

St. Catherine University

SOPHIA

Masters of Arts in Education Action Research
Papers

Education

5-2015

Public School Administrators and Montessori Education

Katy Wright

St. Catherine University, kmwright@stkate.edu

Follow this and additional works at: <https://sophia.stkate.edu/maed>



Part of the [Elementary and Middle and Secondary Education Administration Commons](#)

Recommended Citation

Wright, Katy. (2015). Public School Administrators and Montessori Education. Retrieved from Sophia, the St. Catherine University repository website: <https://sophia.stkate.edu/maed/120>

This Action Research Project is brought to you for free and open access by the Education at SOPHIA. It has been accepted for inclusion in Masters of Arts in Education Action Research Papers by an authorized administrator of SOPHIA. For more information, please contact amshaw@stkate.edu.

Public School Administrators and Montessori Education

An Action Research Report

By Katy Wright

Public School Administrators and Montessori Education

Katy M. Wright

Submitted on May 6, 2015

in fulfillment of final requirements for the MAED degree

St. Catherine University

St. Paul, Minnesota

Advisor_____

Date_____

Abstract

As the Montessori method of education bursts into the public education sector, public school district administrators are finding themselves leading Montessori programs without any Montessori training. Through surveys and individual meetings, this action research project examines traditionally trained administrators' knowledge and perceptions of Montessori and how these perceptions affect support of a public Montessori program. This research shows that an increase in knowledge of Montessori philosophy, practice, and outcomes does indeed increase support for a Montessori program.

The Montessori method of education is exploding into the United States public education sector. However, the popularity of Montessori education in the United States has ebbed and flowed over the past century. The first phase of the growth of the Montessori method of education in America, from 1911-1918, was led by Montessori herself and proponents like Thomas Edison and Alexander Graham Bell (American Montessori Society, 2015). Montessori popularity again surged in the U.S. from 1952-1979, and this time the movement was led by progressives who found “Montessori’s utopian vision of social harmony” (Whitescarver&Cossetino, 2008, p. 14) a good fit for their goals of desegregation and poverty amelioration. The current phase of the Montessori movement is being led by parents and educational reformers who are focused on whole-child strategies and achievement for all students and “has the potential to reframe the national conversation about educational reform” (Whitescarver&Cossetino, 2008, p. 21). New Montessori public programs and the growth of existing Montessori public programs account for much of Montessori’s current expansion in this country (Whitescarver&Cossetino, 2008). Recent census information shows that, in addition to four decades of steady growth, close to 300 new public Montessori programs have been started since 2000 (National Center for Montessori in the Public Sector, 2014).

Research into Montessori student achievement is getting the attention of educational leaders and reformers, most notably “in 2006 by the publication in the prestigious mainstream journal, *Science*, with research findings indicating significant performance gains for children educated in Montessori schools” (Whitescarver&Cossetino, 2008, p. 21). As the Montessori method of education continues in this current phase of growth in the public sector, many existing Montessori public programs are poised to grow. The parent demand for these programs far exceeds the available lottery slots in many of these Montessori public programs. One school in

Washington, DC has received 756 applications for 60 spots, with a waiting list of 348 children (Wexler, 2014).

New Montessori public programs are being started as charter schools, by grassroots parent groups within existing public school districts, and by Montessori trained school staff converting traditional classrooms to the Montessori method of education. As a result, many traditionally trained public school administrators are finding themselves leading Montessori programs with no training. This action research project is a study of the perceptions of traditionally trained administrators about Montessori and the relationship between knowledge of authentic Montessori methods and support of Montessori programs in a unique public school environment.

The Montessori program discussed in this research project was started in a public school district 25 years ago by a grassroots parent organization. This Montessori program has grown to three pods, each with two lower elementary classrooms and one upper elementary classroom, which are housed in three of the eleven public elementary schools. The parent group intentionally placed the Montessori pods within traditional public school buildings with the hope that Montessori education philosophy and practices would spill over to traditional classrooms. No administrator in this school district has specialized Montessori training. Yet, some of these administrators lead schools that have lower and upper elementary, multi-age Montessori classrooms with certified Montessori educators within their walls. All of the administrators selected for this research work with families and students who are eligible for the Montessori lottery in the district. In addition, these administrators work with teachers in their buildings who are asked questions about the Montessori program. These families and teachers frequently go to their building administrators to seek knowledge about Montessori education and the district's Montessori program. The annual demand for the Montessori program in this district exceeds the

available spots in the lottery. In 2014, this Montessori program received 90 applications for 36 spots. This public Montessori program is positioned to grow.

The following literature review will examine findings from studies about general public knowledge of Montessori, the issues that face public Montessori programs, the importance of administrative support in the success of educational programs, how administrators experience their own professional development, and current research into Montessori outcomes.

Literature Review

Knowledge of Montessori

Angela Murray (2008) has published the only existing national survey in the United States on the public's knowledge of Montessori education. The purpose of Murray's study was to measure the general public's knowledge of Montessori education and details about Montessori practice. Specifically, this study answered the following research questions: (1) How much does the general public know about Montessori education? (2) What are the general public's perceptions of Montessori education? (3) What attitudes and demographic characteristics are associated with positive perceptions of Montessori education? Murray found that of the 1,520 representative survey participants, 67% had heard of Montessori education and 33% had not. Of the 1,025 people who reported having heard about Montessori education, only 4.6% felt that they were very knowledgeable about Montessori. Twenty-five percent of the 1,025 people who had heard about Montessori self-assessed themselves to be not at all knowledgeable about Montessori, with the remaining percentages reporting their knowledge as variations of somewhat knowledgeable. Murray also found that certain demographics affected knowledge about Montessori. The research showed that those who had heard about Montessori were more educated than those who had not. Murray's study showed that 67% of the people who had heard

about Montessori were Caucasian, compared with low percentages in the teens and single digits of various minority groups. The research showed that gender did not seem to affect whether or not someone knew about Montessori education.

Murray went on to ask those who had heard about Montessori whether their impressions of Montessori education were positive or negative and found that women, older people, and lower income people had more positive perceptions about Montessori education. The study also found that people who were more knowledgeable about Montessori education were more supportive of Montessori education. Murray then measured respondents' knowledge about specific aspects of Montessori education regarding materials, teacher training, and philosophy. The research showed that the best-known facts about Montessori education are that there are hands-on materials and that the focus is on children having motivation and reaching their potential. The least known facts were the emphasis in Montessori classrooms on self-control with a lack of outside praise and extended uninterrupted work times (Murray, 2008).

