



Montessori Messenger

September 23, 2013

Dedicated to the joy in education and the lifelong desire to know.

IN THIS ISSUE

Dear Parents,

Thank you for the overwhelming success of Danville Montessori School's annual picnic and silent auction! A large gathering of parents, children and DMS staff members attended the event Sunday, September 15, at the Boyle County Fairgrounds. We appreciate all of the amazing volunteers that made this wonderful event possible!

Our parents generously shared their expertise in numerous ways. The delicious picnic fare was prepared by the effort of volunteers, experts in their field. The children enthusiastically participated in field games led by veterans in the business of entertaining children.

A unique new DMS tee shirt design was the result of the creative effort of a parent volunteer as was the production of "Miss Wilma's Cookbook." Parent volunteers sold Kroger cards. (Thanks for buying and using them. The 4% DMS PTO gets for their use is an easy fundraiser.)

Dedicated volunteers collected and arranged donated auction items, prepared and dispersed bidding sheets for the silent auction. They collected bids and tabulated the results. An estimated total of about \$6,400 was taken in as the result of the auction, and the sale of Kroger card, cookbook, and tee shirt sales. Our many contributors made an extra effort!

All will agree that the afternoon was a great success. We enjoyed the fun and camaraderie and in accomplishing our goals we presented an example of the best results of cooperative effort.

Our next DMS community event is our upcoming Open House on Monday, September 30th. I hope to see you then!

With gratitude,
Pat Critchfield



SUZANNE VAN ARSDALL INTERVIEW

Former DMS student graduates from UC Berkeley in just two years.

Page # 2



LOWER ELEMENTARY MATH

Laying the foundation for excellence in mathematics.

Page # 5

Interview with Suzanne Van Arsdall

By Stuart Critchfield

Wow, Suzanne, you graduated from UC Berkeley in two years! Tell me about that. What did you study? How did you manage it in two years?

Having the opportunity to study at Berkeley was incredible, and I'm so happy to have spent an exhilarating two years there. I was lucky enough to have many of the college credits I earned through the Gatton Academy (at WKU during my junior and senior year of high school) transfer to Berkeley. It took a lot of academic effort and planning to get through everything in two years at Berkeley, but being in such an amazing environment made it easier and such a rewarding experience. I majored in anthropology, and did research at Berkeley's law school during the last year of my time there.

Tell me about the Gatton Academy of Science and Mathematics.

The Gatton Academy is a two-year residential program on Western Kentucky University's campus for high school juniors and seniors. Students at the Gatton Academy leave their traditional high school after their sophomore year to enroll in classes at WKU and move to a dorm (specifically for Academy students) on WKU's campus. For those two years (junior and senior year of 'high school'), students at the Academy take exclusively college classes at WKU - Academy students are enrolled at WKU as freshmen in college, though still the age of most juniors in high school. At the end of the two years, students receive both their high school diploma and 60+ hours/units of college credit. The Gatton Academy gave me

the opportunity to take college courses early and gave me a better understanding of what college life might be like, and gave me the opportunity to do undergraduate research with professors on campus.

The Gatton Academy was named the #1 Public high school in the U.S. the past two years. It's amazing how many of my DMS classmates ended up at the Academy, especially considering how small the class size is at DMS (I came from a class of 10 students), coupled with how small the Gatton Academy is. Justine Missik, David McChesney, and myself - all students from my grade at Montessori - ended up at the Gatton Academy. Lukas Missik (another DMS grad) was in the grade below me at the Academy. I believe this really reflects the strengths of a Montessori education.

And of course you were a Danville Montessori student. When you reflect back on your educational journey, how does Danville Montessori fit in?

DMS was the foundation for my academic success. Danville Montessori didn't just challenge me academically, the school and the faculty gave me the unique desire to challenge myself academically. I think this is a large part of what makes Montessori different - many schools are academically rigorous or challenging, but Montessori teaches its students to desire challenge and to work independently; to be self-motivated. In my opinion this is the greatest thing a school can give its students, because it exists independent of a building's confines. Any school can be rigorous, but the independent, hands-on learning style of Montessori

gives the student something they'll continue to carry with them after they graduate from Montessori and move on to other schools.



