

# Denver Montessori Junior/Senior High

## School Innovation Plan



Respectfully  
submitted  
by:

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# Innovation Plan Statements

## Section I: Mission Statement and Executive Summary

Denver Montessori Junior/Senior High School (DMHS) combines Montessori best practices with current research on adolescent brain development to provide a learning environment that promotes high achievement for each student while also supporting them socially and emotionally. Graduates, regardless of ethnicity or income status, will be prepared for college or a career as well as demonstrate ingenuity, adaptability, creativity, initiative and excellent communication and problem solving skills.

DMHS requested and received Innovation Status through the DPS Innovation School Application in 2013. For a school to achieve excellence, it must hold on to its vision and implement the vision as clearly and effectively as possible. DMHS requires innovative school status to maintain fidelity to its mission and vision.

Montessori secondary education focuses on the whole child, self-construction, valorization and preparation for adult life. By creating a high quality 7<sup>th</sup> through 12<sup>th</sup> grade program on these principles, students will graduate with the academic skills necessary to thrive in both post secondary education or career options, while at the same time have well developed communication and problem solving abilities along with strong interpersonal relationship skills. Finally, they will have developed creativity, ingenuity, adaptability and initiative through the many problem solving, community building and real world experiences they encounter at DMHS.

DMHS currently has 113 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> grade students. The majority of our students come from Gilpin Montessori, Denison Montessori, Lincoln Montessori and Academia Ana Marie Sandoval Montessori, and DMHS is considered the secondary school for those programs for any student who would like to continue his or her Montessori education. The principal and staff at DMHS have created strong partnerships with the principals and staff from all four DPS Montessori elementary schools. Since DMHS opened, all of the DPS Montessori elementary schools have added 6<sup>th</sup> grade as part of their upper elementary classrooms. By adding 6<sup>th</sup> grade, the DPS Montessori elementary schools have strengthened their upper elementary classrooms and brought the upper elementary classrooms into alignment with the Montessori model. Next school-year, DMHS will open its high school starting with 10<sup>th</sup> grade (2016/17) and will continue to grow one grade per year.

In 2014/15 DMHS had 78 students. Of these 78 students, 62.8% qualified for Federal Free and Reduced Lunch, 74.4% are minority, 23.1% are ELL and 15.4% have an IEP. This year we have 113 students. The demographics for the current year have not yet been published.

Montessori secondary schools are divided into two “sub-planes”. The 7<sup>th</sup> - 9<sup>th</sup> grade program (Junior High) is a land-based program with real life problems solving scenarios. Students combine didactic, academic lessons with real projects such as building a farm. They are daily working with both their head and their hands to deeply

internalize academic concepts. The 10<sup>th</sup> - 12<sup>th</sup> grade (high school) program is a highly academic program that prepares students for university. Having come through the Montessori program to this point, students are well able and ready to handle the most rigorous content. The high school remains centered on core Montessori values. This includes Montessori trained teachers, long periods of uninterrupted work time, key lessons, and a variety of methods whereby a student can demonstrate mastery of knowledge. Assessments include NWEA MAP for reading and math, regular writing assessments using a rubric that is aligned to Common Core State Standards, rubrics, portfolios, presentations, quizzes on vocabulary and skills, end of unit knowledge assessments plus all Federal and Colorado State mandated testing.

The 7<sup>th</sup> grade through 12<sup>th</sup> grade Montessori curriculum that DMHS implements is rigorous, innovative, interesting and is designed to engage students to produce optimal academic achievement as well as social and emotional maturity and well-being. Montessori adolescent curriculum has been designed and tested over the last fifteen years at both private and public Montessori schools. This curriculum, referenced throughout this renewal application as Montessori National Curriculum, has been collected, refined and reported through The NAMTA Journal, A Montessori National Curriculum Report, The NAMTA Journal, Vol 37, No. 1, Winter 2012. DMHS designed its program using this curriculum. Four years ago, the Montessori National Curriculum for the Adolescent Program from Twelve to Fifteen/Sixteen Years was reviewed by the Australian Curriculum Assessment and Reporting Authority. Their findings, as reported in A National Montessori Curriculum Report, are as follows: *ACARA (Australian Curriculum Assessment and Reporting Authority) established an extremely rigorous recognition process to determine the extent to which a well-established alternative national curriculum can deliver comparable educational outcomes for students to those based on the Australian National Curriculum. ACARA have advised that (the National Montessori Curriculum) aligns with the Melbourne Declaration on Educational Goals for Young Australians, meets the particular principles and guidelines in relation to the Shape of the Australian Curriculum v3 paper, and allows for broadly comparable educational outcomes in English, mathematics, science and history by the end of year 10.*

In order to effectively implement the curriculum, DMHS needed to adopt its own schedule, its own standards for hiring teachers, its own school calendar and professional development plan, its own assessments, and, of course the National Montessori Curriculum. DMHS is using the National Montessori Curriculum for grades 7<sup>th</sup>-9<sup>th</sup> for science, history and language arts. The Spanish curriculum incorporates the TPRS curriculum. TPRS matches the meaningful, relative approach that defines Montessori education. DMHS also offers a Heritage Spanish class for our native and bilingual Spanish speakers.

DMHS uses a math curriculum that is individualized for each student combined with small group lessons. For grades 7<sup>th</sup> and 8<sup>th</sup>, this math curriculum is a combination of Khan Academy, Montessori Math materials, project based math, and small group lessons by a highly qualified math teacher. The small group lessons are designed to meet each student at the particular benchmark the student is currently working, and the teacher uses a variety of instructional methods, including Montessori math materials, to assist the student in mastering that benchmark and preparing to work on the next on-

line unit. Students are also expected to apply math towards a variety of hands-on projects utilizing the farm, the culinary arts program and micro-economy. For grades 9<sup>th</sup> – 12<sup>th</sup>, the project based math curriculum is replaced with Exeter Math. Exeter math is the math curriculum used by Philip Exeter Academy, and is widely recognized as an innovative college preparatory math curriculum. This 7<sup>th</sup> grade through 12<sup>th</sup> grade math curricular approach has been fully aligned to the Common Core State Standards and was submitted and approved by the DPS Office of School Reform and Innovation (OSRI).

The high school, grades 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup>, is an integrated college preparatory curriculum that includes DPS approved curriculum, concurrent enrollment, AP curriculum and Exeter Math. Although most of the curriculum for DMHS is similar to DPS's conventional schools, there are innovative differences. The curriculum is integrated so that the literature studied in Language Arts supports the history curriculum for an overall integrated humanities curriculum. The math and science teachers work together to insure students are obtaining the mathematical skills needed to work out currently studied complex scientific equations. Linkages between science, math and history are explored. Throughout all areas of study, there is in-depth reading and writing instruction.

The schedules for both the junior high and the senior high support the Montessori approach. There are minimal required transition times. Students spend half of their day in project classes that consist of 2.5 hours of "uninterrupted work time". During this project class time, students receive few large group lessons. Instead, students are called to small group lesson as those lessons are needed to support the next level of study. The junior high students have uninterrupted work time for the humanities and occupations project classes where they independently work on a variety of assignments and further exploration of their current units of study. In high school, the uninterrupted work time includes math, science, language arts and history. DMHS students and staff work together in order to maintain a strong, effective culture that supports personalized learning.

One hundred percent of the students are expected to be on task and engaged because they are enjoying their academic studies. This on task and engaged behavior is the hallmark of Montessori education, and is what we observe daily at DMHS.

## **A. School Culture**

Montessori schools are designed on a culture of respect. All members of the community are asked to respect themselves, each other and the environment. Creating healthy, positive culture is a core component of Montessori education. This goal is accomplished in several ways.