Issues Facing Public Montessori Programs

Another study by Murray (2005) collected information from 85 leaders in public Montessori elementary schools specifying the challenges they face in the traditional public school environment in the United States. This study showed that most of the public Montessori schools surveyed were able to navigate the balance between offering an authentic Montessori program and meeting state and federal testing requirements. However, most schools in this study could not meet the demand for the Montessori programs and have turned to lottery systems for admission. In addition, budget cuts and finding qualified Montessori teachers topped these administrators' lists of challenges. The study also confirmed that administrators in public

Montessori schools want more student academic achievement information from Montessori programs (Murray, 2005).

The Importance of the Administrator

Studies have been done regarding the role of administrator knowledge and support in the success of educational programs. Wylie (1998) found that administrators' knowledge of Montessori practices and philosophy is necessary for effective leadership. For a Montessori program to be successful, the administrators should take Montessori training and demonstrate an indisputable commitment to the Montessori program. Administrators who are unlearned about Montessori are detrimental to the success of a Montessori program. For example, Wylie (1998) suggests that when administrators do not understand the assessment methods particular to Montessori education, "misassessment is equal to miseducation".

Respondents were unanimous in reporting that they need administrators who are educated about Montessori... An administrator not adequately knowledgeable about Montessori education is seen as a major handicap to the work of assessment of Montessori students and to the success of a Montessori program (Wylie, 1998, p. 145).

In Wang's (1992) study about the successful implementation of a Montessori public program, the principal was Montessori trained. "It is possible to conclude that the district's top administrators had also been prepared and that such a preparation resulted in a positive outcome for the design action team" (p. 288). Murray (2005) found that one of the biggest obstacles to the success of public Montessori programs is the deficit of Montessori knowledge in administration. "The greatest opportunities to strengthen the Montessori programs in these schools were in the areas of ...administrator certification..." (p. 51). School district administrations play an important role in the adoption of new programs. Programs like

Expeditionary Learning Outward Bound, which was started at Harvard School of Education, are typically started as charter schools with the administrator team already educated, motivated, and part of the design team (Expeditionary Learning Outward Bound, 2011).

There have also been studies done about the importance of administrator support in the happiness and job satisfaction of teachers and in the success of a school environment. One study found that administrative support had the most powerful effect on teachers' job satisfaction (Lasseter, 2013). Coulter (2010) found that strong administrator support was considered essential for teacher happiness by 100% of those interviewed. Research on the role of superintendents has found that one of the six key leadership components of the superintendent is expert knowledge of curriculum and instruction (Devono, 2009). The superintendent is responsible for the foundation and expansion of an effective learning environment. These studies highlight the important role an administrator's knowledge plays in both the success of educational programs and the school environment.

Educating Administrators

Research has been done regarding effective means of communication between administrators, school staff, and teachers. Ewing (2008) found that data was the most persuasive force in decision-making and that working toward a shared goal created a unified community. A shared inquiry approach helped teachers and administrators to collaboratively improve (Gregory, 2008).

Research shows that principals want experiential learning, collaboration and time to reflect and evaluate new learning (Crawley-Shinault, 2008). Research on adult learning in general shows that one aspect of adult learners is that they have a need to pare content down to what they need to know (Knowles et al., 2005).

Current Research on Montessori Outcomes

Over the past decade, research has been done to validate the effectiveness of Montessori education. Studies show that Montessori students in Montessori schools outperformed district results in 44 out of 46 comparisons and by an average of almost twenty percentage points (Angela K. Murray, 2015). A study by Lillard (2006) shows that Montessori students outperformed traditional students on reading and math standardized tests, in positive playground interactions, and had more advanced executive functioning skills. Another study (Dohrmann, et al., 2007) shows that early gains Montessori students make endure even when students return to traditional classrooms.

Description of the Research Process

Participants were sent an opt-in form (see Appendix A). This form invited selected administrators to participate in this research and detailed the requirements and benefits of the process. After the 13 district administrators from different buildings returned the signed, opt-in forms, the participants completed two anonymous online surveys that they received from the researcher via email. One was a self-assessment of their knowledge of Montessori education and a scaled self-assessment of their level of support of the Montessori program in the district they serve (see Appendix B). This survey also asked participants to identify areas of information that would help them communicate to families about the Montessori program. The second survey was a feedback form designed to elicit these administrators' actual knowledge of Montessori practice, philosophy and outcomes (see Appendix C). The researcher used a self-designed document called "Essential Elements of Knowledge of Montessori Philosophy, Practice, and Outcomes" (see Appendix D). The participants had two weeks, over a holiday break, to complete these surveys. After analyzing the responses on both surveys, identifying requested

information, holes in understanding, and misunderstandings about Montessori education, the researcher developed a multimedia presentation specifically designed for these administrators (see Appendix E).

This multimedia presentation was delivered to the participants at their monthly administrator meeting. After the presentation, participants were invited to ask questions and offer comments. The comments and questions centered around access to the Montessori program in the district and student achievement data from Montessori programs. Administrators expressed a desire for access to more data about Montessori student achievement. This feedback and further analysis of the surveys informed the preparation of another presentation of information on Montessori philosophy, practice, and outcomes (see Appendix F). This second presentation was sent to the participants via email in the form of a link to a dropbox account. This dropbox account had separate folders labeled Montessori philosophy, Montessori Practice, and Montessori outcomes. Each folder included related documents and links to related websites and videos.

One week after this second presentation of information, participants were sent a link to sign up for a ten minute, individual meeting with the researcher. This meeting was used to individualize discussion of Montessori philosophy, practice, and outcomes. In addition, the researcher asked each administrator the same question, “What do you think are the biggest challenges for the growth of the Montessori program in your school district?”

Finally, the last step in this research process was to administer a post survey (see Appendix G). The participants were given one week to complete the survey. After receiving the responses, the researcher was able to analyze the results to see if the administrators grew in

understanding of Montessori philosophy, practice, and outcomes and if their support of the Montessori program in their district also grew.

Analysis of Data

Administrators were asked what sort of information would help them feel more comfortable delivering information about Montessori education. An equal amount of respondents wanted both student achievement data and a general overview of Montessori methods and philosophy. This information was used to develop the presentations for the administrators.

