

## **Dissemination Grant Final Report Partnership with the Haverhill Public Schools**

### **Overview**

During the 2010-11 school year, with the support of a Massachusetts Charter School Dissemination grant, Hill View Montessori Charter Public School (HVM) was able to collaborate with one of the Haverhill Public Schools (HPS), Pentucket Lake Elementary School, to share techniques for differentiated instruction using Montessori curriculum and materials in a way that could be incorporated into the district curriculum. In particular, after meeting with Pentucket Lake's principal, HVM purchased selected Montessori math materials for the Pentucket Lake School. Then HVM teachers provided professional development and mentoring on the differentiated instruction practices used with these materials. They also used manipulatives from Pentucket Lake to demonstrate how they would interface with the Montessori materials. The goal was to provide the participating teachers with additional methods to help their students improve academic performance in math.

Reaching out to the district to initiate this collaboration, HVM sought to further develop the positive relationship it has been nurturing since the charter school's inception. Up until this point, cooperative work had been primarily in the area of operations (i.e. bussing, facilities, food services, etc). Forming a collaborative partnership between the district and the charter school in the area of academics allowed HVM to share resources and expertise with the ultimate goal being improved math instruction for both district and charter school students. This collaboration brought about better understanding of each other's curriculums and areas of expertise, and set the stage for future cooperation in the area of student growth.

A secondary purpose for this dissemination work was to provide a greater understanding of Montessori's differentiated instructional practices to non-Montessori trained HVM staff as well as the greater educational community. To achieve this goal, HVM staff who lacked distinct Montessori training, participated in the professional development alongside district teachers. In addition, a training manual was written to accompany the Montessori materials for use by all Pentucket Lake teachers and any other teachers who wanted to try these materials, not limiting the use to those who were able to attend the training. Finally, a materials-use training video as well as a video highlighting HVM's differentiated instruction, were created so that a wider audience of educators would be able to benefit from this work.

### **Project Description**

This project began by convening a planning meeting between HVM administrators and the Principal of our partner school who is also the district's elementary math curriculum director. The focus of the meeting was to determine the specific math areas on which Pentucket Lake wanted to focus and to select the particular Montessori math materials that would be most beneficial to the district teachers in implementing the identified strategies. The areas of focus were number sense

and geometry. In particular, Montessori materials were chosen that would help district teachers reinforce place value, assist with memorization of math facts and allow students a concrete experience working with abstract concepts. After this meeting, Montessori materials were ordered so that they could be delivered to participating district teachers prior to the final professional development session.

The collaboration involved four meetings between charter and district teachers to share some of HVM's practices while also developing collegial relationships to facilitate sharing in both directions. The first meeting was a three-hour training sessions that took place at HVM in January. During this session, Pentucket Lake teachers were given a brief overview of the Montessori approach with some history of the method and the method's use of developmental stages to enhance student learning. HVM staff then introduced a number of Montessori math materials to the district teachers and demonstrated how to teach lessons using these materials. During the training, explanation was provided regarding how these materials could be used to differentiate instruction based on the learning needs of individual students.

The second meeting of district and charter educators took place in February when district teachers came to HVM to see HVM's public Montessori education in action. In particular, we arranged for training participants to visit a variety of HVM classrooms to observe firsthand the implementation of the differentiated curriculum strategies that were presented in the training sessions. A schedule was set for this visit so that district teachers were able to visit multiple classrooms at different levels with each teacher visiting different classrooms. Prior to the visits, teachers were given a building tour and an introduction to a typical day in the classroom with a specific sheet to record their observations and questions. Following their classroom visits, Pentucket Lake teachers had an opportunity to gather with the HVM teachers for a general discussion and to ask specific questions that had arisen as a result of their classroom observations.

The third meeting of district and charter educators occurred in March when district teachers came to HVM for a second professional development session. This training session was more interactive and provided hands-on opportunities for the district participants to learn how these materials can be used and how they enhance differentiated instruction. HVM teachers developed an accompanying lesson manual that district teachers could take back to reference when teaching these lessons at Pentucket Lake. The session was organized with rotating stations. Each station had a specific Montessori math material and the same HVM teacher who had introduced that material in January. The HVM teacher led the visiting teachers through the lessons following the manual, with opportunities for them to ask questions, jot notes, and present the lesson themselves. Visiting teachers moved through all the stations in the course of the afternoon, so at the day's end they had been taught, and had an opportunity to teach, each material in depth.