What do you think the strengths of your Montessori education were?

DMS taught me to be independent, creative, and open-minded. The Montessori style of teaching is so unique from other schools, its strengths lie in its promotion of independent learning. Teaching a child to problem-solve using his or her own abilities, rather than just being walked through the steps to solve a math problem or a logic puzzle is

invaluable. Developing that ability to problem-solve independently from a young age gives you such a leg up in so many different fields of study - from computer science or physics to creative writing, visual art, and even in day-to-day social interaction.

Did being a Montessori student influence the student you became at Gatton Academy and Berkeley? What do you think you took away from DMS?

Being a Montessori student heavily influenced the student I've become. That ability to be self-motivated and love the work I do - things I developed as a Montessori student - have stuck with me over the years. I wouldn't be the person I am today without the Montessori education I received.

Do you have any favorite memories or lasting impressions of DMS that you would like to share?

It's amazing how many memories from DMS have stuck with me. I remember playing soccer and climbing the jungle gym on that fantastic, enormous playground. I'm a very visual, hands-on learner, and I believe Montessori played a role in that. I still think of nouns as black triangles and verbs as red circles, if you can believe that! It's amazing what an impact DMS had on me. Some might think the small class size would be a disadvantage, but I completely disagree. With only ten students in my grade, we became like a family over the years. One of my closest friends to this day is a former classmate from Montessori, and I still keep in touch with a good number of the students from my class and the class below me.

What would you say to a parent considering Montessori elementary for their child?

I would absolutely recommend Montessori to any parent considering it. Honestly I can't imagine a situation in which Montessori wouldn't be a good choice. I feel like the Montessori style of teaching is especially beneficial for young students as they develop their love of learning and ability to work independently. My brother and I have talked on numerous occasions about how thankful we are that our parents chose DMS.

Any advice for our current elementary students? Many would be inspired by you!

Stay positive! It's easy to get down on yourself, no matter what your age. If you keep a positive attitude and learn about the exciting things and the things you love, life becomes such a wonderful thing. Keep getting those checks on your work record and then go home and hug your parents!

What are your plans for the future?

Ultimately I would like to become a human rights/international humanitarian rights lawyer and work for an NGO or non-profit firm. I'm currently helping the ACLU with a few projects and finishing up my research assistant position at UC Berkeley's law school. I plan to take a few years to get more experience in the legal field and work with NGOs. I have a bit of experience with an NGO in South Africa, but I don't have as much experience on the legal side of things, so I hope to grow my understanding of all of that now that I've graduated and can work on a more regular schedule. Having graduated at 19, I

really felt it would be a poor decision to jump right into law school. I hope to travel and see the world some during these years before law school as well. It's so nice to see the future I've been working to make possible in front of me and I'm so excited to give it everything I've got!



The Gatton Academy of Math & Science

#1 National Public High School Newsweek 2012 & 2013

5 straight years on the Washington Post's List of Elite Schools



University of California Berkeley

#1 National Public University U.S. News & World Report 2014

Largest number of highly ranked graduate programs in the country. 48 Berkeley programs rank in the top 10 nationally.

Is there anything else you would like to say?

I'd like to thank Pat, Stuart, and all the teachers at DMS for all the work they've done with students over the years. Danville is lucky to have such a wonderful school, and that wouldn't be possible without such committed teachers. They've done an incredible service for so many young people in Kentucky

Freedom and Responsibility in the Montessori Environment

By Rita Finke

Freedom leads to the development of responsible behavior and responsible choice. The child stays on task better when he chooses his own work. When he has mastered the material, the child is ready to move on to another material. Freedom requires respect for the rights of others. To achieve this each child puts his work away neatly, roll up his rug and follow ground rules:

1. Be gentle with friends
2. Be gentle with materials

Children love to learn to do things for themselves. It takes a lot of repetition to master an activity, but the child is elated once he finally accomplishes that quest. Adults allow the child to be independent and avoid doing things for him. They teach the child to do things for himself by breaking down tasks into manageable steps so he can feel successful. When he finally achieves his task, the adult asks him how he feels or identifies his feelings. "You must feel very proud of yourself!"