The first method for creating positive healthy culture is to create a welcoming environment for staff, students, families and community members. This began at the first stages of the performance application process. Members from all sectors of the DPS Montessori community were invited to participate in the application and submit ideas, thoughts and concerns. The applicants partnered fully with the DPS Montessori elementary schools. Throughout the planning year, DMHS hosted multiple parent education nights to discuss the benefits of Montessori education while also including prospective parents in the design of the school. These parent nights were held in both English and Spanish. The goal was to create a deep sense of community and inclusivity for all stakeholders.

Once the school opened, students immediately became active members of the school community. The Junior High (7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>) and high school (10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>) are set up into advisements. Students check in daily with their advisors to review progress and set goals. Junior high and senior high school staff and students also hold weekly community meetings. Starting next year, there will be monthly all school (7<sup>th</sup> - 12<sup>th</sup>) community meetings for celebrations and discussion.

A second core component of Montessori is peace education. Peace education starts at the youngest grades and continues through high school. In the junior high program, peace education manifests through positive behavior support, conflict resolution, community service and lessons and discussion on what it means to create a peaceful environment. High school continues this practice but also adds a social justice class that allows students to explore peace at a more national and global level.

A third component of Montessori education is the belief that all work is noble and that work normalizes the child. What this means at the secondary level is that students gain self confidence and self-respect through challenging work. DMHS' academic studies are based on a culture of high challenge combined with high skills and high support in order to create maximal engagement or "flow". This design is based on Dr. Mihaly Csikszentmihalyi's research as explained in Flow, The Psychology of Optimal Experience and flow research in Montessori middle schools conducted by Dr. Kevin Rathunde.

Finally, Montessori schools provide individualized education that meets each student at his or her level. All lessons and instruction are differentiated and follow-up work is initiated by the student based on his or her interests.

DMHS meets the needs of special education students through this differentiated learning while still holding high expectations that appropriately challenges each student as determined by their IEP and through teacher observation. ELL learners are welcome

to demonstrate learning both in their native language and, with appropriate assistance as needed, in English. DMHS teachers are all qualified ELA-E along with a full time highly qualified Spanish teacher. At risk students benefit from the inclusive culture, the advisement model, and the academic program that is specifically designed to help students find their voice and self-confidence through work.

## **B. Parent and Community Involvement:**

Prior to submitting the original letter of intent to apply to DPS to create DMHS, the founding members of DMHS contacted DPS Montessori principals, teachers and community members to gauge interest in providing Montessori secondary education for DPS Montessori students. Response was enthusiastic with the caveat that the secondary program must be high quality, rigorous and based on Montessori core principles. DPS Montessori community members were invited to participate at every stage of this application, and their input has been invaluable. DMHS continues to partner with national Montessori associations and local and national Montessori secondary schools. We also partner with local organizations such as the GrowHaus and GreenLeaf. Once the high school program is underway, DMHS will partner with local business and cultural institutions to establish student internships, community service opportunities and expanded learning options.

DMHS embraces its families and community members in a variety of ways. First, families were included in the initial design, and are currently involved in the design of the high school. Although the core Montessori mission and values must remain intact, families provide invaluable ideas regarding how to accomplish the school's mission. Families have been invited to participate in key decision making processes such as supporting the school's relocation to Smedley, after school activities, school committees and ideas on initiating school traditions, fundraising and creating excellent communication structures. One of the best ways for families to feel part of the school community is through community volunteer events such as school work days.

DMHS also created a vibrant Community School Committee (CSC) that includes no less than one staff member along with the principal and three parents (as many parents and or community members who want to join are welcomed). The CSC assesses school performance based on agreed upon outcomes that include academic goals, student well-being and community involvement. The CSC meets once per month to discuss school progress and make recommendations to the principal.

## **C. Parent Satisfaction**

DMHS achieved a rating of "exceeds" in the DPS parent satisfaction survey along with a high response rate for the past two years. Parent satisfaction is a key component for school success. The first step in insuring parent satisfaction is clear communication regarding the school's mission and vision along with parent education regarding Montessori adolescent education. This communication must happen prior to parents choosing DMHS for their student. Once students are enrolled, DMHS manifests multiple ways to connect with parents and gauge satisfaction. Some methods are as simple as the principal being outside during drop off and pick-up so parents can engage in a quick conversation if necessary. The principal also maintains an open door policy

along with a school policy that all parent phone or email messages must be replied to within 24 hours (except during week-ends or holidays).

Each year, the chairperson of the CSC will insure that the DPS parent satisfaction survey measuring parent satisfaction regarding the school achieving established outcomes is delivered to all parents and guardians. All surveys are delivered in English and the parent's native language. Surveys are anonymous but the CSC chairperson will assess percentage of surveys returned based on school population. If that percentage is less than 75%, the CSC committee will assess the current population and find solutions on how to bring that percentage up to 75%. Should parent satisfaction not meet the standard on the SPF rubric, DMHS will take the following steps: 1) Hold community meetings to determine the root of parent dissatisfaction, 2) increase parent education to insure that parents are comfortable with the Montessori Method and how it is being implemented at DMHS, 3) create a strategic plan that includes tactical and strategic steps to resolve concerns.

#### **D. Student Engagement**

The goal for student attendance is 95% or better every school year. Attendance for the first year was 95%, year two was 91.6% and year to date attendance for this year is 94.3%. Montessori schools are designed as a place where students feel safe, welcome and love school. Because Montessori education is designed on student self-construction and student choice, students have the ability to deeply study subjects that are of interest to them. These studies combined with meaningful work result in students demonstrating competency and therefore gaining in self-respect and self worth. If a student starts to demonstrate a lack of engagement, the advisor will connect with the student to determine the cause. If needed, the student and their family will meet with the advisor to determine how to re-engage the student towards meaningful work.

Attendance is conducted at the beginning of the school day and at each class. If a student receives more than three excused absences in a month, the advisor will contact the family to make sure all is well. If the student receives any unexcused absences, again, the advisor will contact the family to determine why the student is not in school and ask how can we support the student and the family. If the student has three or more unexcused absences in a month, or is approaching more than ten unexcused absences in a semester, the principal will actively work with the family while at the same time, initiate a truancy plan as outlined by DPS. At all times, DMHS will adhere to the DPS attendance policies.

Student satisfaction is measured in multiple ways. The school tracks on-time, daily attendance and works with students who are demonstrating a lack of engagement through tardiness or poor attendance. Advisors address student concerns at the daily and weekly advisement and community meetings. Both the advisors and the principal maintain an open door policy to address student concerns and complaints. Finally, the principal insures that the DPS student satisfaction survey is delivered to every student. Students are given access to the survey during school hours in a manner that allows them to maintain confidentiality.

DMHS intends to achieve a rating of "exceeds" on the SPF for student attendance and on the DPS student satisfaction survey. Should the results of the survey not meet the standard on the SPF rubric, the school will invite students to more clearly

articulate concerns through both an anonymous forum and a community forum. Staff will then work with students to create a strategic plan that includes both tactical and strategic steps to address student concerns. Follow-up meetings will be held twice per month until concerns are satisfactorily addressed.

#### **E. School Governance:**

DMHS has a vibrant CSC that includes no less than one staff member along with the principal and three parents / community members (as many parents and or community members who want to join are welcomed). The CSC assesses school performance based on agreed upon outcomes that include academic goals, student well-being and community involvement. The CSC meets once per month to discuss school progress and to make recommendations to the principal.

Every month, the principal meets with the CSC to discuss the school's successes and challenges based on data and observation. During those meetings, the principal seeks out feedback regarding current leadership effectiveness. The principal also solicits feedback from staff and community members during informal meetings. At all times, the DMHS principal should be and tries to model the value of recursive learning, seeking and accepting feedback, and inclusive problem solving in order to continue to evolve towards distinguished leadership.