Finally, to further support the district's implementation of the shared practices, in April, we provided a coaching and mentoring visit to the participants of the training sessions. HVM teachers were paired up with Pentucket Lake teachers at the close of the session in March, and at that time they exchanged contact information and discussed what each teacher would like from the coaching visit. Then HVM teachers went and visited the training participants in their classrooms and provided tailored, on-site coaching to assist them in implementing the new materials with their students.

HVM's Teaching and Learning Coordinator (TLC) oversaw this project. In order to provide administrative support to the TLC, we hired a project coordinator to work approximately 40 hours

over the duration of the grant period. This person helped with a variety of project logistics including arranging for an appropriate site for the training sessions, securing refreshments, keeping records, printing and binding the training manual, helping to order Montessori materials, etc.

As part of this project, we also hired a videographer to create two videos. The first is a training video focused on the specific curriculum areas selected for this project. This video combines footage from the training sessions with other specifically designed footage that will enhance the online learning experience. In addition, shots were taken of these practices being implemented in both HVM as well as district classrooms so other district educators can see genuine examples of how this works in their colleagues’ classrooms. This video augments the professional development, observations, mentoring and lesson manual, to provide a multi-faceted approach to support more effective implementation of these practices in district classrooms.

A second video was also created to provide a more comprehensive presentation of HVM’s differentiated instructional model that can be viewed by a wider audience to spur their interest in using this approach. Both of the videos are being shared by link from the HVM website ([www.hillviewmontessori.org](http://www.hillviewmontessori.org)). We are also sharing the link with various educational organizations encouraging them to place a link to this work on their websites. Finally, complementary copies of these videos are available on CD and we will continue to disseminate to any organizations that are interested.

As part of this project, we conducted an evaluation (details below) and prepared this final report describing this project and the results. This report will also be available on our website and will be shared widely among educators and organizations with an interest in charter-district collaborations. In fact, we have already been contacted by the editors of *District Administration* magazine and soon they will be featuring an online article describing this charter-district partnership including photos of the collaboration (see [www.districtadministration.com](http://www.districtadministration.com)).

**Evaluation and Evidence of Accomplishments**

This project included many activities to support the dissemination of HVM’s differentiated Montessori practices and to promote collaboration between HVM and our district partner. In order to evaluate the success of this dissemination project, we tracked our work in three different ways. First, we tracked attendance and participation in each activity. Below is a summary of the major accomplishments including the date which each item was accomplished and the number of participants.

Measurable Goals/ Project Outcomes	Major Project Activities	Date Accomplished	# of HVM staff involved	# of HPS staff involved
Provide training sessions	Meeting between district and HVM administrators to determine focus areas	November 2010	2 (Executive Director, TLC)	1 (Principal)
	Hold training session one	January 26, 2011	5 presenting 17 attending	8
	Deliver Montessori materials to district teachers	Mid-March	4	8 (each receiving 1 set of materials)
	Hold training session two	March 2, 2011	5 presenting and the Executive	9

			Director (ED)	
<b>Create videos for training and wider dissemination of differentiated instruction method</b>	Finalize training video for use as learning tool	August 2011	5 staff in video presenting	4 staff in video
	Finalize general differentiated curriculum video	August 2011	Videographer	0
	Reproduce videos for distribution	Fall 2011	Videographer	0
	Upload videos on HVM website	Fall 2011	HVM staff	0
<b>Provide follow-up support to training session attendees</b>	Hold observation sessions	February 8, 2011	8	8
	Hold coaching sessions	April 12, 2011	5	8
<b>Evaluate process and results</b>	Administer evaluation –pre-survey	January 26, 2011	2	8
	Administer evaluation post-survey	April 12, 2011	2	8
	Analyze results of survey and prepare final report	August 2011	2 (ED, TLC)	1 (Principal)

A second way we evaluated the project success was by collecting anecdotal data. In particular, we noted comments made by both charter and district staff during the collaboration and collected information from the Principal of the partner school regarding implementation of these practices by the participating teachers. In summary, both district and charter staff indicated that they felt the project was successful and they appreciated the chance to collaborate. District teachers commented about using the Montessori materials in their instruction with one teacher saying “it enriched whatever we had” and “I went into it more deeply because I had materials to do that and a manual to go back to”. Another teacher commented how “great having materials has been (and with) visuals they (students) do so much better”. Still another said, using Montessori materials, “they (students) understood what division was versus just doing it the regular way with pencil and paper”. On multiple occasions, Pentucket Lake’s Principal shared positive feedback she had received from her teachers regarding the project. She also relayed her observations of Montessori materials being used in district classrooms.