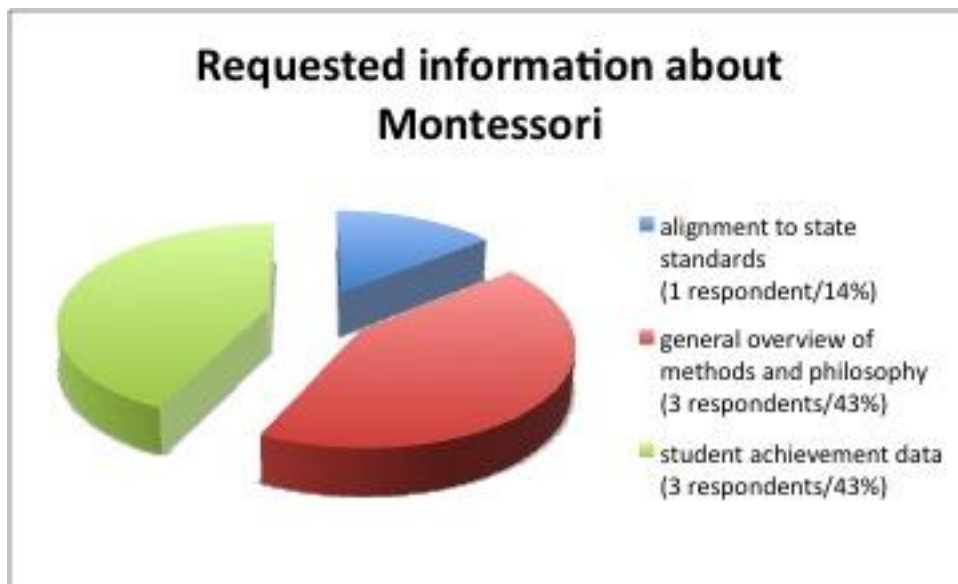


Figure 1. Responses from administrator survey. This figure shows the kind of information about Montessori education these public school administrators wanted.

Results of Self-Assessment survey

On the comfort level pre-survey, over 70% of the administrators rated their comfort level with delivering information in each area as a three or less. From the results of this self-assessment survey, it was clear that the majority of these administrators did not feel confident in their knowledge of Montessori philosophy, practice, and outcomes.

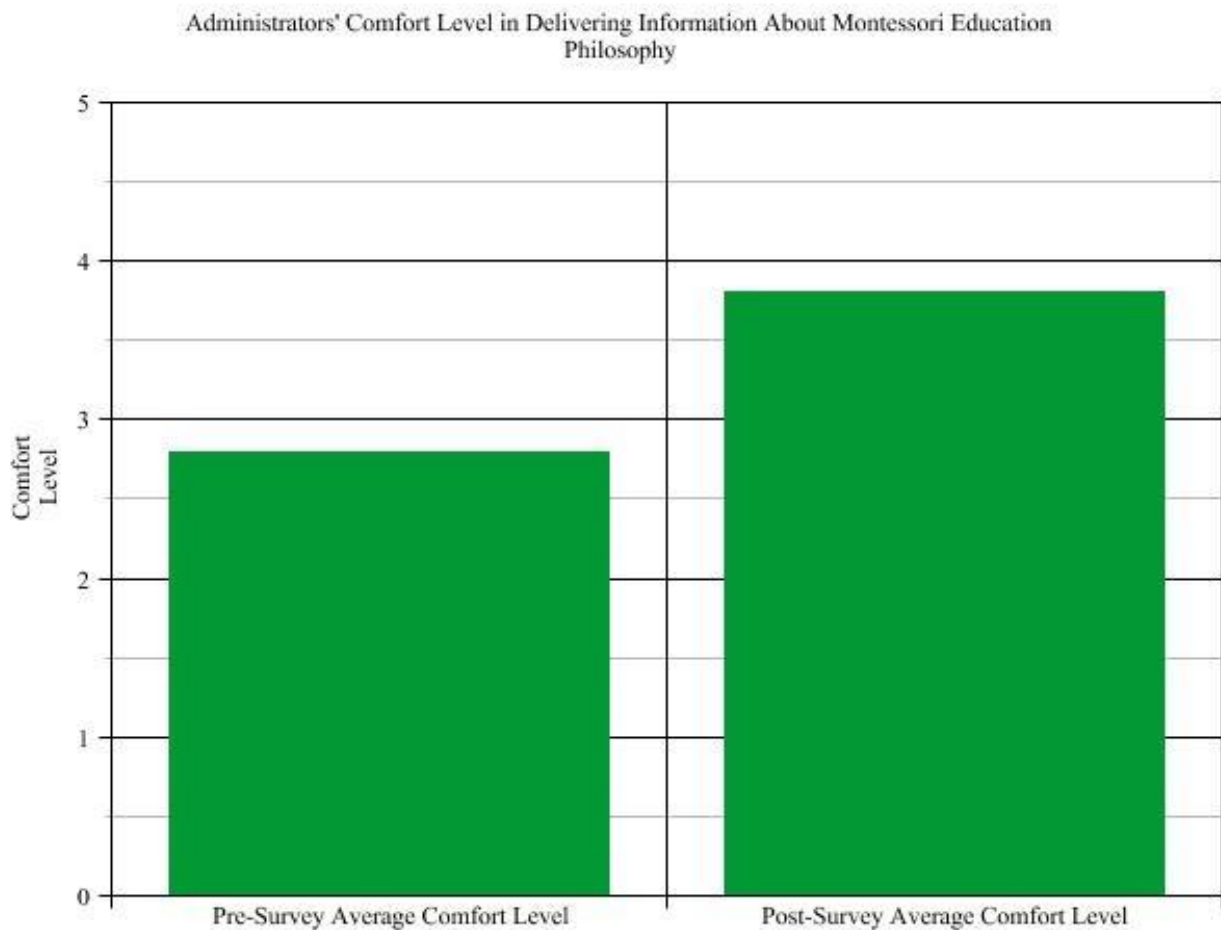


Figure 2. Administrators' growth in comfort level with delivering information about Montessori philosophy.