DMHS uses a variety of data points and observation to determine the school leader's need for coaching and professional development. First, the CSC team reviews monthly achievement data and the annual SPF to see if the school has met set targets. Second, the CSC reviews annual parent, staff and student surveys to determine the overall health of the school and community opinions of the school. Third, the CSC meets with a Montessori consultant that observes the school and provides feedback to the CSC, school leadership and staff. Should the CSC and/or DPS leadership determine that the principal requires additional coaching and professional development, the Principal, CSC and DPS Leadership will create a professional development plan along with benchmarks to measure progress. Progress will then be reviewed monthly and new recommended action items, if needed, will be created.

#### **F. Succession Plan:**

DMHS applied for and was accepted in cohort 3 of the Differentiated Roles Grant. In accordance with the original performance application, these funds were used to create two junior high school team lead positions, that we also call junior high program directors. The expectations and requirements of team leads aligned perfectly with the original vision of the program director model. In 2016-17, DMHS will move to the Senior Team Lead model as defined by the Teacher Leadership and Collaboration initiative.

The principal focuses on global, strategic planning, the well being of DMHS students, data analysis, and professional development for staff. She also conducts curriculum and programmatic review to insure that 9<sup>th</sup> grade is successfully meeting DPS high school standards. In addition, she is working with staff on the design of the high school program. In this year three, a high school team specialist has been identified and is leading the design of the high school. In year four, the leadership team



will consist of the principal, the junior high senior team leads (junior high program directors) and the senior high team specialist. At that point, the principal will insure that program directors have the knowledge base needed to assume the principal role of the school should that event be necessary.

The principal's roles and responsibilities include creating and maintaining the school's mission and vision, hiring and evaluating staff, maintaining a culture of high expectation regarding behavior and academic achievement, creating and reviewing measurable data systems to insure the students are obtaining a rich and rigorous education, creating and linking staff to professional development, visiting classrooms every day, conducting partial and full staff observations using LEAP, creating and maintaining a welcoming environment for all community members, high level student discipline and attendance.

The program director's roles and responsibilities include maintaining a culture of high expectations regarding student behavior and academic achievement, daily check in with fellow staff, LEAP observations and coaching with staff, and weekly staff meetings to insure that the school is holding to its mission and vision, Program Directors are also advisors / teachers.

Program directors must be highly qualified teachers who are Montessori trained at the adolescent level. Program directors are expected to pursue an AMI diploma. They also need to have completed or be willing to complete a Master's level leadership program. They must demonstrate either in their DMHS position or in past positions they can create a culture of respect, inclusivity, shared decision-making, recursive learning, and empowering staff to work at their highest level.

Should a leadership change be necessary, both the junior high and senior high program directors will eventually be qualified to become the school leaders. The school staff will work with its CSC to interview both candidates along with any other DMHS teachers who are qualified and any outside candidates who are qualified. The staff and CSC will interview candidates and determine two finalists through a majority vote conducted by secret ballot in order to maintain confidentiality. The Chairman of the CSC along with one community member shall be in charge of the voting process. The final decision for hiring the new school principal from the two qualified finalists will be made by the School District Superintendent.

## **G. Leadership:**

Current DMHS principal Katy Myers is an established Montessori leader. Prior to opening DMHS and leading this school since its opening, she was a founding parent of Compass Montessori School, a pre-k through 12th grade charter school in Jefferson County, Colorado. At Compass, Katy was the business manager and assistant head of school for four years, and head of school for six years. Katy has experience in all aspects of school leadership, including budgeting, safety, accountability, staff evaluation, creating positive culture and climate, and facilities. Katy has also been involved in the national Montessori secondary movement for the last fifteen years. She is trained in Montessori elementary (AMI) and Montessori adolescent education (NAMTA) and earned a MEd in education leadership and administration at Arizona State University.

Page At Compass, Katy worked with staff to create an outcomes based Montessori

education system that includes graduation outcomes and written outcomes for every level. During her tenure as head of school, Compass High School moved from a non-performing school to a high performing school. In 2011, Compass won the Governor's award for schools with the highest 2009-2010 academic growth rates in Colorado.

#### **H. Teaching:**

Along with being highly qualified, teachers and school leaders employed at DMHS must be Montessori trained through an accredited AMI or AMS program, and/or have attended the AMI/NAMTA Montessori Orientation to Adolescent Education. DMHS has created a culture of shared learning among staff based on the principles of recursive learning. At DMHS, recursive learning is defined as the process of examining the principles of Montessori theory in order to improve Montessori practice. Staff meetings include seminars on Montessori theory and experiential learning. There are weekly level meeting where staff meets with their teams or across teams to problem solve. Observation of staff occurs weekly and, more formally, monthly using the LEAP rubric and Montessori based rubrics and feedback mechanisms designed to improve performance.

#### **I. Student Enrollment**

DMHS currently has 113 students in 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> grade (the junior high). For school-year 2016-17, we plan to have 120 students in the junior high, and 35 students in 10<sup>th</sup> grade to start the high school. We will continue to grow the high school on grade per year. Final steady state enrollment will be 120 students in the junior high and between 105 and 120 students in the high school for a total of 225 to 240 students.

DMHS is designed to be the secondary school for DPS Montessori elementary schools. The entire curriculum is designed as a continuation of the Montessori elementary curriculum, the Montessori methodology and the education design structures students have experienced throughout their elementary Montessori experience. Per our DPS approved choice enrollment process, priority enrollment is given to all students graduating from Denison, Academia Ana Marie Sandoval, Lincoln and Gilpin Montessori schools. Each of these schools currently has a diverse population representative of Denver.

DMHS does not deny admissions to any student based on income status, academic achievement, disabilities or at risk of academic failure. DMHS staff meets with designated staff of the sending schools to discuss transition of students with IEPs.

## **J. School Schedule & Calendar:**

Every year staff at DMHS evaluates the annual calendar and daily schedule to determine if they are both designed to maximize the school's ability to achieve the mission and vision of the the school. The annual calendar for a subsequent year is established no later than 60 days prior to the end of the current school-year. The calendar is reviewed and and agreed upon by a majority of staff and the CSC and then published to the DMHS community.

The daily schedule meets or exceeds education minutes required by the Colorado Department of Education. DMHS maintains the flexibility to amend its schedule during the school year if, by doing so, the school is able to better meet its academic goals and the mission and vision of the school.

Montessori education is a constructivist model based on creating an optimal prepared environment for students. For preschool through 6th grade, this means creating beautiful, spacious classrooms filled with scientifically designed Montessori materials that allow students to acquire deep mathematical, language, science and cultural knowledge. Each classroom includes a Montessori guide that has obtained rigorous training in child development, classroom content, and Montessori methodology. In the September 28, 2006 issue of Science Magazine, Angeline Stoll Lillard published findings of her Montessori education study with the following conclusion: *Comparing outcomes of children at a public inner-city Montessori school with children who attended traditional schools indicates that Montessori education leads to children with better social and academic skills.*

Montessori secondary education has been in development for 30 years. During the last fifteen years, there has been significant increase in the number of Montessori schools throughout the United States providing excellent education from 7<sup>th</sup> through 12<sup>th</sup> grade. Leaders in the Montessori secondary education movement have documented best practices, established training centers, and provided a network of support to insure new schools can open successfully.

Montessori secondary education is designed for students who have attended Montessori elementary schools. Montessori observed that this stage of a child's development provided excellent opportunity for a student to develop and hone social and problem solving skills. Montessori wrote about what we now call the value of 21st Century Learning Skills back in the early 1900s. She predicted that if adolescent students were allowed to learn in an environment specially designed for their specific stage of brain development, the result would be adaptable, independent, ingenious and creative adults with excellent communication and problem solving skills. She laid out a design for this type of education in "From Childhood to Adolescence".

