social life.

The sensitive periods of a child in a Montessori classroom are given top priority. The lack of preset tasks for a child, the ability for a child to choose the work which most interests him, the Montessori materials and the ability to move about the classroom interacting with peers make it a perfect environment for a child to achieve the most from any given period. Dr. Montessori believed strongly in the importance of sensitive periods and also understood the fragility of these periods. E.M. Standing summed up Dr. Montessori's feelings succinctly when he wrote that "... the sensitive period is a period of power, i.e. the power of acquiring certain congitions with a special facility, speed, and thoroughness; it is a *present power* and will not last forever. Therefore, in order to make the fullest use of it we must let the child *live wholly in the present, using the wonderful gifts of the present.*" (E.M. Standing, *Maria Montessori: Her Life and Work,* p. 140.)

Perhaps not truly undertanding how and why the Montessori Method works is unimportant for some parents, but knowing that your child's teacher and the school administrative staff do know and facilitate this knowledge to the benefit to your children should be a source of comfort and validation in your choice of education. The Montessori Method is education for life!

The At-Risk Child:
How the Montessori Classroom Enhances Learning

(This article was written by Dr. Joyce S. Pickering, HumD, MA/CCC, and head of The Shelton School in Dallas, TX. The article was published in Montessori Life: A Publication of the American Montessori Society, volume 16, number 1, winter 2004. It contains information that may be of interest to any Montessori parent, whether or not their own child is considered "at risk" for learning disabilities.)

The At-Risk Child

The child who is at risk for learning disabilities (Brutten, Richardson, and Mangel, 1973; Critchley, 1964; Shedd, 1967) has deficits in attention, order and organization, gross- and fine-motor skills, and perceptual confusion causing faulty concept formation. The child also may evidence weaknesses in oral language development, have difficulty learning the written symbols and patterns of language, and exhibit problems with the abstractions of math. The Montessori approach provides a program which allows diagnostic teaching in all of these areas and a hierarchy of skills with which the teacher may assist each child to match work to his/her developmental level. It also provides a model in which the teacher can present materials to the at risk child one-to-one, which Montessori frequently mentioned as crucial with this population.

Examining the areas of attention, organization, perception, motor development, language, and math for the typical child and contrasting differences of the at risk child can enhance understanding of the unique components the Montessori method offers to the educator or parent of the at risk child.

Attention

In typical development, inhibition grows so that by 3 years of age the child has the ability to filter out extraneous sights and sounds. Attention, focus, and concentration are functional for learning.

In the at-risk child, this development does not proceed normally and the child must be taught to attend. The teacher must help the child reach a level of attention that is within the learning range and use techniques during presentations to help maintain it. The adult has to help the child learn to make choices or he/she may wander and do little meaningful work. The techniques for focusing attention are found in Montessori's classroom structure, presentation procedures, and Silence Game.

To create the classroom structure, the teacher prepares a beautiful and well ordered environment for the class to explore with her guidance. Each activity is set up on a separate tray (or other appropriate container). Each tray is placed on a shelf. Each group of shelves defines an area of curriculum.

All language activities are grouped in an order of difficulty on shelves in one area of the room. Within this area there may be the structured language activities, a reading corner, a listening center, a record or tape player with earphones, and possibly activities with a typewriter and a computer. In the math area, the activities are arranged in a hierarchy of difficulty, so the child is assisted in finding the materials on his level. The independent usage of each of these activities has been presented carefully; then the child is encouraged to bring his/her unique creative talents to the work.

The teacher is a calm, supportive person who waits for the child to understand or finish the activity. She requires that he wait when it is her turn to present, and she does not interrupt him when it is his turn. She requires that he learn to inhibit his actions as appropriate for living in a group. He must at times wait for her while she works with others. The room is a relatively quiet place with a hum that reflects involved activity. Children are supported in being aware of sound levels and helping to tone things down if the sound becomes too distracting. The teacher usually talks in a clear, quiet voice close to the child she is speaking to and on his level so he can see her mouth. She usually does *not* talk across the room and asks that the children come to her or to each other to converse rather than yell across a distance.

Young children seem to feel secure in this environment of ordered calm and are usually very cooperative in modeling their behavior on the teachers'. The environment is far from barren, but it is orderly and limited in distractions, and helps the child focus attention on each work task.

The procedures in presenting materials provide the child with the security of a clear structure or way to proceed in learning. Attention is focused as the child watches a presentation for its steps in the process and the conclusion.