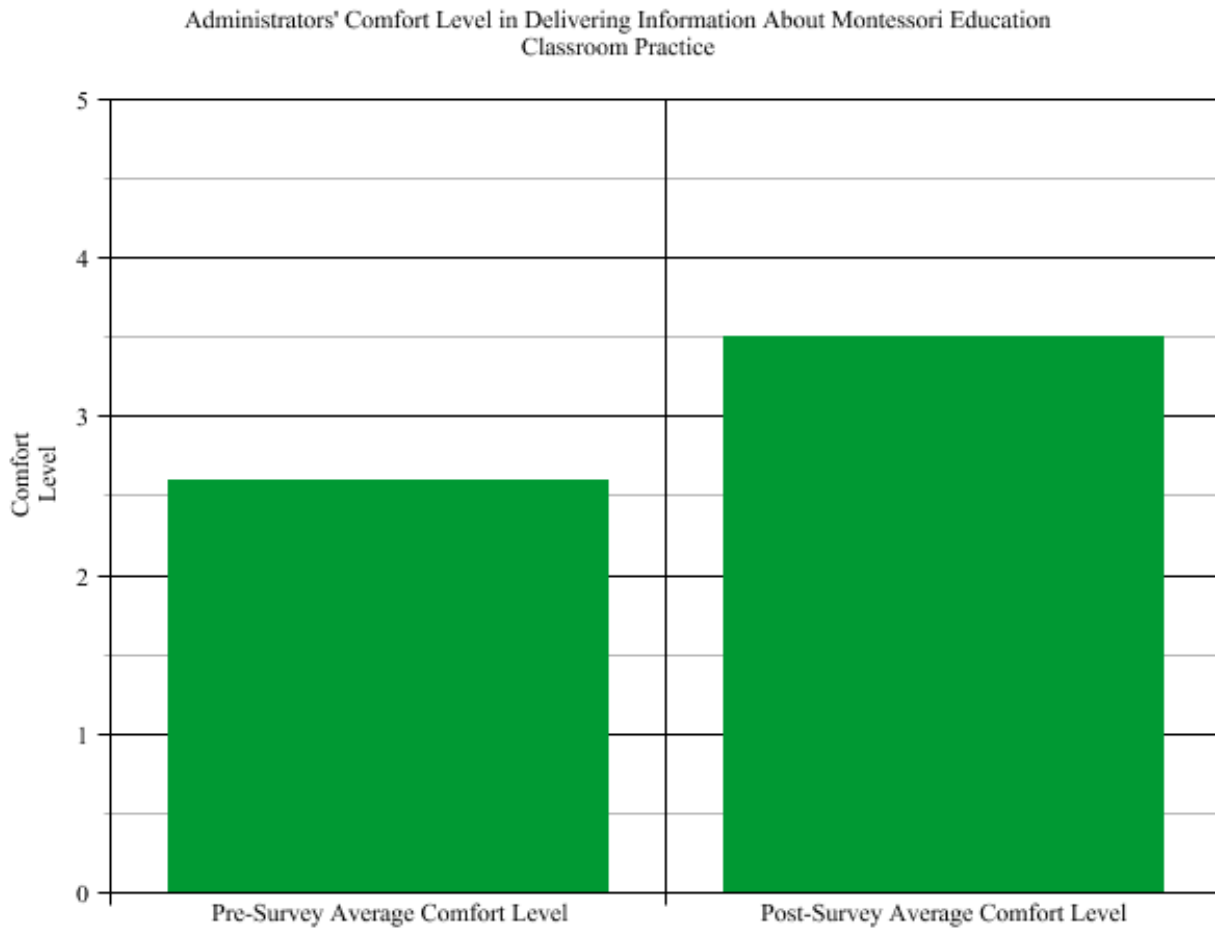


Figure 3. Administrators' growth in comfort level with delivering information about Montessori classroom practice.

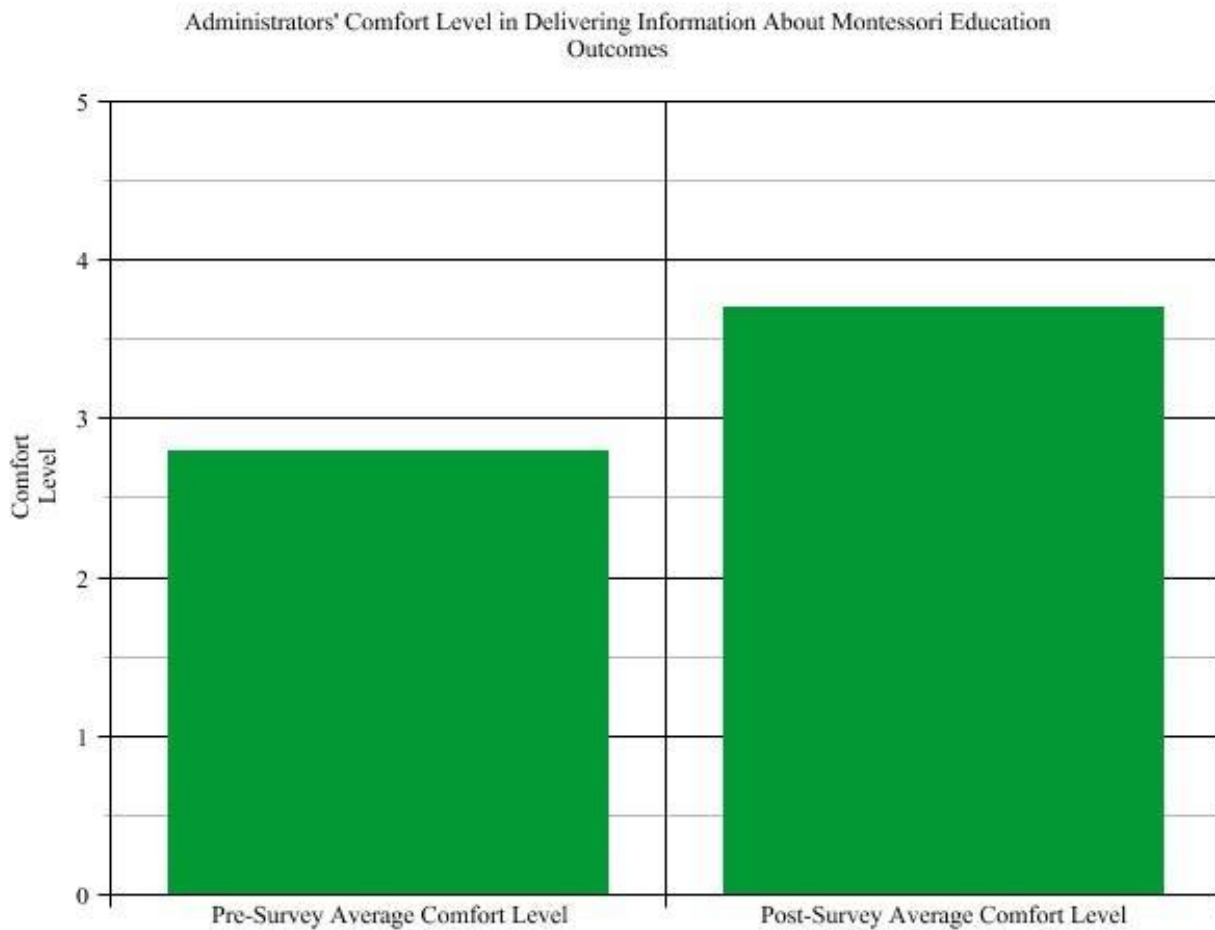


Figure 4. Administrators' growth in comfort level with delivering information about Montessori outcomes.