Montessori secondary schools are divided into two "sub-planes". The 7<sup>th</sup>- 9<sup>th</sup> grade program is a land-based program with real life problems solving scenarios. Students combine didactic, academic lessons with real projects such as building and operating a farm. They are daily working with both their head and their hands to deeply

internalize academic concepts. The 10<sup>th</sup> - 12<sup>th</sup> grade program is a highly academic program that prepares students for university. Having come through the Montessori program to this point, students are well able and ready to handle the most rigorous content. The high school remains centered on core Montessori values. This includes Montessori trained teachers, long periods of uninterrupted work time, key lessons, and a variety of methods whereby a student can demonstrate mastery of knowledge. Assessments include NWEA MAP assessments, rubrics, portfolios, presentations, quizzes on vocabulary and skills, end of unit knowledge assessments plus all Federal and Colorado State mandated testing.

## **A. Curriculum**

The 7<sup>th</sup> grade through 12<sup>th</sup> grade Montessori curriculum that DMHS implements is rigorous, innovative, interesting and is designed to engage students to produce optimal academic achievement as well as social and emotional maturity and well-being. Montessori adolescent curriculum has been designed and tested over the last fifteen years at both private and public Montessori schools. This curriculum, referenced throughout this application as the National Montessori Curriculum, has been collected, refined and reported through The NAMTA Journal, A National Montessori Curriculum Report, The NAMTA Journal, Vol 37, No. 1, Winter 2012. DMHS designed its program using this curriculum. Recently, the National Montessori Curriculum for the Adolescent Program from Twelve to Fifteen/Sixteen Years was reviewed by the Australian Curriculum Assessment and Reporting Authority. Their findings, as reported in A National Montessori Curriculum Report, are as follows: *ACARA (Australian Curriculum Assessment and Reporting Authority) established an extremely rigorous recognition process to determine the extent to which a well- established alternative national curriculum can deliver comparable educational outcomes for students to those based on the Australian National Curriculum. ACARA have advised that (the National Montessori Curriculum) aligns with the Melbourne Declaration on Educational Goals for Young Australians, meets the particular principles and guidelines in relation to the Shape of the Australian Curriculum v3 paper, and allows for broadly comparable educational outcomes in English, mathematics, science and history by the end of year 10.*

Although DMHS uses the National Montessori Curriculum, DMHS also uses the Colorado Academic Standards (CAS), the Common Core State Standards (CCSS) and the Higher Education Admission Requirements (HEAR) as its education standards. DMHS compared the Montessori National Curriculum to the CAS and the CCSS to insure that there are no gaps and that the students are achieving the benchmarks as stated in these standards.

The priorities for the secondary program are first to provide the optimal environment for student achievement. This includes a beautiful physical environment that includes an urban farm, an art and micro-economy studio with kiln, a commercial kitchen and science laboratories. The school is and needs to be located in an area that allows for public transportation to the local cultural institutions. For high school, the prepared environment includes professional work environments, a laboratory fitted out for advanced chemistry, biology and physics instruction, an art studio fitted out for advanced work in a variety of artistic media, and computers with refined publishing software.

The next priority is to extend and deepen the Montessori education students have received through their elementary program. By sixth grade, the Montessori students will have completed most of the elementary Montessori materials. DMHS builds upon the skills and knowledge acquired through the materials via a carefully constructed curriculum that recognizes the specific stage of brain development students are entering upon adolescence.

Here is one example of this extension related to math. Upon entering DMHS, students should have completed Montessori math materials up through the trinomial cube, measurement, volume, mathematical laws, introduction to algebra, Pythagoras theorem, and geometry. At this point, students need to practice their skills while using these skills to solve challenging problems. They also need to advance their skills through algebra, advanced geometry and into trigonometry and calculus. For grades 7<sup>th</sup> and 8<sup>th</sup>, the math curriculum is a combination of Khan Academy, Montessori Math materials, project based math, and small group lessons by a highly qualified math teacher. The small group lessons are designed to meet each student at the particular benchmark the student is currently working, and the teacher uses a variety of instructional methods, including Montessori math materials, to assist the student in mastering that benchmark and preparing to work on the next on-line unit. Students are also expected to apply math towards a variety of hands-on projects utilizing the farm, the culinary arts program and micro-economy. For grades 9<sup>th</sup> – 12<sup>th</sup>, the project based math curriculum is replaced with Exeter Math. Exeter math is the math curriculum used by Phillips Exeter Academy, and is widely recognized as an innovative college preparatory math curriculum. The DMHS 7<sup>th</sup> grade through 12<sup>th</sup> grade math curricular approach has been fully aligned to the Common Core State Standards and was submitted and approved by DPS.

DMHS is also committed to providing a strong Spanish language program and support dual language acquisition. It has one teacher in both the junior and senior high who is highly qualified in Spanish and Montessori trained and who is also qualified ELA - E.

The junior high program is composed of 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> grade. Next year (2016/17), there will be 120 students divided into 10 advisements of 12 students each. All teacher / advisors are Montessori trained. The high school will eventually be composed of 105 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade students. There will be four teacher/advisors including a highly qualified math teacher, language arts teacher, social studies teacher and science teacher. There will be a fifth teacher who will be highly qualified in Spanish and ELA-E. These same teachers will offer afternoon electives in subject areas that they are qualified to teach.

The junior high program has, as a key component, a curriculum called Occupations. In the NAMTA National Montessori Curriculum Report, Occupations is defined as follows: *“Through work, the students in the Montessori adolescent community engage with the natural environment and the wider society. The work undertaken within the community which has purposeful problem solving and economic contributions but which draws on necessary academic expertise is called Occupations. Occupations in the adolescent community have the following characteristics: The work is meaningful to the students, the work is both physically and intellectually challenging, the work is valued in the wider community, society and culture, and the work has*

*economic validity. Occupations with these characteristics inspire students to engage in the work with integrity and passion, to develop their own interests and expertise, to gain recognition for their contribution and to experience a sense of ownership and accomplishment.”* The NAMTA Journal, Volume 37, Number 1, Winter 2012.

Staff at DMHS have created Occupations and humanities units that are meaningful to the target population and inclusive of diverse cultures and academic learning styles. Occupations integrate all of the core subject areas, with a focus on Science. Humanities is taught using a similar scope and sequence as Occupations but with a focus on history. Here is the curriculum summary as outlined in A National Montessori Curriculum Report and adapted to DMHS:

*Pedagogy: The themes that govern the approach to pedagogy implemented in the Montessori adolescent community are synthesis and integration. Montessori adolescent pedagogy integrates concrete and active learning experiences with opportunities for reflective and contemplative study of increasingly abstract concepts and ideas. Second, the pedagogy integrates intellectual and ethical development, creative expression and the academic disciplines, giving students the opportunity to apply discipline knowledge, judgment and creative skills to problem solving in projects that require physical activity, ethical choices, self-expression and abstract application of interdisciplinary knowledge. The focus of the pedagogy is the adolescent’s civic, ethical and social development as well as the adolescent’s adaptation to the demands of the changing natural and human world.*

The expansive nature of the curriculum, and the pedagogy used to implement the curriculum, ensures that the curriculum can be adjusted to accommodate knowledge, skills and understandings required by the CAS, the CCSS, and the State assessments. Students become active participants with teachers in the task of identifying individual learning needs and, where needed, to design individualized learning programs to meet these requirements and demands. The goal is to hand over to students increasing responsibility for planning and managing their own learning as one aspect of the overall aim of the Montessori learning environment prepared for adolescents: to prepare students for social and economic independence.

The high school, grades 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup>, is an integrated college preparatory curriculum that includes DPS approved curriculum, concurrent enrollment, AP curriculum and Exeter Math. Although most of the curriculum for DMHS is similar to DPS conventional schools, there are innovative differences. The literature studied in Language Arts supports the history curriculum for an overall integrated humanities curriculum. The math and science teacher work together to insure students are obtaining the mathematical skills needed to work out currently studied complex scientific equations. Linkages between science, math and history are explored. Throughout all areas of study, there is in-depth reading and writing instruction.