The Montessori teacher is a guide who enables children to grow toward the development of responsible behavior. Lessons are given in grace and courtesy to help children work cooperatively and peacefully. This is freedom with responsibility. The teacher observes the child and watches for signs that he is ready to move on to the next activity. The teacher steps in long enough to present the new lesson, then moves on to allow for the self-directed child's exploration of the self-correcting materials.

Independence is the natural outcome of free choice and encouraged by the teacher who programs the environment to meet the needs of each child when he is ready. You will see children in the Montessori classroom working independently and doing individual projects. They might be helping their friends with their work. They might move around in a purposeful manner. With the children happily socializing, it is not a silent classroom yet not disruptive. Each child is using freedom of choice to grow in independence and become a responsible member of the Montessori classroom.

DMS Welcomes New Spanish Language Instructor

We are pleased to have Aurora Diaz Johnson with our school since late December of 2012. Aurora, a native of Panama, has been living in Kentucky for the past twenty years. She has homeschooled her daughters while tutoring adults and children in the Spanish Language.

Aurora assumes responsibility as Spanish instructor to our students, ages three through twelve year olds, this school year. In addition to weekly Spanish lessons, she provides a daily program for our elementary after school students, which is rich in the opportunity to practice conversational Spanish.

Aurora's approach to languages acquisition is based on the Montessori Method. She introduces a limited vocabulary with concrete manipulatives using Montessori's three period lesson. Having introduced nouns, she adds articles and verbs then calls upon the children to interact with the materials and one another. Aurora creates materials for our younger learners that embody the concepts taught for continuing practice through the week.

Upper elementary students' proficiency in Spanish has been enhanced with the purchase of Rosetta Stone, an individualized computer program, for each member of the class. The teacher, Aurora Johnson, gives a group Spanish lesson weekly highlighting new vocabulary, grammar, and pronunciation. Each child's practice is individualized according to their proficiency and their progress is monitored by their teacher.

The upper elementary purchased a seat at Rosetta Stone for each class member plus three new Dell laptops with their share of funds provided by Danville Montessori PTO! Thank you parents!

Lower Elementary Math

By Stuart Critchfield

Math is a foundational subject that becomes increasingly important as the world we live in revolves ever more strongly around scientific and technological fields. We all know that many of the best jobs, now and even more so in our children's future, will involve science, technology, engineering and math.

It was Galileo that said, "The great book of nature can be read only by those that know the language in which it was written. And that language is mathematics." In addition to unlocking understanding of our natural world, mastery of mathematics is an invaluable key to unlocking the doors of your child's future.

Knowing that strength in math would increase opportunities for our students along their educational journey, excellence in math has always been a top academic priority in the DMS elementary classrooms. The strength of the Montessori math curriculum makes that task much easier.

Grounded in concrete experiences that connect the learner's mind to the concept, through use of the hand on the material, the lower elementary math curriculum consists of five strands that overlap and run concurrently with one another. Beginning in the concrete, in which an individual bead is one unit and place value is proportionally represented by the size of each unit, ten, hundred and thousand, students begin a progression toward abstract mastery of mathematics.

The first strand of the lower elementary math curriculum, numeration, consists of linear counting, skip counting and exponents. Through use of the Montessori bead chains, students learn to count from 1 to 1000. Next, the students learn to skip count the chains --- 4, 8, 12, 16, 20... --- which is indirect preparation for memorizing multiplication facts. At the same time, students are also creating a concrete image of the square and cube of each number. The short chains actually represent the square of the number the student is working with. For example, the six chain folded up into a square is literally six squared, a square of 36 beads.