The last way we gauged the success of this dissemination project was by creating a survey that was administered to the district teachers who participated in the professional development and coaching activities. The survey was administered at the beginning of the first professional development session and again after all activities were completed (training sessions, coaching sessions, and observation sessions). This allowed us to collect feedback from participants about the collaboration and whether or not they were able to implement the new methods into their classrooms. A summary of the results can be found in Attachment A. Of note when comparing the pre- survey completed before the Montessori professional development and the post-survey following the final coaching session, were several results:

- When asked if they believed they have a good understanding of the Montessori method of education, 25% agreed before in contrast to 100% following, marking a 75% increase in understanding as a result of the HVM professional development sessions.
- Prior to the learning 50% of district participants agreed that they spent a lot of time teaching math in small group as compared to 75% following the sessions.
- 75% of the teachers agreed they could teach a small group lesson using Montessori materials before the sessions and that rose to 100% following the training. It's also notable to disaggregate that further. Initially 12.5% strongly agreed, and 62.5% simply agreed with the statement "I could teach a small group lesson using Montessori materials." After the learning, 87.5% strongly agreed and the remaining 12.5% simply agreed with that statement. There was a 25% increase in the number of teachers who felt more strongly following the learning.

In addition to these findings there were some more subtle shifts in the data worth mentioning:

- When asked on the pre-survey if they believed learning the Montessori method would enhance their skills as an educator all the teachers agreed, though only 12.5% strongly agreed. One may conclude that they were at the session because of this belief. However the exit survey data showed that the 12.5% increased dramatically to 62.5% who strongly agreed after they learned more about the method.
- 100% of the HPS teachers arrived and exited believing the collaboration would both enhance their teaching and benefit their students. However, at the start only 37.5% strongly agreed and that number increased to 62.5% at the close of the collaboration.

In general the pre and post survey data results support the idea that district teachers found the work with HVM teachers to be helpful and useful. Their knowledge of the Montessori material increased and their opinions regarding their own practice was affected.

### **Summary**

Over the course of the 2010-11 school year, district and charter staff came together for the purpose of disseminating particular areas of the Montessori math curriculum with a focus on how the materials could be used to differentiate instruction. Overall, participants felt this project was worthwhile. It is clear that we achieved our goal of providing Montessori materials and training, and district teachers responded by incorporating these materials and lessons into their classroom instruction. Pentucket Lake teachers were able to use the Montessori materials to enhance student understanding. In general, they were also able to use the materials in the context of a small group lesson encouraging a more differentiated approach. However, we have not yet seen evidence of students using the materials independently so as to fully utilize the ability of the Montessori curriculum to individualize learning. Both HVM and Pentucket Lake staff have expressed an interest in continuing this work should resources be available. Therefore, in the next stage of this project, we have the potential to build on this initial progress to support more effective use of the materials to differentiate instruction.

## Attachment A

### Dissemination Grant 2010-2011 Survey Results

Question	Pre Survey Results			Post Survey Results		
	strongly	agree	total	strongly	agree	total
I believe I have a good understanding of the Montessori method of education.	0%	25%	25%	37.5%	62.5%	100%
I believe learning the Montessori method will enhance my skills as an educator.	12.5%	87.5	100%	62.5%	37.5%	100%
I spend a lot of time teaching math in small groups.	0%	50%	50%	12.5%	62.5%	75%
I use hands-on learning materials to teach most of the math content I cover.	12.5%	87.5%	100%	12.5%	87.5%	100%
I believe I can use hands-on learning materials to enhance student learning in math.	87.5%	12.5%	100%	75%	25%	100%
I believe I can use hands-on learning materials to increase student achievement in math.	75%	25%	100%	75%	25%	100%
I believe I can differentiate math instruction to meet all students' abilities.	37.5%	62.5%	100%	50%	50%	100%
I believe students can increase their mathematical knowledge by working independently with math materials.	12.5%	87.5	100%	50%	37.5%	87.5%
I could teach a small group math lesson using Montessori materials.	12.5%	62.5%	75%	87.5%	12.5%	100%
I believe this collaboration will enhance my teaching.	37.5%	62.5%	100%	62.5%	37.5%	100%
I believe this collaboration will benefit my students.	37.5%	62.5%	100%	62.5%	37.5%	100%