By high school, (10<sup>th</sup> - 12<sup>th</sup>), Montessori students are well adept at taking charge of their education, and are eager for further intellectual challenge. At this point, the curriculum looks similar to more traditional college preparatory curricula. However, the delivery of curriculum maintains the core values of Montessori and is designed specifically for students who have progressed through Montessori education. Instruction is delivered via key lessons that convey to the students fundamental concepts and

serve as “jumping off” points for further exploration. Studies are self-directed in an environment of high expectations and high support. Teacher/advisors work with students to insure that students have the advanced skills necessary to explore advanced concepts.

In combination with the challenging academic setting, high school students are also encouraged to go out to local cultural institutions to further study. DMHS intends to create partnerships with the Museum of Nature and Science, the Denver Zoo, the Denver Botanic Gardens, the Denver Art Museum and other local cultural centers so that our students can easily access experts within those settings. DMHS will also create partnership with CCD, CU Denver and Metropolitan State College of Denver so that students who wish to concurrently enroll in some classes during their junior and senior year have the ability to do so. Another key experience for high school will be international travel. DMHS will determine appropriate fundraising venues so that all students will be able to attend at least one international trip during high school.

In 2003, Dr. Kevin Rathunde published a study titled “A Comparison of Montessori and Traditional Middle Schools: Motivation, Quality of Experience, and Social Context.” With the help of co-investigator Mihaly Csikszentmihalyi, Dr. Rathunde compared the experiences and perceptions of 150 middle school students in Montessori and 150 middle school students in traditional schools using the Experience Sampling Method (ESM). The ESM statistical procedure allowed Dr. Rathunde to determine, in an objective manner, whether there were significant differences between the two groups of students (Montessori and Traditional) and to adjust or “control” for any differences that were due to other factors such as background variables.

The statistical analysis revealed that there were strong differences between the Montessori and Traditional students.

The differences included:

- Montessori students reported a significantly better quality of experience in academic work than the traditional students,
- Montessori students appeared to feel more active, strong, excited, happy, relaxed, sociable, and proud while engaged in academic work,
- Montessori students enjoyed themselves more, they were more interested in what they were doing, and they wanted to be doing academic work more than the traditional students,
- Montessori students reported significantly higher percentages of undivided interest, higher motivation and higher levels of importance with regard to schoolwork,
- Montessori students reported more conditions where the challenges and skills used while doing academic work were above average.

## **B. Progress Monitoring and Assessment**

### **Formative Assessment:**

Montessori teachers, working closely with the adolescents, keep careful records to ensure the students are provided with appropriate lessons when they are ready. Daily observation of students and detailed record-keeping help teachers plan the lessons individuals will need next. Working together, the adolescent students and the Montessori teachers keep records of lessons given, the follow-up work completed by

each student, student progress and achievement, difficulties encountered by individual students and how those difficulties were resolved. Montessori teaching and learning practices provide enhanced opportunities for formative assessment. Here are some examples:

Because Montessori Junior high and Senior High teachers have students in their class for three years, they come to know each student in a way that is not possible when students move to new classes with new teachers every school year. Through close observation over three years, Montessori teachers become very aware of their students' learning styles, strengths and areas requiring further development. Because most lessons are presented to individuals or small groups, the teacher can easily observe and record levels of understanding and mastery in individuals. Before a lesson draws to a close, all students in the lesson are given the opportunity to show they understand the newly acquired skills or content. Any student who needs further teaching can review the lesson when it is presented to the next group of students ready for the lesson.

When students choose their own work extensions, they reveal a great deal about their interest and ability at any point in time, which teachers are then able to observe and record. During regular individual conferences with the teacher, students become co-assessors of their work with the teacher. Junior and senior high students are given rubrics prior to any assignment that they can then use to assess their work. Students are provided with a detailed Junior High or Senior High portfolio that identifies the CAS and CCSS standards. Teachers record the date students received lessons. All lessons are aligned to the standards.

### **Interim Assessment:**

DMHS uses NWEA MAP assessments for math and reading interim assessments. These assessments are given in August, December and May. Teachers analyze the data from the interim assessments and use that data to identify individualized learning goals for the next trimester.

### **Summative Assessment:**

Learning achievement in Montessori classrooms is recorded through observation, the compilation of portfolios and detailed records of progress. Every project class has an end of unit presentation of learning and an end of unit assessment. Progress is also measured against achievement benchmarks that are based on the Colorado Academic Standards and the Common Core Standards. In these ways each student's progress can be expressed in terms meaningful to the student, as well as to teachers, parents and the wider community. DMHS participates in all Federal and State mandated assessments.

At the beginning of the school year, students' math skills are assessed via the NWEA MAP Math assessment. Students are then assigned Khan recommendation based on their MAP results and the current math unit being taught. Students take Khan Mastery Challenges twice per week. That progress is summarized by Khan Academy. Teachers check student progress weekly to determine what math lessons students need in order to continue making appropriate progress for that particular student. Teachers incorporate Montessori math materials along with more traditional math



instruction techniques during math lessons. If students are not making adequate progress in math, despite additional support from teachers, then staff will begin the RtI process.

Also at the beginning of the year, students receive the NWEA MAP Reading Assessment to determine reading levels. The principal, working with staff, review this data to determine what areas each individual student requires assistance in order to continue to make adequate progress with reading. Students are allowed to choose their own literature books from a list provided by the school. Staff works with students to make adequate progress in all aspects of reading, including vocabulary, literary technique and structure, reading elements, and the ability to analyze text. Reading instruction occurs via literature circle, seminar and book clubs. Progress is measured through student participation in seminar, student written double entry notes, and student essays. If a student continues to demonstrate a lack of progress with reading after receiving additional lessons, staff will begin the RTI process.

The third assessment students complete at the beginning of the year is a writing assessment. Teachers review the student's written work using a rubric based on the Common Core State Standards for 9<sup>th</sup> grade. Teachers identify what small group instruction each student requires, and place that into the schedule. Students are required to complete writing assignments throughout each Occupations and Humanities project. Teachers review progress, again based on the CCSS rubric, and continue to develop lessons plans for each individual student. Should students continue to demonstrate a lack of progress after additional teacher support, staff will begin the RTI process.

At all times, the expectation is that students are working at or beyond grade level as determined by the NWEA MAP Assessment for math and reading, and the CCSS writing rubric. If students are not working at grade level, staff will create a lesson plan to bring students to grade level. Lesson plans are contained within the student data systems created by DMHS.

Every month, the principal reviews student portfolios to determine percentage gained regarding achieved benchmarks. The principal also reviews data compiled from NWEA MAP assessments, writing samples, quizzes and end of unit assessments. The principal and staff review this information at the Wednesday afternoon data team meetings, and regularly conduct the Five Step Inquiry Cycle for challenges that emerge. Individual student performance is presented to parents during two parent/teacher/student conferences per year. At these conferences, students walk their families through their portfolios. Teachers, students and families discuss student achievements, student challenges, and create goals for further progress.

Staff at DMHS has developed a data-management system that tracks lessons students have received or missed, anecdotal record keeping, and overdue work. All lessons are aligned to the CAS and CCSS. Student progress on the standards is tracked with the expectation that at the end of their three-year cycle, they will have been introduced to, worked on and internalized a majority of the standards. This data management system includes student electronic portfolios, data tracking for each student, lessons needed for each student, and overdue work for each student. Because all DMHS teachers interact with all DMHS students, all teachers have access to the data for all students.