When the child requests a certain presentation, or when the teacher determines a child is ready for it, she invites the child (or more than one child) to join her either at a small table or at a mat placed in an area on the floor. Every presentation involves four basic parts:

1. setting up the work area,
2. selecting the activity,
3. using the materials (basic/extensions), and
4. returning the material to the shelf.

In preparing the work area, a mat is used to delineate the child's "territory." No one may disturb her work or join her unless she gives permission. The children are shown how to walk around these mats on the floor, how to respect others' work, and how to ask if they may join another in his/her work. The child is shown how to take materials from the shelf. Some activities are all on one tray and can be moved easily from shelf to mat. Others have numerous pieces and require repeated trips to and from the shelf. These trips carrying materials of various size and weight aid the development of body control and improve inhibition/initiation of motor movements. To accomplish the tasks of setting up the work area and obtaining the materials, attention is focused and refocused on the work area and the material.

When the material is on the mat, the teacher calls the attention of the child/children saying, "Look." She waits for focused attention in each child. She gives time for concentration to begin.

During the first presentation, the teacher usually does not distract the child from the visual input with any verbalization. She uses slow hand movements in which she demonstrates each step of the motor movements required for the task. She does not present the motor movements in a rapid flow as an adult usually does them. Attention generally stays focused once attained, but if it does not, the teacher may stop her hands in mid-motion, say the child's name, and/or say, "Look." She will do this as often as necessary for the child to "see" the whole presentation.

After her presentation, the teacher says to the child, "Your turn." She observes. She notes attention, order, percept, and concept. She notes what the child understands and what he cannot yet do. These notes will lead her to further presentations. After the child's turn, she may discuss the work and/or attach language concepts to the child's visual/tactile/kinesthetic perceptions of this exploration of the material.

After the child has completed the exercise, the adult shows him the steps for returning the work to the shelves or area of the room where it belongs. Many of these areas or shelves are marked with symbols which match symbols on the materials. These symbols assist the child in finding for himself where things go. They also direct his attention in this final step of each activity.

In all four parts of each presentation attention is required. The presentation procedure helps the child with attention difficulties to focus through the teacher's physical presence and movement, the high-demand quality of the materials, and possibly by the human desire for closure.

The Silence Game is an exercise in which the child is given the opportunity to practice self-control and focus of attention. The children are invited to sit on the line. The line is a tape placed on the carpet in a rectangle or

elliptical shape large enough that the entire class can sit cross-legged on it. As work time nears a close, the teacher may turn down the lights or ring a small bell as the signal to put away work and come to the line for some group activity. As the children arrive at the line, the teacher may begin reading a story, singing songs, or leading finger plays or motor activity on the line.

When the entire group is present, there may be a quiet discussion of some of the work they chose during the morning. The teacher slowly brings the class tension level down by talking quietly and slowly. She announces to the class they may now play the Silence Game. The point of the game is to see how long the children can maintain silence with no talking or movement. The teacher asks for all children to cross their legs, sit up very straight, and place their hands on their knees. At a signal from her the game begins. The class may use a clock, kitchen timer, or sand timer to see how many seconds or minutes they can "make silence." Many classes make it only for a second or two at the beginning of a year but may extend to 5 – 10 minutes or longer by the end of the year.

As mediators know, the longer the silence is maintained, the deeper the calm felt by each child. For all children the purpose of this activity is to inhibit motor movement, to increase concentration skills, to focus attention on a task. For the at risk child, this experience may be one of the first times he has felt "quiet" within himself or really attended/concentrated. He can do it, but not easily. With practice and support he can enhance this skill and transfer it to periods of work and to the inhibitions necessary for behavioral control. Even if it is hard for them, children seem to love this game.

Attention, then, is enhanced in the Montessori method through the structure of the classroom procedures, the presentation process, and the Silence Game. The teacher accepts as her role the teaching of inhibition: helping the child to learn to wait for his turn, to known how to walk slowly, to talk in a quiet voice, and to control his body and behavior in a work environment.