The final question on this survey asked respondents to rate their support (on scale of one to five with five being the most supportive) for the Montessori program in the district in which they are administrators. On the pre-survey, the majority of the respondents self-assessed their support of the Montessori program in their district as a two. On the post-survey, the majority of the respondents self-assessed their support of the Montessori program as a four or five.

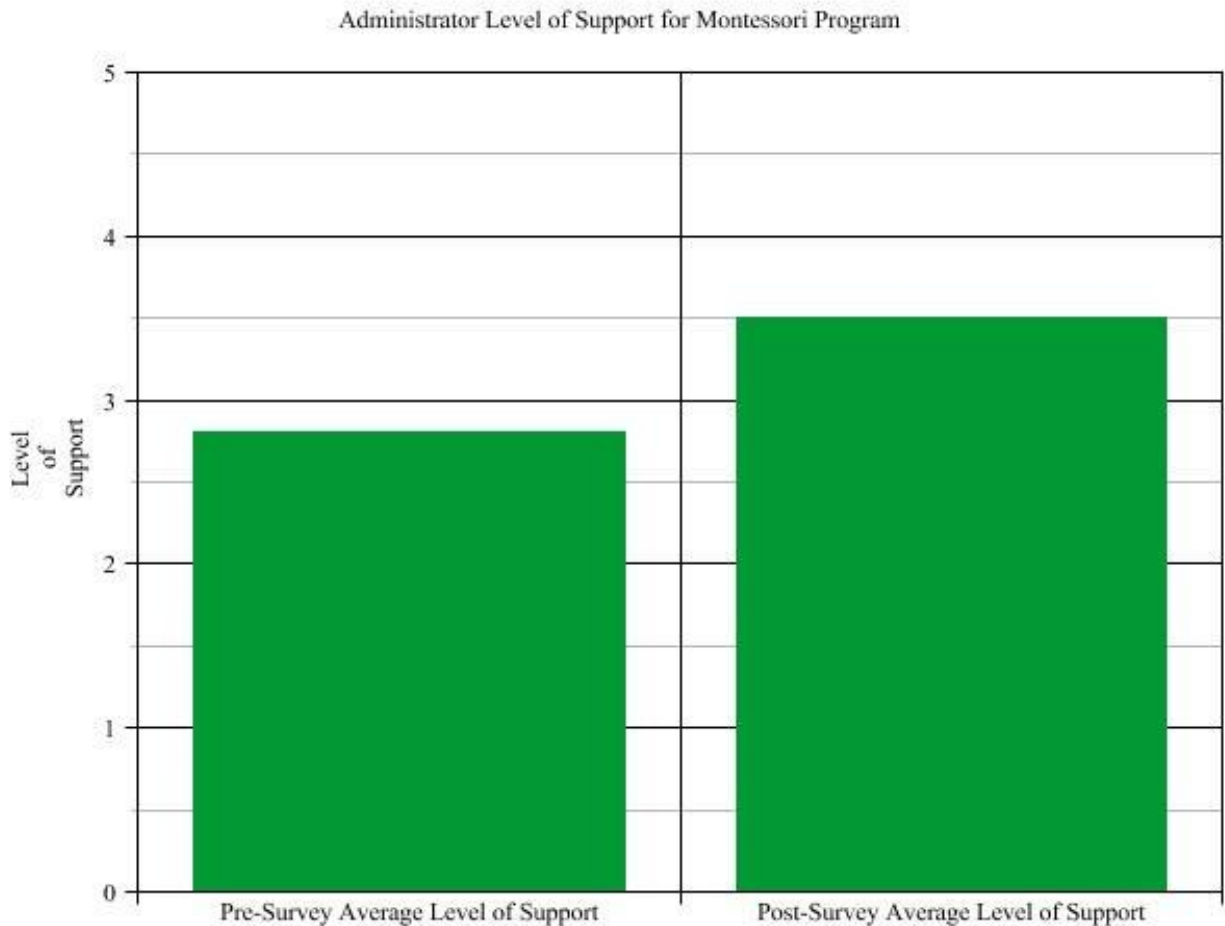


Figure 5. Administrators’ level of support for the Montessori program. Post-survey results show that the administrators’ level of support for the Montessori program in their district grew by 25%.

Results of Knowledge of Montessori Philosophy, Practice, and Outcomes Survey

One hundred percent of participants completed this pre and post-survey. One hundred percent of participants answered the yes/no and comfort level questions on both the pre and post-surveys. However, only a portion of participants answered the follow up, fill-in questions, like “What does follow the child mean?” Seven participants answered this question on the pre-survey, while nine participants answered this fill-in question on the post-survey, indicating a

greater comfort level with the material. In addition, the administrators answers to the fill-in questions on the post-survey were more detailed. On the post survey, one administrator mentioned observation as an important part of following the child and one administrator quoted Maria Montessori. However, a solid understanding of Montessori's philosophy, "follow the child", would include a mention of a child's planes of development and sensitive periods.

On the pre-survey, only three participants said that they know how Montessori fosters self-regulation, but five participants chose to attempt to answer this question. Three respondents identified two ways that Montessori does foster self-regulation, through choice and self-pacing. One administrator said that Montessori does not foster self-regulation, writing, "I am of the opinion that it really doesn't foster self-regulation. ...my students who had been served in a Montessori room prior to middle school all struggled." In the post survey, two more participants than the pre-survey answered the fill in question, "How does Montessori foster a child's self-regulation skills?" and no answer was negative as in the pre-survey. Answers on the post-survey were more varied, mentioning a child's intrinsic motivation and the teacher's role as facilitator, instead of provider. However a solid understanding of Montessori practice would mention the child's work cycle (get out a work, do it, put it away), taking care of the materials in the classroom, freedom of movement, and how the self-correcting nature of Montessori materials allow a child to self-monitor his own work.