DMHS high school graduation requirements reflect the HEAR requirements including four years of English, four years of Mathematics, three years of Natural/Physical Science including two lab-based units, three years of Social Sciences (with at least one unit of U.S. and one unit of World History), one year of Foreign Language and two years of Academic Electives. Starting in eighth grade, every DMHS develops a personal education plan that becomes part of their junior and then their senior high portfolios. These plans will be completely integrated with their portfolios to insure students are receiving 100% of the credits needed to graduate. Occupation curriculum will be compared to course objectives for traditional classwork to determine appropriate credit for ninth grade. Tenth through twelfth grade classes will have the same course objectives as traditional schools for the academic areas. Students receive grades and transcripts starting in 9<sup>th</sup> grade. Their report card also becomes part of their electronic portfolio.

DMHS is designed to respect stages of adolescent development, and promotion and retention criteria will reflect this value. Students are expected to be promoted within their established class. A key time for evaluation will occur towards the end of the ninth grade year. If a student demonstrates significant gaps in academic achievement, social and/or emotional growth to the level that they may not yet thrive in the high school, a conference will be called between the student, their family, the principal and the student's advisor to determine if the student should spend an additional year in the junior high. In high school, if a student is not on track to meet all DMHS graduation requirements, the student, their family, the principal and the student's advisor will meet to create a plan in order for the student to graduate. One possible outcome of that plan may be for the student to spend an additional semester or year at DMHS until all graduation requirements are met.

If a student has exceeded graduation requirements before the end of their 12<sup>th</sup> grade year, that student will have the option to graduate early or concurrently enroll in CCD, UCD, Metropolitan State, or another college that offers dual enrollment. Again, a meeting will be called between the student, their family, the principal and the student's advisor to determine the best course of action.

At all times, if a student demonstrates academically, socially or emotionally that he or she is struggling to make academic progress in the school in order to achieve or maintain grade level, the advisor will meet with the student and their family to analyze the cause. If improvement does not occur, the advisor will work with staff to initiate Rtl.

### **C. English Language Learner Students**

Montessori education is an individualized inclusive approach for all students in all cultures. It is a world recognized curriculum with Montessori schools in nearly every country. Providing excellent education to English language learners (ELL) is completely in line with the DMHS mission and vision. With their educational focus of connecting the hand and the mind in all learning activities, DMHS teachers are well prepared to assist ELL learners to acquire English in a fun, engaging and meaningful manner. All DMHS teachers are ELA-E certified. DMHS follows all of the DPS English Language Acquisition (ELA) protocols including the DPS Home Language Questionnaire, providing ELA services, ISA team meetings, ACCESS testing, and following a student for two years after re-designating that student. DMHS uses the District approved ELD

curriculum for sheltered ELD instruction class. All teachers also provide sheltered instruction within their project classes and core curricular subjects. The Court Monitor visited DMHS in October 2015, and he expressed satisfaction regarding the DMHS' approach to ELL students and education.

#### **D. Special Education Students**

DMHS uses the Response to Intervention (RtI) model to identify students requiring special education. The RtI model requires that achievement data and a body of evidence is maintained for all students. DMHS insures that universal screening is happening through the NWEA MAP assessments, weekly Khan Academy math mastery assessments, observation, mastery level quizzes and end of unit assessments for both the junior and senior high. If a student is demonstrating a lack of appropriate progress, the student's advisor will contact and discuss concerns with parents and work with teachers to begin implementation of strategic interventions with fidelity. Staff documents these interventions using the DMHS designed RtI tracking tool to determine whether or not the interventions are successful during a predetermined length of time such as 8 - 12 weeks. The documentation occurs on a secure, shared document format so that all teachers can review what interventions are being tried for each student, and share their own observations of successful interventions. Progress is monitored via observation, weekly written samples, Khan academy mastery assessments, participation in seminar, mastery quizzes and end of unit assessments, and NWEA MAP assessment.

If the student responds to the interventions, they will remain in place as long as necessary. If the student does not respond to the interventions as documented by insufficient progress towards specific benchmarks in the given area of concern, the advisor will bring the student to the student intervention team. The student intervention team meets weekly and consists of the principal, the special education provider, and at least two additional teachers. The student's parents will also be invited to participate in this meeting only during the time that their particular student is being discussed. At student intervention team, the team will review the student performance data collected before and during interventions. The team will then discuss further interventions for the teachers to use for that student within a determined number of weeks. Teachers will implement the interventions with fidelity and record the student's response to the interventions. Progress will again be monitored via observation, weekly written samples, Khan academy mastery assessments, participation in seminar, mastery quizzes and end of unit assessments, and NWEA MAP assessment.

If, after trying a variety of interventions, the student is still not making sufficient progress as compared to his/her peers, the special education provider will begin the process to determine if the student qualifies for special education services. This process will follow all Federal and Colorado special education guidelines including parent notification, a complete record review, additional testing if needed and appropriate written permission. Once the assessment process is completed, the special education provider will convene an initialization meeting that consists of the student, the student's family, the student's advisor, the general education teacher, the principal, the special education provider, the psychologist/social worker, the school nurse, and any other experts necessary to create a holistic picture of what the student requires in order to achieve a free, appropriate, public education and to thrive at DMHS. If this team determines that the student requires special education services, the team will then determine how much and what type of services the student requires and set initial goals for the student. The special education provider, the student's advisor, and the family will continue to work together to set appropriate goals for the student. The student's advisor

and the special education provider will monitor progress on these goals.

DMHS accepts students coming from DPS Montessori schools without discrimination towards students with disabilities. Prior to the start of every DMHS school year, the DMHS special education provider reviews the list of incoming students to determine who is currently on an individualized education plan (I.E.P). The provider will review the I.E.P. and conduct transition meetings with the student, the student's families and the special education team from the sending school. Goals will be reviewed to insure that they align with the DMHS junior high program. Progress will be monitored by both the special education provider and the student's advisor via observation, weekly written samples, Khan academy mastery assessments, participation in seminar, mastery quizzes and end of unit assessments, and NWEA MAP assessment.

Montessori education is an ideal match for serving students with disabilities. All students are educated in an individualized manner, with personal goals and personalized progress monitoring. Lessons are presented in small group format with multiple opportunities to check for understanding, ask questions, and demonstrate knowledge. All lessons are differentiated to meet the needs of attending students. Students are then allowed to demonstrate learning in a wide variety of ways. In Montessori, the special education provider is integrated into the classroom, working side by side with all students, with and without I.E.Ps. At the same time, the special education provider insures that students with I.E.Ps are receiving the required minutes of service. If the special education teacher needs to meet with I.E.P. students one on one or in small groups, the schedule easily allows for these types of pull-out lessons.

Secondary Montessori Special Education involves awareness of the student to understand his/her disability and learning style. Much like regular education, DMHS encourages students to become self-directed learners and find strategies that work for them. As they ready themselves for the next level, students learn to become increasingly more independent in their learning. They learn to ask for help from a variety of resources and ask for accommodations based upon their need. Students learn to be their own best advocates and are then able to carry this skill to college and post secondary careers.

A student's disability is treated as a learning difference. In Montessori, students recognize that all students learn differently, and staff works with all students to determine optimal learning styles. Because of this culture, students with disabilities leave behind much of the stigma around being a different type of learner. Instead, they embrace their differences, understand strategies they need to succeed, and work with the special education provider and their teachers to receive accommodations necessary for academic achievement.

The strategies used by the special education provider will vary depending on student disability. The provider will use the existing Montessori materials, key lessons and curriculum as the basis for instruction. If a student requires additional, outside curriculum such as Wilson Reading Systems, the special education provider will consult with DPS to determine the most current highly effective curriculum for the specific targeted intervention. Any outside curriculum used will be scientifically proven to help students with that particular targeted intervention. For our high school students with I.E.P.s, the special education provider works with the student, the student's family, and the student's advisor to create transition plans to assist the student in identifying and

determining post secondary options.

