

SCHOOL of the WOODS

WOODS LOWER SCHOOL
WOODS MIDDLE SCHOOL
WOODS HIGH SCHOOL

February 2017

INSIDE THE WOODS

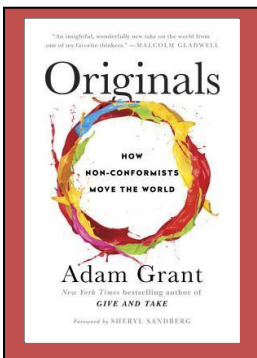
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Edited by Eloise Rochelle

Next book discussion in April

Heads up! Our next parent book discussion will on April 6, which means you have plenty of time to get a head start on your reading. The book chosen is *Originals: How Non-Conformists Move the World* by Adam Grant, with a foreword by Sheryl Sandberg.



The author uses studies and stories spanning business, politics, sports, and entertainment to explore how to recognize a good idea, speak up without getting silenced, build a

coalition of allies, choose the right time to act, and manage fear and doubt; how parents and teachers can nurture originality in children; and how leaders can build cultures that welcome dissent. There is a lot to be learned from this selection.

Fun times in February

You've heard how high school musicals are all the rage, ever since the film came out in 2006. Our Woods High School students have had great successes in that genre in recent years.

This year's production promises to be a knock-out, and it's scheduled for this month. Our thespians will perform the raucous musical, "Into the Woods" by James Lapine (book) and

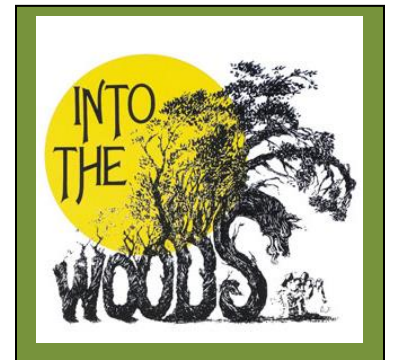
Stephen Sondheim (music). The writers have wonderfully inter-woven many themes and characters from various fairy tales, all illustrating the caution: Be careful what you wish for.

Performance dates are February 23, 24, and 25. The place: Woods Hall on the main campus. Each performance will be at 7 PM. And, it's free.

Acorn Fund for this school year

This year's appeal for support of the Acorn Fund was mailed in December. The Acorn Fund was established to provide financial aid to deserving students.

We adjure everyone in our school community to participate in this truly beneficial fund. Although the appeal goes out once a year, contributions are welcome anytime.



Introduction to Poetry

*I ask them to take a poem
and hold it up to the light
like a color slide*

or press an ear against its hive.

*I say drop a mouse into a poem
and watch him probe his way out.*

*or walk inside the poem's room
and feel the walls for a light switch.*

*I want them to waterski
across the surface of a poem
waving at the author's name on the
shore.*

*But all they want to do
is tie the poem to a chair with rope
and torture a confession out of it.*

*They begin beating it with a hose
to find out what it really means.*

Billy Collins

U.S. Poet Laureate,
2001-2003



AN AMS POSITION PAPER: MULTI-AGE GROUPING

Rationale: Educational theory and research indicate that learning is an individual process - in time frame, style, and interests - and that children learn from one another. (Hart, p.20; Healy, p. 283; and Gardner, p. 11). Even though most schools are organized by homogeneous, single-age grouping, research has not found this to be beneficial. Conversely, heterogeneous grouping, by ability and age, improves relationships between students, and facilitates the use of common learning objectives and expectations. It improves peer culture, resulting in peer instruction, peer modeling, and peer reinforcing. (Brookover, p. 11).

Montessori education theory supports multi-age grouping, and Montessori teachers have implemented it for over 100 years. This concept has recently moved into the mainstream due to the work of many educational theorists, researchers, and practitioners. Several states and early childhood organizations are recommending or requiring multi-age grouping in preschool and elementary settings.