Administrators were asked if they know why Montessori uses multi-age groupings. On the pre-survey, nine of the 13 participants said that they know why Montessori uses multi-age grouping. However, only seven participants answered the follow up, fill-in question. From the pre-survey responses, it was clear that the administrators believe that peer collaboration and mentoring is the main reason for multi-age groupings in Montessori education. Administrators'

post-survey answers to the question, “Why does Montessori use multi-age groupings?” were longer and more detailed. Administrators identified diversity, collaboration, mentoring, and community as reasons for multi-age grouping in Montessori education. However, as in the pre-surveys, still no mention was made of sensitive periods, or developmental windows of opportunity, which are an important part of why Montessori education uses the specific age ranges of multi-age groupings.

Administrators’ post-survey answers to the question, “How do Montessori teachers individualize work for students?” show a growth in knowledge about individualization in Montessori education. On the pre-survey, the administrators mentioned work plans and assessment as ways to individualize work for students. On the post-survey, administrators identified the Montessori teachers’ ongoing scientific observation of the child as an integral part of individualizing work for a child.

On the pre-survey, fifty-four percent of the administrators said that they know about Montessori outcomes. On the follow up fill-in question, “What is your understanding of how Montessori student outcomes compare with traditional student outcomes?”, one respondent stated that Montessori and traditional students cannot be compared because Montessori students have higher parent involvement and fewer Montessori students receive free/reduced lunch. One respondent, in the minority, said, “My experience with students who return to the traditional classroom after exposure to Montessori programs has not been a positive one. In almost every case, those who return really lack basic academic and social skills.” One respondent requested more measurements of whole-child concepts and critical thinking skills from Montessori students. The post-survey shows that administrators’ comfort level with delivering information about Montessori student outcomes grew by 32%. On the post survey, two administrators said

that the data in our district shows that Montessori students perform better in math than traditional students. One administrator said that Montessori students are more engaged and intrinsically motivated than traditional students. While no administrator was as blatantly negative as on the pre-survey, one administrator said, “Those who believe in more traditional approaches feel that Montessori children have fewer social skills because they work on their own at an individual pace and therefore may not transition well to a more traditional and less individualistic program.” These results show that while the data about Montessori student outcomes presented to the administrators was credible, long-held negative perceptions about Montessori education still affect these administrators’ beliefs about Montessori student outcomes.

Results of Individual Meetings

The individual meetings were a chance for the researcher to informally gauge each administrator’s attitude toward the Montessori program. The individual meeting was begun with an invitation to ask questions specifically about the Montessori program in the district, Montessori education in general, or to offer comments about either. Seven out of the 13 administrators expressed support for the Montessori program and a desire to spend time in a Montessori classroom. Several administrators commented specifically on the effectiveness of the Montessori math materials, saying that they wish more teachers had access to these resources. One administrator described Montessori as all best practices summed up in one method. Two of the 13 administrators clearly articulated a negative attitude toward the Montessori program with comments like, “Montessori is not right for everyone and is not a program we should be doing in public education.” Four administrators were neutral in attitude toward the Montessori program, and were seeking answers to questions like, “If this [Montessori education] is so great, why isn’t everyone doing it?” and “If Montessori education is so good,

why aren't we giving it to everyone?" In addition, during the individual meetings, the administrators discussed the challenges that face the Montessori program in their district (see Appendix H).

Conclusion

The Montessori program in these administrators' school district is poised to grow, with lottery demand for the Montessori program exceeding available spots. This research project investigated the administrators' knowledge and perceptions about Montessori education and the Montessori program in their district and found that the administrators' knowledge about Montessori education philosophy, practice, and outcomes was inadequate and in some cases inaccurate. Although the administrators' answers on the post-survey showed more knowledge about Montessori education, there is still room for improvement. Many of these administrators are asking for more information about Montessori education. To successfully and accurately represent Montessori education to others, these administrators must be informed and comfortable delivering accurate and complete information about Montessori philosophy, practice, and outcomes. One administrator from this research project stated after learning more about Montessori, "I don't even know what I don't know." This study found that when the administrators learned more about Montessori education philosophy, practice, and outcomes, their level of support for the Montessori program in their school district increased. This study corroborates other studies that have shown that when knowledge of Montessori education increases, positive perceptions about Montessori education increase as well (Murray, A., & Peyton, V., 2008).

As administrators at Cobb Elementary in San Francisco found out, not being able to communicate the values, practices, and results of Montessori education effectively can have

disastrous effects for a Montessori program (Benham, 2011). While the Cobb program suffered because of a lack of parent knowledge about Montessori, this school district's Montessori program will suffer if the administrators are not well educated about Montessori education. As the fill-in answers on the surveys in this study show, there is still opportunity for these administrators to grow in their knowledge of Montessori education. If the Montessori program in this school district is going to grow, these administrators must be knowledgeable about Montessori education philosophy, practice, and outcomes and must support the Montessori program.

Action Plan

The results of this action research project show that increasing knowledge about Montessori education increased support for a Montessori program. In order for this Montessori public program to grow, more accurate and complete knowledge about Montessori education philosophy, practices, and outcomes needs to be spread throughout the school district. This researcher plans to continue educating the administrators, families, and public school teachers in this district about Montessori education. This researcher would also like to research public school teacher perceptions about Montessori education in her district and compare the job satisfaction of Montessori and traditional teachers. In addition, based on the findings during this project, the researcher has developed a list of suggestions for the school district, the Montessori parent group, and the Montessori Public Policy Initiative (see Appendix I).

References

- Benham, C. (2010). Cobb Montessori: A community crisis illuminating the challenges and opportunities of public Montessori. *Montessori Life*, 22(4), 26-33.
- Coulter, D. S. (2010). *Career decisions: Goodness-of-fit and attrition of teachers in alternative Schools (Ed.D. Dissertation)*. Retrieved from ProQuest Dissertations and Theses (755311140)
- Devono, F. D. (2009). *Superintendent efficacy investigation of a six-component leadership framework for developing effective learning environments (Ed.D.Dissertation)*. Retrieved from ProQuest Dissertations and Theses (305031962)
- Dohrmann, K. R., Nishida, T. K., Gartner, A., Lipsky, D. K., & Grimm, K. J. (2007). High school outcomes for students in a public Montessori program. *Journal of Research in Childhood Education*, 22(2), 205-217.
- Expeditionary Learning Outward Bound. (2011). *Expeditionary learning core practices: a vision for improving schools*
Retrieved from
http://elschools.org/sites/default/files/Core%20Practice%20Final_EL_120811.pdf
- Lasseter, A. (2013). *The effects of classroom autonomy, staff collegiality, and administrative support on teachers' job satisfaction (Ed.D.Dissertation)*. Retrieved from ProQuest Dissertations and Theses. (1432724997)
- Murray, A. K. (2015). *Expanding access to Montessori education: An opportunity for disadvantaged students*. Retrieved from from CUNY Institute for Education Policy website: <http://ciep.hunter.cuny.edu>