### **E. Academic Intervention and Acceleration**

The DMHS schedule is designed so that teachers are easily able to schedule and conduct small group lessons. These lessons are created to meet the needs of the variety of learners at DMHS, including special education, ELL, gifted and talented and intervention students. There are key lessons to advance the curriculum, targeted intervention lessons for students demonstrating a need for additional support, and challenge lessons for students demonstrating a need and ability to work beyond the established curriculum. Montessori education uniquely supports all types of learners because of its focus on individualized education.

During the Wednesday afternoon staff data team meeting, the principal and the teachers review data gleaned from the NWEA Map assessments, Khan mastery challenges, and the rubric evaluated writing samples along with observations, and body of evidence including student portfolios. Through these meetings, staff determines what students are succeeding with minimal intervention and therefore are only needing key lessons. Staff also identifies students who are lagging behind their peers and demonstrating weak progress. Staff collaborates and determines what targeted lessons these students require and plan for those lessons. Staff work together to determine specific interventions and documents success or lack of success of these interventions in a secured, shared document format. If students continue to demonstrate a lack of success after different interventions are attempted, the student may need special education services and will be referred to the student intervention team for further evaluation.

Targeted interventions in math include revisiting the elementary Montessori math materials. These materials provide concrete representations of advanced math concepts in a manner that allows students to understand the concepts with their hands as well as their heads. Additional targeted intervention includes small group lessons that meet students at the level they need to make progress. Khan Academy supports these interventions as it is designed to meet the individual skills and challenges required by the individual student.

Targeted interventions in reading include small group lessons or one-on-one assistance depending on the individual student's needs. At this level, deficiencies are often in fluency and/or comprehension. Comprehension can be improved by working with students to practice pulling out important information or highlighting. Fluency typically improves with practice, practice, practice as most struggling readers avoid reading. Teachers create safe, small group lessons that allow students to practice reading. Students are allowed to choose their literature books, from a list generated by the school, so that they have more ownership of the books that they are reading.

Montessori education meets the needs of students requiring additional challenge. Montessori students determine what follow up work they want to investigate within the curriculum. Because of the open-ended nature of this type of approach, students are able to take their follow up work as wide and as deep as they choose. Presentations of learning can be accomplished using a variety of modalities including PowerPoint, dramatis personae, extended essay, song writing, poetry and creating physical models. The goal of the teachers and student advisors is to insure that students are working a

majority of the time to the top level of their ability. Should a student demonstrate a lack of engagement, the student's advisor will meet with the student to determine what additional skills a student requires to reach the next level of learning. These challenge lessons will then be designed and delivered.

Dr. Mihaly Csikszentmihalyi through his research created a chart that demonstrates optimal flow or engagement. (Flow, the Psychology of Optimal Experience, p. 74) The chart demonstrates that optimal flow, or engagement, occurs at the intersection of challenge and skills. If a person is experiencing high challenge and low skills, the result is anxiety. If the person is experiencing high skills but low challenge, the result is boredom. The goal at DMHS is to insure that students are fully supported so that they are working at the exact intersection of high challenge and high skills in order to make optimal academic along with social and emotional progress. At DMHS, a high school student who is at risk of dropping out or not graduating is identified long before the situation becomes a crisis. Through DMHS data tracking and assessment systems, staff is aware of students who are not making adequate academic progress. Advisors work with the student and the student's family to create a plan for the student to get back on track. Student advisors create professional, trusting relationships with students so that they are aware if a student is experiencing challenges beyond school that affect their ability to succeed at school. In this event, advisors will link the student and the school psychologist / social worker to insure the student is getting support needed outside of school to succeed at school. Students needing additional academic support will receive this support through the Rtl process. If a high school student is still struggling with obtaining credits necessary for graduation, the student, the student's advisor, the student's family and the high school program director will meet to create a graduation plan that may include summer studies, on-line education, partnership with other DPS schools, an additional year at DMHS, and any other support necessary to insure that the student graduates ready and able to attend college or succeed in a career.

## **F. Gifted and Talented Students**

Montessori education is an ideal match for students who are identified as gifted and talented. Because the majority if not all of the students will be coming from DPS Montessori schools, most of our gifted and talented students enter identified and have ALPs. DMHS has a part-time gifted and talented teacher who reviews the ALPs of all incoming GT students and discusses the ALPs with sending teachers and GT coordinators. The GT teacher meets with the student's family and the student's advisor to review the ALP and discusses how best DMHS can support the student towards reaching ALP goals.

Montessori students determine what follow up work they want to investigate within the curriculum. Because of the open-ended nature of this type of approach, students are able to take their follow up work as wide and as deep as they choose. For GT students, further connection to challenging curriculum may be required. Depending on the situation, this occurs via connecting the students to outside experts related to the Occupation, having the student research and co-teach with staff key lessons, having the student design and implement management roles, and having students create polished, professional presentations that can be shared with the greater community. For High

School, students can take online coursework that better meets their academic level and/or can concurrently enroll in college coursework. Students can also create and co-teach with staff elective coursework and test preparation classes.

All of these options will be available to all students, regardless of if they have a GT designation or not. This will allow students who perhaps qualify for GT designation but have chosen not to pursue the designation to also work at their highest levels. If a DMHS student who does not have a GT designation and who demonstrates the potential to qualify for GT designation and also they (or their family) desires to pursue the GT designation, the principal and GT teacher will follow the GT designation criteria as outlined on the DPS Gifted and Talented website to determine if the student qualifies for GT services.

### **G. Supplemental Programming**

Montessori adolescent programs are designed to address the social, emotional and mental well being for students. The advisor model and three-year cycle are designed so that teachers create professional, positive relationships with students and are able to understand students' abilities at a far deeper level than if they only had students for one class or one year. During this time, the student's advisor is also able to create positive partnership with the student's family so that there is an entire network of communication and support for students. Throughout Montessori education, students are strongly encouraged to develop and use their voice to advocate for themselves and to figure out solutions to their challenges with adult support. If a student requires further intervention than the advisement model can support, the advisor will connect the student to the school psychologist / social worker so that he or she can determine appropriate resources for the student.

Nurturing physical health is also a core value of Montessori. One of the purposes of the urban farm is to connect students to a wide variety of organically grown food. The food grown will be added to the school lunch program so that students have fresh vegetables that they have grown themselves. The outdoor work is physical and requires students to challenge themselves in order to complete the required tasks. Because the students are working side by side with their friends and with an adult, the students participate generally with a positive attitude. One of the Occupations is focused on adolescent development, nutrition and health. Students learn the science of adolescent development and nutrition, and have the opportunity to ask questions and discuss the negative effects of alcohol and drug use on the developing brain.

Another core value of Montessori education is the creation of positive communities. There is extensive conversation regarding creating community, supporting positive behavior and being inclusive. Students are invited to bring up community concerns at daily advisement meetings and weekly community meetings. Behavior that resembles bullying, exclusivity, discrimination, prejudice and any other non-inclusive behavior is immediately addressed and processed with involved parties. Montessori students take pride in their healthy communities, and they advocate in a variety of ways to maintain them.

The junior high students participate in a program called "Residential Life" that allows for activities that typically happen after school. These activities include drama, sports practice, woodworking, dance, music, film-making and arts and crafts. All DMHS



students are welcome to join the DMHS Ultimate Frisbee team. There is a fall and spring season. Depending on student interest, DMHS is also open to providing volleyball and basketball. DMHS partners with North High School for students who are interested in playing and/or participating in North's supplemental programming. DMHS provides transportation to North after school.

## **H. TEACHING**

### **Teacher Recruitment, Hiring, and Retention**

DMHS teachers hold a Montessori certification and/or have attended the AMI / NAMTA Orientation to Adolescent Studies. If a teacher is identified who has not yet obtained Montessori training, they will be required to do so during summer sessions. Every effort will be made to find high quality teachers who already have one if not both of these trainings. DMHS recruits teachers through the NAMTA, AMI, and AMS websites.