Motor Skills

The child whose motor skill development proceeds through typical stages has developed the gross-motor skills of running, jumping in place, walking on tiptoe, kicking a fall forward, and throwing a ball by 3 years of age. By age 5, the child can walk on a line forward and backward, balance on one foot for 5 seconds, hop on one foot, throw a ball with direction, walk up/down stairs alternating feet, and turn a somersault. He/she is beginning to learn to skip and jump rope. Fine-motor skill development at age 3 has proceeded from turning pages singly; snipping with scissors; holding crayon with thumb and fingers; using one hand consistently; and making circular, vertical, and horizontal strokes to cutting continuously on a line; copying a cross, circle, and square; and copying letters, at 5 years old.

The at-risk child often has not proceeded through the milestones found in typical development or is seen to have a spotty performance. In gross-motor skills the at-risk child may be much later in acquiring control of his large-muscle movements. At 7 years, he may still have difficulty with the alternating activity of skipping. He may have difficulty in fine-motor skills which can be seen in tying, pouring, handling utensils, cutting, coloring, and later in writing.

In all areas of the Montessori curriculum the children are helped to coordinate their gross-motor movements, for example through carrying materials of varying size and weight, and through the activities "on the line," which encourage the children to move to rhythm, march, hop, and skip to various rhythmical patterns and music. Most Montessori schools have a full perceptual-motor program done partly in class and partly outdoors.

Exercises in every area promote the practice of eye-hand coordination. From the Practical Life activities of the dressing frames, cutting carrots, and polishing silver to each Sensorial, Language, and Math exercise, the procedure requires the eye and hand to work together. In each of the activities the child handles the didactic

materials which require the coordination of the hand and particularly the thumb, index, and middle fingers to work together for appropriate grasp and release. These are the fingers that will later be used in writing.

A specific activity for strengthening the writing skills is the Metal Insets. In this set of 10 metal frames and insets are the basic geometric shapes. The child is shown how to trace the shape with a contrasting color. Precise small-motor movements are practiced until the child's pencil grasp and pressure are improved to the limit of his ability.

Order and Organization

Most children appear to learn order and sequence almost totally by imitation. If learning tasks are presented to the child in a specific order and sequence, he or she will imitate and develop these habits, especially if the presentations are begun in the sensitive period for order – at about 2 to 3 years of age.

An at-risk child, even with the same exposure to organization as the typical child, evidences difficulty with ordering work tasks and working in a sequential way. This child often begins a task as it was presented but appears to lose the pattern as he goes, often drifting through a task in a haphazard trial-and-error procedure usually seen in a child younger than 5. The complaint most frequently seen on the school cumulative folders of learning disabled children relates to poor organizational skills, and they are usually described as immature. All the activities in a Montessori setting are designed to assist the child in developing organizational skills and habits of completing tasks in a sequence.

The at-risk child needs more presentations and direct instruction in organization. For example, in the math activity of the Tile Game, the numerals 1 to 10 are laid out along the top of a mat. Below each numeral the quantity is matched to the numeral by means of placing small red disks in a pattern:

1	2	3	4	5	6	7	8	9	10
*	**	**	**	**	**	**	**	**	**
		*	**	**	**	**	**	**	**
				*	**	**	**	**	**
						*	**	**	**
								*	**

After the child understands the number-to-quantity concept, the odd/even concept can be demonstrated by counting while pointing to the bottom of each set of disks: odd, even, odd, even, etc. The visual pattern shows that *odd* numbers have one disk left by itself in the last row, while *even* numbers are paired, so that no single disk is "leftover."

At-risk children may need the teacher to provide an additional step to help them organize the pieces of this activity. The teacher may make a chart on which red rectangles represent placement of the numerals and black rectangles below the numbers indicate the space allocated for placing the disks. The chart is sized so that the actual materials can be placed in the guiding spaces. After the child uses the control chart as a guide for a time, the teacher will challenge him/her to try the activity without the chart or to use it only when needed. Such techniques support the development of organizational strategies and keep the child feeling successful rather than confused.

Perception

The typical child in the Montessori classroom is able to match and discriminate sensory information that relates to the visual perception of size, shape, color; the auditory input of pitch, rhythm, and intensity of sound; the feel of texture, weight, temperature, shape; the taste of sweet, sour, salty and bitter; and the sense of smell. He/she perceives patterns in shape, color, and number.

Frequently, at-risk children can match like objects within normal limits. However, difficulty is sometimes seen in the discrimination of sensory information. There are often weaknesses in discrimination and in memory for math and/or letter symbols. Association of a symbol with a name is often a problem. These children often react to stimuli in either of two directly opposite ways: sometimes they seem to be unaware of the sensory stimuli and at other times they are perceiving it with such force that it agitates them.