Strategies for Implementation:

While the success of multi-age grouping has been demonstrated, it is helpful to analyze specific methods and practices:

- Children learn from one another. This can be seen in family and play situations where children are free to observe and interact in a variety of activities. Young children learn higher level cognitive and social skills not only through mental development, but also by observing others as models.
- Multi-age grouping usually incorporates a three-year age span based on sensitivities in physical, cognitive, social, and emotional development.
- Children from birth to age 6 respond most positively to environments with concrete, sequential materials which help them interact with and learn about the limits and realities of their world.
- Six to twelve year olds are interested in the world around them, utilize a more complex cognitive style,

and are highly social. The use of reason forms the basis for the development of imagination, which leads to a lifelong love of learning.

- For the twelve to eighteen year olds there are not key learning materials, but instead key experiences which enable the young adult to explore the world of human affairs, community, and culture. Interdependence (through interaction) supports the development of personality as well as exploration of ways that each can make contributions to the world.
- Each group of children remains together in the same environment and with the same teaching team for three years. Therefore, only one-third of the group is new each year, enabling children and teachers to get to know one another very well. This avoids the yearly stress children often face of new teachers, new rules, and new expectations. For the teachers, it offers the opportunity to know each child very well and follow each child's development over time, personalizing instruction.
- Multi-age grouping helps children develop a sense of community and supports social development. Older children act as models and teachers of younger children. This aids development of personality, collaboration, and cooperation. There is less anxious competition because all children are not expected to have identical skills and perform equally. This leads to respect for the individuality of each person in the group and recognition that each child has unique strengths and contributions to offer the group. Comparisons are not made, and cooperation is encouraged, thus accommodating the uneven development which is especially evident in the birth to eight age range.
- Multi-age grouping encourages peer teaching, which helps the child both as teacher and learner. As children are working independently, the adult teacher has time for individual or small group instruction.
- Children work at their own levels, which may vary in different curriculum areas. Lessons are flexible and often differ, depending on interest, subject matter, and/or ability. Children learn from the many activities within the environment and often find interest in the work of another child or group of

children. Because they see the older children interacting successfully with the advanced curriculum, children don't develop fears of succeeding in higher level work.

- Collaborative learning is encouraged. This occurs not only when a teacher has formed a group for a specific lesson, but often happens without specific, assigned groups.
- Spontaneous grouping can occur when the teachers encourage children to assist one another. (Hart, p. 11).
- Curriculum and materials are multidimensional and concrete, especially for children from birth to age twelve. Children re-explore the same materials at different levels. For example, a group of geometric solid figures can first be sensorially explored, then named, matched to others, duplicated using paper, pencil and scissors, and eventually explored mathematically and geometrically. This repetition aids in true understanding and helps negate the current belief that a topic is studied, tested, then forgotten.
- The repetition also encourages children to assume responsibility for their own learning, makes them more self aware and thus able to see and correct their own errors.
- Multi-age grouping lends itself well to inclusion of children with special needs into classrooms with typically developing peers. The benefits of inclusion for all children have been demonstrated, and they range across all developmental and educational domains. (Esposito, 1987; Thompson, et. al. 1993).

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How to support your child in math

By Elizabeth Stepankiw

Our society has a tendency to judge everything by the bottom line: Is the answer right? And how quickly did you get to the answer? Montessori is going against the grain in its approach to mathematics (and education in general). If you choose Montessori for your child, then you need to be willing to go against the grain yourself and support your child's Montessori way of learning.

—Michael Duffy (Math Works, 2008, p.67).

In the book *Math Works*, Michael Duffy tells us it is the process of working on math materials that is most important, not just obtaining the right answer. In her developmental approach to math, Montessori was aware of the child's need foremost to develop what she called a "mathematical mind," the ability to understand the logic and reason of math and think with precision and clarity.

The materials are designed to give the child a concrete representation of math and move one step at a time to the abstract with many opportunities for self discovery along the way. Traditional math teaching begins at an abstract level and focuses on memorization of facts and techniques—a method that prevents the child from discovering for herself the patterns and concepts in the numbers. This often makes math seem tedious and, in the end, only gives the child a superficial understanding of math.

The materials begin in early childhood with one-to-one correspondence work, matching quantity to number, counting, and move to the representation of the

decimal system with the golden beads, which are used to add, subtract multiply, and divide. The child continues on to a number of other materials--stamp game, bead frames, checkerboard, and test tubes to name just a few.