DMHS applied for and was accepted in cohort 3 of the Differentiated Roles Grant. In accordance with the original performance application, these funds were used to create two junior high school team lead positions, that we also call junior high program directors. The expectations and requirements of team leads aligned perfectly with the original vision of the program director model. In 2016-17, DMHS will move to the Senior Team Lead model as defined by the Teacher Leadership and Collaboration initiative.

The primary goal for teacher coaching is to create a recursive learning environment where teachers can evaluate and improve their practice through reflective conversation with other teachers, the principal, peer observers and Montessori consultants. Our definition of a recursive learning environment is the process of improving Montessori practice by examining the principles of Montessori theory and how it applies to adolescent education. Colleagues then share their acquired knowledge and skills with one another resulting in the knowledge being reinforced for the "teacher" and spread exponentially among the other staff members. At DMHS, we focus on implementing Montessori theory and understanding adolescent brain development. The school is constructed around how these two factors can be maximized to insure an optimal learning environment.

The tools we use for teacher observation include the Framework for Effective Teaching (LEAP) used by principals and peer evaluators to evaluate Montessori teachers in DPS. Another tool we use is an observation rubric specifically created for DMHS. That rubric includes prepared environment, engagement of students, quality of key lessons, portfolio quality and completion, ability of teacher to link students to high quality follow up work, overall quality of the Occupation including involvement of outside experts, initial engaging experiences (first period lessons), challenging and interesting follow up work (second period) and high quality presentations of learning (third period). The third tool we use is data review. This includes student portfolio review, review of NWEA MAP Assessments and Khan Academy math assessments, review of mastery and end of unit assessments, review of writing samples throughout the year and standardized test results. At least 50% of a teacher's overall evaluation will be based on review of student data.

Page DMHS requires that teachers formally observe each other using the DMHS

Observation Rubric at least twice per year. Staff then uses the results of this observation as an opportunity for recursive learning during integrated staff time. The school leader observes teachers once per month alternating between the Framework for Effecting Teaching Evidence Guide and the DMHS Observation Rubric. This information is brought to staff in a non-threatening way during the data team meetings. DMHS also welcomes observations by LEAP peer observers.

During the weekly staff integration time, there is dedicated time on the agenda to discuss teacher observation and student data. The goal always is to create a recursive and reflective learning environment to insure that we are improving the Montessori program and student outcomes. If personnel issues arise from the observations, that will be handled privately through the teacher evaluation process.

## **Teacher Evaluation**

DMHS follows the Framework for Effective Teaching (LEAP) for formal teacher evaluations as outlined by DPS. This includes partial and full observations with feedback meetings, professionalism and data review.

## **I. Professional Development**

The principal at DMHS is responsible for managing and evaluating professional development. School led professional development is on Montessori education and adolescent brain development. All teaching staff will be required to attend training on Montessori adolescent education such as the AMI Montessori Orientation to Adolescent Education. This five week intensive course of study includes all aspects of adolescent Montessori education. The school also leads professional development on establishing and maintaining a strong cultural infrastructure and cultivating a culture of work, data review, SLO creation, cultural competency, lesson planning and design and creating and evaluating rigorous assignments.

Professional development occurs during the five days preceding the first day of school, throughout the school year, and every Wednesday from 1:45 to 4:30. The Wednesday afternoon data team meetings include data review, discussion on recent observations, curriculum review and student discussion. Staff also meets every morning to review logistics, school culture and student concerns. Also, DMHS holds monthly ninety minute staff meetings on where the primary focus is Montessori theory and understanding adolescent brain development. These staff meetings support the recursive learning environment. The meetings allow for reflective conversation to evaluate and improve practice. Staff improves their Montessori practice by examining the principles of Montessori theory and how it applies to adolescent education. Colleagues share their acquired knowledge and skills with one another resulting in the knowledge being reinforced for the “teacher” and spread exponentially among the other staff members.

## **Section IV: Efficiencies, Cost Savings and**

### **NCLB**

A. What cost savings and/or efficiencies that are projected through attainment of innovation status?

DMHS has obtained cost efficiencies by using primary and secondary source materials and free on-line programs, such as Khan Academy, versus using conventional textbooks. DMHS also uses free resources such as Edmodo, Google Classroom and Google Apps for Education.

DMHS meets or exceeds the salary schedule set forth by DPS for teacher and staff salaries. However, DMHS uses the actual salaries for teachers versus the cost- averaging model. This results in demonstrating the true cost of running a Montessori Junior/Senior high school. DMHS has incorporated into the annual teacher salary, versus as additional costs, time spent on overnight trips, professional development and after school events. This allows DMHS to offer these very important Montessori elements without making the cost of the school program prohibitive.

By having innovation status, DMHS is able to complete the hiring process on a schedule that more closely aligns with the hiring window for high quality Montessori teachers. This includes posting positions as early as December in the preceding school year and hiring teachers as early as January in the preceding school year.

B. Will the school continue to comply with the Highly Qualified Teacher requirement of No Child Left Behind?

DMHS works closely with Denver Public Schools' Human Resources Department to insure that the school is in compliance with the Highly Qualified Teacher requirement of No Child Left Behind.

## **Section V: Three -year Goals**

At DMHS, we have created the following three year goals to guide instructional planning and decision making. These goals are aligned with our UIP.

**Major Improvement Strategy 1:** Implement, through data analysis, individualized student math targets to improve 8th grade math proficiency.

**Three-year Goal:** By 2018, 50% of 8th grade students will be at grade level in math as measured by the end of year MAP math assessment, and 40% of 8th grade students will meet or exceed expectations as measured by PARCC math assessment.

**Performance Priority Challenge 1:** After careful review, Fall 2015 MAPs data demonstrates that only 29.5% of current 8<sup>th</sup> grade students are at grade level in math. 2015 PARCC data indicates 14% of 7th graders met or exceeded expectations.

**Root Cause (1):** Math instructors did not use the data tools to extract the optimal amount of information necessary to plan for instruction. Although we were collecting data via Khan Academy and the SMI, teachers were not closely reviewing the Khan mastery challenges to determine what skills the students were mastering, and what skills the students needed additional re-teaching. Also, we tracked global progress using the SMI data, but we did not appropriately drill down into the data to determine what specific gaps students had.

**Major Improvement Strategy 2:** Design reading groups for ELL students to provide additional sheltered instruction in reading and comprehension.

**Three-year Goal:** By 2018, 75% of DMHS identified ELL 8th grade students will measure at “Approaching”, “Met”, or “Exceeds” expectations as measured by the PARCC. ELA assessment.

**PPC2:** On average, DMHS students made higher than expected growth in reading for 2014/2015 as measured by the Scholastic Reading Inventory (SRI). However, 100% of students who did not meet the average growth expectation in reading as measured by the SRI, and who are also basic or below basic, are English Language Learners (ELL) or have an IEP. 2015 PARCC Data indicates that 32.6% of 7th grade students met or exceeded expectations on the ELA assessment versus 40% of 8th grade students. 100% of DMHS ELL students were in 6th or 7th grade in 2015.

**Root Cause (2)** ELL students have not received sustained sheltered instruction for reading literature. All DMHS teachers are ELA-E and give second language students sheltered instruction within the classroom. However, ELL students have not had sustained, sheltered instruction regarding reading and comprehending literature.

**Major Improvement Strategy 3:** Implement a school-wide post-secondary initiative.

**Three-Year Goal:** 100% of DMHS 11th grade students will be prepared academically, socially and emotionally and have the tools they need to apply to a four-year college or university.

**PPC3:** DMHS is growing one grade level per year, and this is the first year we have a 9<sup>th</sup> grade cohort. Thus, zero of the new high school students have been exposed to post secondary opportunities at DMHS.

**Root Cause (3)** DMHS has not had 9<sup>th</sup> grade students prior to this year, and therefore have not created nor implemented a post secondary plan.