For example, one child sits at lunch day after day with milk around his mouth and never wipes it away. He does not seem to have any sense that it is there. If asked to wipe his mouth, he will do so; but not unless trained to do it regularly does he develop the habit that most children do because they feel the substance on their upper lip. Another child reacts very strongly to anything on his face or any touch that most children would not notice. A shirt that is not really soft might be perceived by this child as unbearably scratchy. Some at-risk children often choose only black to use in drawing or coloring. They may not note differences in color, even though they are not usually color blind, and they do poorly with shading activities. Another child may be very sensitive to color. This child has great difficulty inhibiting his perception of the irritating colors in his environment. What seems to be significant is the over- and under-reaction to sensory stimuli.

A child learns through his five senses of sight, hearing, feel, smell, and taste. The eyes, ears, skin, nose, and tongue bring sensory impressions to the brain, where this information is interpreted. This process of interpretation of sensory input is perception.

In at-risk children the processing of sensorial information may be different. Dr. Montessori did not assume that any child would perceive the differences in quality that are the primary colors: red, blue, and yellow. She developed a visual activity that isolates the quality of color so that the child may match like colors. The size, shapes, and texture of the material do not vary; only the hue of each color tablet is different. If the child is able to perceive the primary colors, the secondary color box is presented, which includes green, purple, orange, brown, black, white, gray, and pink. If the child can match these color qualities, the language is also surveyed. If at any point the child cannot be successful at the perceptual or conceptual level, the teacher notes the problem and plans specific presentations to target these weaknesses.

The third color box has nine basic colors and each color has seven shades. Here the teacher can observe whether the child perceives the shades in gradation and has the comparative and superlative language of *darker/lighter, darkest/lightest.* If he does not perceive shades, she limits the number of shading tablets to two or three, reducing the difficulty of the task until mastery, and only then increasing the number of shades to five and possibly seven.

In all the Sensorial Curriculum the teacher helps the child to classify his world though his five senses and to attach the language concepts which express those perceptions.

These perceptions are also seen as pre-requisites critical for higher academic learning tasks such as mathematics. For example, the Sensorial Curriculum contains activities which allow the child to discriminate and seriate size dimensions. If the child cannot perceive that one cube in a series of 10 is larger or smaller than the next, he could not perceive the more abstract mathematics concept of *greater than* or *less than.* A child who cannot place the 10 cubes of the Pink Tower in order by size is not ready to achieve success with math concepts. Likewise, the child who has difficulty perceiving basic shapes is not ready for the discrimination of the language symbols */a/* and */o/*. The Montessori teacher has many readiness markers in the Sensorial Curriculum to help her determine which materials are appropriate for a child at a given time.

For the at-risk child it is critical to present carefully all of the Sensorial materials, being alert for gaps in concept formation and directly teaching these concepts in small steps for mastery. In this way a foundation is prepared for later, more complex perceptions of math and language patterns.

Organization of Work: Choice, Habits, Cycle

Typical children choose work appropriately a majority of the time, usually ask the teacher for progressively more difficult presentations, practice activities for mastery, learn many concepts through discovery, and choose one activity after another in their work cycle in the classroom.

At-risk children often wander the room not choosing work or choosing only to put it away without doing the activity. They usually avoid the areas of the curriculum they find challenging, rarely asking for more difficult concepts but rather repeating work they have mastered successfully.

These children need teacher assistance in their environment a much greater percentage of the time, as she uses her observations of their development to guide her suggestions. They need support, encouragement, and help in most organizational tasks, even those of a simple nature.

Most children in a class maintain a flow of work with a minimum of teacher direction. At-risk children frequently find it helpful for their teacher to "limit the choices." Thus, the teacher may direct a child to choose any item in a certain area of the room, to select an item from a particular shelf, or to choose between two specific items. When children have severe problems and/or attentional deficits, it is sometimes necessary to make most of the selections for them. In some cases a card file is constructed, with pictures of the materials for his use that day. After he completes an activity, the child can place the card at the back of his file and choose the one at the front. This device helps the child learn how to choose. Soon he will ask to put some of his own choices before the ones in his file or change the order, a sign of real progress in selecting his own work. Ideally he will work with increasing independence until this training technique is no longer needed.