Parallel to the materials in operations are the materials designed not only to help the child practice and memorize facts, but also to self-discover the relationships and patterns in numbers. Montessori has an extensive sequence of lessons and materials covering the span from three to 12 years for geometry and fractions as well. Children see in the concrete materials what it means to square or cube a number, find square and cube roots, the idea of negative numbers and decimals as well as have exposure to some of the rules of algebra.

The brain consists of two hemispheres controlling different capacities and four main lobes-- the occipital, parietal, temporal, and frontal-- each responsible for various functions. More than 100 billion neurons are in the brain at birth, but it is not the number of neurons that determines the strength of the brain, it is

the network of connections the brain builds when they are activated.

Because the Montessori math materials are concrete representations of math, and are multisensory, and promote active discovery learning through manipulation,

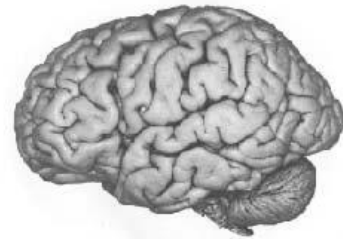
“They simultaneously engage multiple areas of your child’s brain, including all four lobes of her cerebrum. Her occipital lobe sees the colors and shapes of the materials. Her temporal lobe takes in the auditory cues that accompany their use and triggers memory associations. Her parietal lobe is engaged in the purposeful movement of the materials. And her frontal lobe provides the problem-solving processing to put all the sensory input together and find a solution to the problem. The simultaneous activation of all four lobes creates a multiplicity of neural connections and builds a network in your child’s brain.”

-- Michael Duffy, (2008, p. 55)

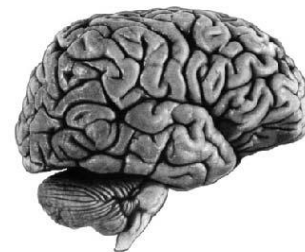
During this process, the brain is also building connections between the right and left hemispheres (Duffy, p. 56). Math development is sensitive to the child’s age. A spurt in the formation of neural connections occurs in the right hemisphere of the brain between the ages of 4 and 7.

Between the ages of 9 and 12, the growth is most active in the left hemisphere and the full maturation of the bridge between them occurs by the age of 13 (Duffy, p.53).

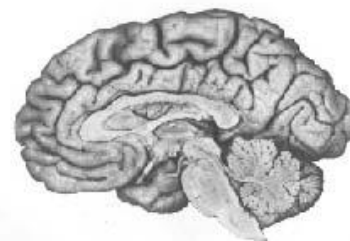
Left Hemisphere Lateral View (from the side)



Right Hemisphere Lateral View (from the side)



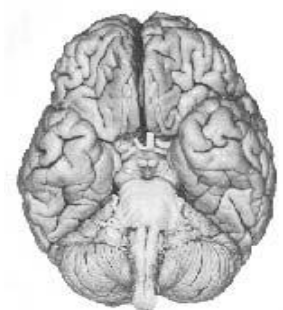
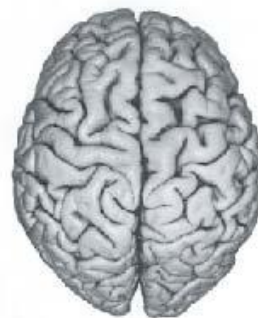
Midsagittal View of Right Hemisphere (cross-section through middle of head)



Top View

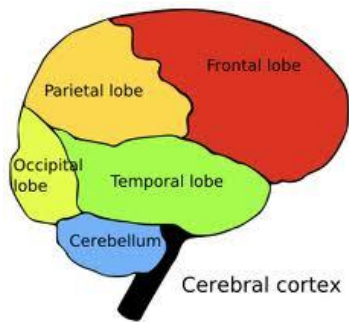
Bottom View

Front



Back

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In contrast, the typical math learning that depends solely on memorization mostly uses only one of the lobes of the brain—the temporal lobe (Duffy, p. 50). Eric Jensen, an internationally known educator, recognizes that, “it doesn’t matter to the brain whether it ever comes up with the answer. The neural growth happens because of the process, not the solution” (Duffy, p.57).

The Montessori math materials will produce a much deeper kind of learning that will stretch the brain to its fullest potential

—Michael Duffy (2008, p. 57).