The final step in counting a chain is to recognize the square or cube of the number the child is working with. When a second-year student completes a chain, the child is asked to skip count to the square of the number and then often asked to skip count backwards from the square to zero. He is then asked what is the number squared or for a long chain, the number cubed. Some students will actually memorize the cube of the numbers 1-10, but more importantly, all students will have created a concrete understanding of an

abstract concept that will help them repeatedly in the future. When they are working with exponents in middle school and high school they will remember what eight cubed looks like. What does nine cubed look like to you?



Next, and truly a red banner flag for the strength of Montessori math, is the math operation curriculum. Beginning with the golden bead material, first-year elementary students develop a concrete knowledge of addition, subtraction, multiplication and division operations. From this grounding in a concrete understanding of math operations, lower elementary students embark on a mathematical journey that takes them incrementally through a highly structured progression of materials culminating in abstract mastery of addition and subtraction by early second grade and multiplication by late second or early third grade. Always with the use of the hand on the material, always with movement, our students develop their own understanding by engaging with the materials sequenced in such a way as to lead them ever so slightly closer and closer to abstract mastery. A typical second-year student will work with 1, 2 and 3 digit multipliers in long multiplication and will be completing

(Continued pg. 6)

Elementary Math

this work abstractly without material aid in late second to early third grade.



Math facts, the third strand of the Montessori math curriculum, support progression in math operations. Math facts are the study of addition one-digit combinations and the corresponding subtraction, and the multiplication of one-digit combinations and the corresponding divisions. In the lower elementary we utilize a variety of concrete materials to learn addition, subtraction and multiplication facts. This effort is supported by timed math facts practice to help students develop a quick recall of the math facts.

material aid. Typically, students in early second grade can complete addition and subtraction with regrouping and most will begin long multiplication with one digit multipliers by the end of the year. Some will multiply with two digit multipliers and partial products before third grade.

We wrap math up with the study of fractions. Again, the concepts are learned through use of concrete materials. Lower elementary students learn to build and write fractions utilizing metal fraction insets. After these concepts are understood our students use fraction insets to learn addition and subtraction of fractions with like denominators, followed by multiplication and division of fractions by whole numbers, and then equivalence.

At Danville Montessori School we know that math will open doors in our students' lives. Many of our students develop a love and an excitement for math that carries an awfully long way. Currently, DMS graduates are studying math and engineering at Harvard and Columbia Universities. Several have attended the Gatton Academy for Math and Science, which is the top ranked high school in the country.

It was our intention to give these students the strongest math foundation possible and that remains our commitment today. We have students right now that are every bit as strong as those that have gone before them. It will be exciting to see where their educational journey will lead.

Stuart Critchfield
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The fourth strand of our math curriculum, abstract math operations, follows directly on a student's progression with concrete math operation work. Once mastered with materials, an operation will then be perfected at the abstract level with no

Notes from Lisa's Class

We are now almost through our phase-in period in the classroom. So much is happening each day and the children have been quite busy. Were you to glance into the classroom, you would, I hope, notice a change in the shelves. Each day, there are more Montessori materials replacing our transitional activities that we use in the beginning.

These transitional activities (puzzles, blocks, building games, etc.) are used in the beginning because they are familiar items the children know how to "use." Therefore, the focus in the first few weeks can be on the classroom procedures and getting to know the other children: grace and courtesy lessons on keeping the classroom beautiful (aka always cleaning up after yourself), being independent (independently using the bathroom, washing hands, serving snack, etc.) and learning the routine of the day.

Now that we are more familiar with those classroom basics, we have begun to deepen our work in the traditional areas of the classroom: practical life, sensorial, math, language, geography, and science/botany.

Works & Lessons:

In the practical life area, the children are practicing and perfecting their pouring, spooning, tonging/tweezing, and cleaning skills. The "transfer" activities—pouring, spooning, & tonging/tweezing—are always done left to right and move in a progression from larger movements & contents (envision two large plastic pitchers filled with lima beans to be poured from one to the other) to smaller & more delicate fine motor (small glass creamer pitchers with lentils and tweezers used to transfer small glass pebbles). The spooning and tonging/tweezing lessons really work on hand and wrist strength, mobility, and coordination.