Discovery Learning

The typical child has a natural curiosity which seems to draw him to the shelf to investigate a new idea. He has an attention span and perseverance beyond the expectation of most adults. He frequently figures out the answer to a new concept by interacting with a didactic material. His reaction to this discovery is a delight that Montessori called "joy."

The at-risk child exhibiting attentional differences and perceptual confusions experiences much less discovery learning. If the information being processed is perceived incorrectly, it is almost impossible to draw a correct conclusion and "discover" an answer or concept. The child needs direct teaching techniques most of the time but still benefits greatly from the didactic materials which bring abstractions to a more concrete level of conception. He requires more presentations of each material as a rule, as the teacher usually has to limit each presentation to one level of the concept or one "point of interest." She also may have to reduce the presentation to a small number of items to be handled and understood.

One of the most significant benefits observed when at-risk children interact with self-corrective materials is their learning to accept mistakes, not as "bad" but rather the way we learn. This concept is verbalized by the teacher, as well. "How do you think you can do it?" "Try." "It's okay if it's wrong, then you can try it another way." "If we can't figure it out today, maybe we can tomorrow."

This experience seems to minimize the at-risk child's usual reaction to something he tries and can't do. Feelings of frustration and anger, a tendency to give up or do it as fast as possible, to cheat or avoid a difficult task are not necessary when the child is taught that patience and perseverance are often essential for learning, and that the process is of equal or greater value than the finished product. The important thing is what we learn, not that we did it perfectly the first time or finished first. They learn that when it is his turn, we will wait for him to think, we will allow him to do it wrong and not rush him or laugh at him. The teacher absolutely insists on this respect for each human being in her class and is the model for this behavior.

Oral Language

The typical 5-year-old has developed a vocabulary of 2,500 – 5,000 words and can use this vocabulary to express his/her needs, wants, and ideas in a basic communication which is at an adult level. More sophisticated vocabulary and expression will be mastered, but basic communication skills are present as the child enters first grade.

The at-risk child may or may not have oral language disorders. Some at-risk children are very verbal, have a large vocabulary, and never evidence problems in oral language. Their first frustrating experiences come with written language.

Those at-risk children who do have oral language deficits exhibit weaknesses in vocabulary and verbal expression. Articulation problems are often present in both the verbal group and the group with expression problems. Auditory discrimination and memory problems are frequently seen. The child who does not perceive the *sounds* of language accurately may have not only an articulation problem but also limited vocabulary and self-expression difficulty in sentences and conversation.

The Montessori system proves ideal for the language disordered child or an English/Second Language (ESL) student. All presentations are made first without nomenclature. The child attends visually and observes the materials presented. Later, after success at perceiving the sensory information of the presentation, language is attached to the precept and a concept is formed.

For example, after the child builds the Pink Tower arranging the blocks from largest to smallest, the teacher asks the child to take it down. She moves all the cubes except the largest and smallest to the side of the mat. The teacher presents a three-period lesson:

> *First period:* This is *big.* Show me *little.*
> *Second period:* Show me *big.* Show me *little.*
> *Third period:* What is this? (one object) What is this? (another object)

At any point, if the child cannot respond accurately, the teacher returns to the first period and/or tries again another day.

The three-period lesson, originally suggested by the French educator, Seguin, takes the child through the typical language development stages of *identity, recognition,* and *recall.* In the identity stage the teacher verbally labels the object for the child, at the recognition stage she assesses receptive language (does the child know it if she names it), and at the recall level she checks the child's expressive language (can the child remember the label and give it verbally). For each child this process varies in length, some moving through all three periods immediately and others working at the first and/or second stage for longer periods of time. This careful presentation of identity-recognition-recall allows the child to expand vocabulary and expression and become ever more precise in communication.

In Montessori's model of lessons in nonmenclature, the exact language for an object or idea is always used, never a simplified label. A sphere, for example, is called a *sphere,* not a *ball.* Children between birth and 5 are in a sensitive period for the acquisition of language, and 18 months to 3 years of age is a particularly critical time. Therefore it is important that an accurate vocabulary be offered to the child.

Though children with language disorders are seen to benefit from Montessori's procedures, they come to preschool incomplete in the oral language development typical of 3-year-olds. For that reason the teacher must assist children to fill in the language gaps, even in the most basic vocabulary areas. The remediation of language deficits must be done in direct teaching procedures, repeated until they become automatic. Indirect teaching of the same vocabulary and sentence structure can be reinforced through individual activities on the shelf.