- Murray, A. K. (2005). *Identifying challenges to the future of public Montessori elementary Schools*(Ed.D.Masters Thesis). Retrieved from ProQuest Dissertations and Theses. (304993548)
- Murray, A. K. (2008). *Public perceptions of Montessori education* (Ed.D.Dissertation). Retrieved from ProQuest Dissertations and Theses (304544531)
- Murray, A., & Peyton, V. (2008). Public Montessori elementary schools. *Montessori Life*, 20(4), 26-30.
- Wang, S. (1992). *The process for creating and maintaining a Montessori public educational system in an urban community* (Ed.D.Dissertation). Retrieved from ProQuest Dissertations and Theses (303984641)
- Wexler, N. (2014, May 12). *Thirteen DCPS preschools have waiting lists of over 200*. Retrieved from Greater Education website: greatereducation.org
- Whitescarver, K. & Cossentino, J. (2008). Montessori and the Mainstream: A Century of Reform on the Margins. *Teachers College Record*. Retrieved from American Montessori Website: <http://amshq.org/Montessori-Education/History-of-Montessori-Education>
- Wylie, J. (1998). *Administrative leadership in assessment of student progress in Montessori programs* (Ed.D.Dissertation). Retrieved from ProQuest Dissertations and Theses (304435735)

Appendices

Appendix A

Increasing Knowledge of Montessori Philosophy, Practice, and Outcomes

Participant Invitation and Active Consent Form

Dear _____,

I am a fellow educator here in the Helena Public School District #1, a member of the Helena school district Montessori task force, and a St. Catherine University student pursuing a Master of Education degree. An important part of my master's program is the Action Research project, in which I am asking you to participate.

As a Montessori educator in this district, I have chosen to learn about Montessori knowledge and its effect on attitudes toward Montessori programs, and to begin this inquiry with district administrators. I am working with a faculty member at St. Kate's and an advisor to complete this particular project. I will be writing about the results that I get from this research, however none of the writing that I do will include your name, school, or any references that would make it possible to identify outcomes connected to any particular administrator.

When I am done, my work will be electronically available online at the St. Kate's library in a system, called Sophia, which holds published reports written by faculty and graduate students at St. Kate's. The goal of sharing my final research study report is to help other educators who are trying to improve the practice of Montessori education in the public sector.

As a participant in this study, I will ask you to complete an anonymous attitude scale about Montessori and an anonymous feedback form about Montessori knowledge. You will be given one 30-minute, multimedia presentation at a monthly administrator meeting and one 20-minute presentation that you can watch on your own about Montessori philosophy, practices, and outcomes. In addition, I will schedule a short, individual meeting with you. The total time required to participate in this project is approximately 1 ½ hours. Assuming all protocols for protecting participants' privacy are maintained, there are no real risks in this normal educational administrative professional development practice research proposal. There is the potential for you, as leaders in a district which houses a Montessori program, to benefit from increased knowledge of Montessori philosophy, practices, and outcomes.

Please sign this form and return it by December 18, 2014. If at any time you decide you do not want your data to be included in the study, you can notify me and I will remove included data to the best of my ability. If you decide you do not want to be a participant in or your data included in my study, you do not need to do anything. There is no penalty for not having your data involved in the study.

If you have any questions, please feel free to contact me, Katy Wright at kwright@hsd1.org. You may ask questions now, or if you have any additional questions later, you can ask me or my advisor, Nicole Wilcox, at ndwilcox@skate.edu who will be happy to answer them. If you have other research questions or concerns regarding the study and would like to talk to someone other

than the researcher, you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board at (651)690-7739.

You may keep a copy of this form for your records.

Thank you for your time. Please sign to participate in this study with me.

Opt In

I DO want my data to be included in this study. Please respond by December 18, 2014.

Signature of Participant in Research

Date

Signature of Researcher

Date

Appendix B

Montessori Pre Self-Assessment

How do you feel about your comfort level in delivering information about Montessori philosophy?

1 2 3 4 5

I do not feel comfortable delivering information about Montessori philosophy.

I feel comfortable delivering accurate information about Montessori philosophy.

How do you feel about your comfort level in delivering information about Montessori classroom practice?

1 2 3 4 5

I do not feel comfortable delivering information about Montessori classroom practice.

I feel comfortable delivering accurate information about Montessori classroom practice.

How do you feel about your comfort level in delivering information about Montessori outcomes?

1 2 3 4 5

I do not feel comfortable delivering information about Montessori outcomes.

I feel comfortable delivering accurate information about Montessori outcomes.

How did you first hear about Montessori?

- from a family member
- on the job
- college
- from a friend
- Other:

What form of data is most valuable to you? Check all that apply.

- assessment results

- firsthand observations
- student feedback
- parent feedback
- teacher feedback
- Other:

What sort of information would help you feel more comfortable delivering information about Montessori?

On a 5 point scale, please indicate how strongly you agree or disagree with the following statement, "I believe growth of the Montessori program is good for our district."

1 2 3 4 5

Strongly disagree strongly agree

Appendix C

Montessori Philosophy, Practice, and Outcomes

This form will not collect your email or log in information, and the researcher will not know who completed this form.

To answer, just put the words or sentences that come to mind. Do not feel that you have to write whole paragraphs. It is OK to say, "I do not know".

Do you know what "follow the child" means?

- yes
- no

If yes, what does "follow the child" mean to you?

Do you know how Montessori fosters self-regulation?

- yes
- no

If yes, what is your understanding about how Montessori fosters self-regulation?

Do you know why Montessori uses multiage groupings?

- yes
- no

If yes, what is your understanding about why Montessori uses multiage groupings?

Do you know how Montessori teachers individualize work for students?

- yes
- no

If yes, what is your understanding about how Montessori teachers individualize work for students?

Do you know how Montessori student outcomes compare to traditional student outcomes?

- yes

- no

If yes, what is your understanding about how Montessori student outcomes compare to traditional student outcomes?