While cleaning may not seem to be an academic area, in the Montessori classroom, the cleaning lessons play a huge role in helping a child develop inner order and discipline. The works out right now are table scrubbing, chair scrubbing, and wood & mirror polishing. All of these works are multi-step (for table and chair it is about 15-20 steps) and require the child to work in an exact order to complete the full work cycle. AND THEY LOVE THESE! The table and chair scrubbing works are always the busiest.

Language Area: We have begun our daily sandpaper letter routine. At the beginning of class, each child works with a teacher to trace letters that are made of sand on wood and say the phonetic sound. For older children, we are helping them connect these letters into words. For the younger children, an image is often connected with the sound to help them remember. The combined use of touch (tracing the letter with two fingers) and sound gives the child a two-fold learning experience and a muscle memory of the letter. We then ask the children if they would like a letter or word on their hands and will draw accordingly—hence the "tattoos" on your child's hand. We focus on 6 letters at a time and will rotate through the alphabet. As you are practicing our current letters with your child, PLEASE CALL THE LETTER BY ITS SOUND. We begin learning this way and the uniform repetition will truly help them!! Our current letters are: b, t, m, a, f, & s.

In our science area, we are studying nutrition and learning the parts of the body. We also have works out on animal classification, grain matching cards and a nature tray. As we move into fall, we are also beginning our leaf and tree study.

In the coming weeks, we will begin learning about the globe and the world map. The children will be given an introductory lesson on how a flat map can give us the same information as the spherical globe and will begin learning the names of the continents.



Notes from Ms. Gaye's Class

September 7, 2013, a number of parents showed up to assist Ms. Gaye and Ms. Cris with projects in the classroom. Individual materials for new students, seasonal sewing cards, art materials and word and number booklets were among the materials parents helped to make. Sincere thanks to everyone who gave of their time to help out!

Ms. Gaye's classes will host Thanksgiving Gatherings on Thursday and Friday, November 14th and 15th, at 9:30 a.m. and 1:30 p.m. This is an opportunity for parents to share a special snack and a few lessons with their child in the classroom. There will be a brief program at 10:00 a.m. and 2:00 p.m. for the children to sing a couple of group songs and recite some of their favorite poems of the month. Children will make invitations for their families and bring them home a week prior to the event. It is a special time to celebrate together!

Upper Elementary Class Trip to Williamsburg, Virginia Sept 24-27

Montessori upper elementary students are traveling to Colonial Williamsburg, Virginia to participate in activities at the revolutionary city. The trip is the culminating event after the study of British colonization.



Students will visit Colonial Williamsburg, Yorktown Battlefield, Jamestown and Thomas Jefferson's home, Monticello.

Montessori elementary students are exposed to practical application of in-class learning in order to aid the process of assimilation and concept formation.

Extended field trips in the past have included trips to Pine Mountain Settlement School for conservation studies; Marine Lab for the study of marine biology; Wicliiff Mounds for an introduction to archaeology; and Mammoth Cave for karst ecology studies.

DMS Open House

Monday, September 30th, 6:30-7:30

The Danville Montessori School open house is a wonderful opportunity for parents and children to visit the classroom together! The children are always excited to show their parents their favorite work and to give a tour of their classroom! We hope to see you there!

Montessori Said

"Above all it is to be noted that the child has a passionate love for order and work, and possesses intellectual qualities superior by far to what might have been expected."

DMS T-Shirt Orders Due Friday, September 27th

T-Shirts \$10 / Long-Sleeved shirts \$16: Royal blue or coral. White print. Gildan 100% cotton. Youth XS – Adult 2X.

Golf Shirts \$30: Embroidered with DMS logo. Royal blue or berry.

Order forms have been sent home. Ask teacher for additional forms. Proceeds support the DMS PTO!

Front Design: 10" x 5.6"



Back Design: 10" x 11"