If your child is four or under, research has shown that you can influence math success at school by simply counting objects (making sets of four to ten objects) with them *ScienceDaily (June 15, 2011)*.

Understanding the value of the Montessori math materials is your first step in supporting your child’s efforts at school. Take opportunities to have your child show you what he is working on in class. It is not possible for your child to

practice with the materials at home, so if you want to help your child, wait until her teacher tells you it is time to work on pure memorization of facts.

Having your child memorize facts and formulas before she has completed the sequence with the concrete materials is tempting because it may temporarily raise test scores and feel more familiar to you, but it will rob your child of the deeper understanding of math that comes with the use of the materials.

Be aware that your child’s teachers are watching to make sure the children are growing in their math knowledge when using materials in the classroom. There are situations where making corrections in simple counting would distract your child from the main focus of the work.

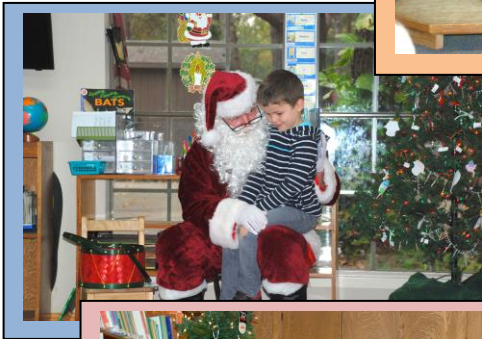
Do not expect your child to perform on little mini tests at home or be overly concerned with achievement test scores. The test is largely dependent on the memorization that is typical of other methods and does not align well with the depth of the Montessori materials. Memorization is usually the easy part of math; the more difficult work your child does in the classroom is worth the time it takes!

Quote; unquote:

An intimate acquaintance with some of the structural features of the human brain is thus seen to be not only necessary to the physician, but also to the psychologist, the educationalist, and the social worker.

R.J.A. Berry,
Brain and Mind; The Nervous System of Man, 1928

Look who came to visit . . .



Yes, indeed! It was Santa

He stopped by on Friday, just before the school holidays. All the Early Childhood students got a wondrous taste of what was soon to be.

Holiday festivities were not limited to EC classes, either. All upper grades celebrated, too. Just look at this group of happy young women at Woods High School. WHS students gathered in their Community Meeting Room for holiday cocoa and cookies.



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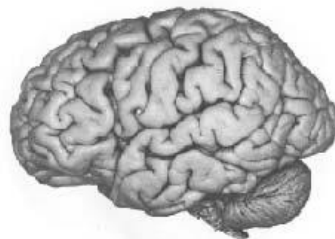
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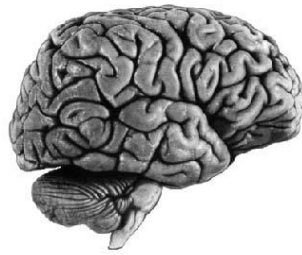
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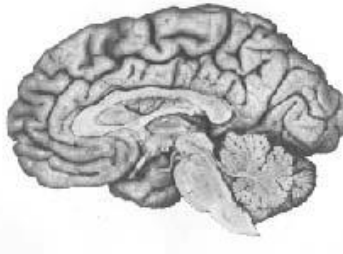
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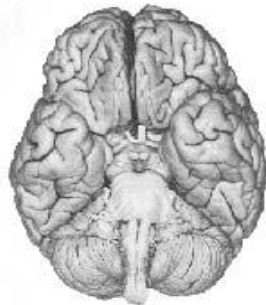
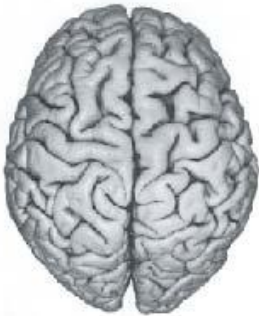
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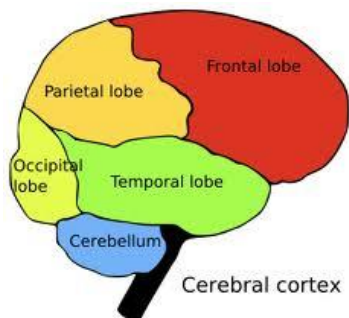
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