Appendix D

Essential Elements of Knowledge of Montessori Philosophy, Practice, and Outcomes

Montessori Philosophy

What "Follow the Child" Means:

- planes of development
- sensitive periods within those planes of development
- child's own interests and personality
- a child's natural state is to love learning

Montessori Classroom Practice

How Montessori Fosters Self-Regulation:

- self-initiated work cycle (get a work out, do it, put it away)
- choice within structure
- self-monitoring through control of error of materials
- self-pacing
- grace and courtesy lessons
- freedom of movement

Why Montessori Uses Multi-Age Grouping:

- to meet the environmental needs for the age range in that sensitive period
- peer mentoring and collaboration
- longer relationship with the teacher
- age range in which to learn/master skills

How Montessori teachers individualize for each student:

- observation of the child
- preparation of the environment
- specialized materials and record keeping
- student work plan
- conferencing with the student

Montessori Outcomes

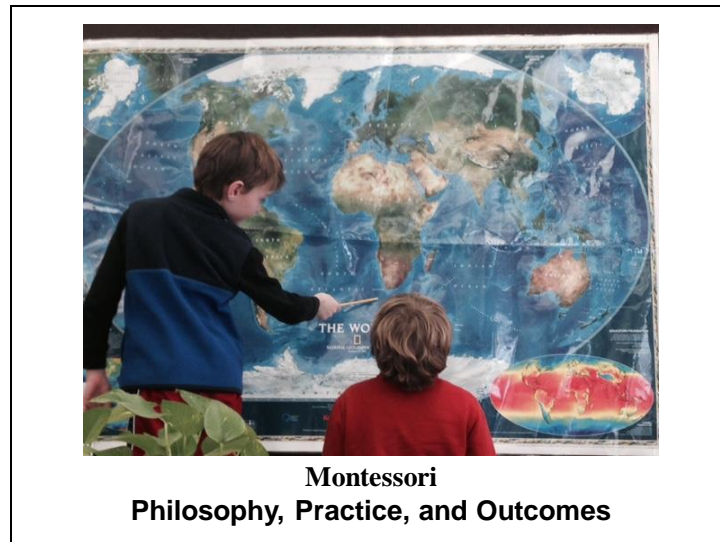
How Montessori student outcomes compare to traditional student outcomes:

- Montessori students perform as well or better on math and reading standardized tests
- Montessori students outperform traditional students in the areas of executive function and creative writing skills.

Appendix E

Montessori Philosophy, Practice, and Outcomes Multi-Media Powerpoint Presentation

Slide 1

**Slide 1**

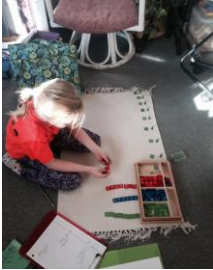

My goal here today is to help you be comfortable talking to families about Montessori and for us to work together to define how we communicate to families and staff about our Montessori program. I am excited to talk to you about this. We are in a school district that has both traditional and Montessori education. We can work together to find a way to communicate about both while honoring all classrooms and all teachers. It has been easy to say “Montessori is right for certain kids” or “Montessori is not for everyone” but that is inaccurate. So let’s talk about what Montessori is.

Slide 2

Montessori Philosophy

A child's natural state is to love learning.

“The greatest sign of success for a teacher...is to be able to say, ‘The children are now working as if I did not exist.’”

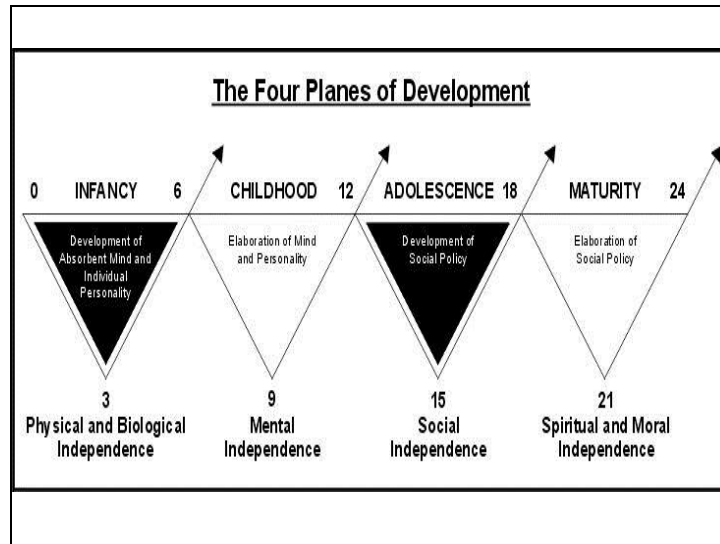


“One test of the correctness of educational procedure is the happiness of the child.”

Slide 2 The philosophy behind Montessori is really simple.

A child's natural state is to love learning. If that is not happening, there is something wrong with the work or the environment, not the child. When a child is loving learning and loving his work and exhibiting long stretches of concentration and engagement, this is called “normalization”.

Slide 3



Slide 3 Dr. Montessori defined 4 planes of development.

She also identified sensitive periods for learning within these stages. Children experience sensitive periods, or windows of opportunity, as they grow. As students develop, Montessori teachers match appropriate lessons and materials to the child in these sensitive periods when learning is most naturally absorbed and internalized.

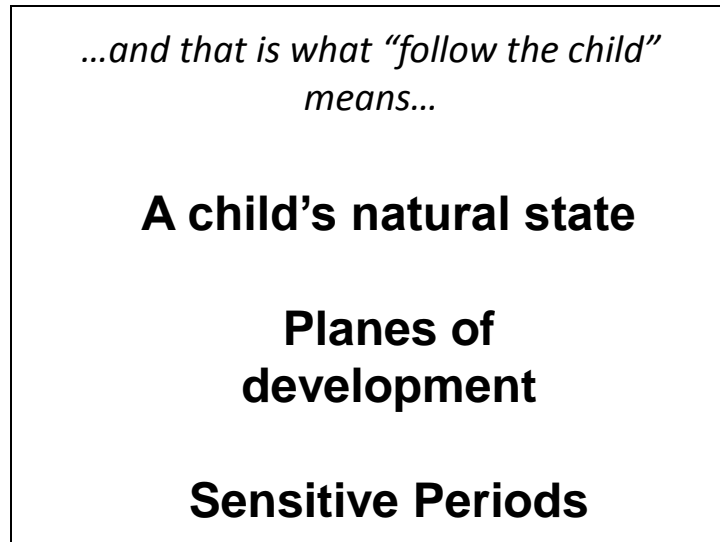
Slide 4

Sensitive Periods	
Age 3-6	Age 6-12
°Language development	°Justice and moral judgments
°sense of order	°social relationships
°coordination of movement	° money and economic value
°sensory development	°the abstract use of imagination
°interest in small objects	°use of tools and machines
°basic concepts in math and music	°a sense of time and history
	°a sense of human culture
	° a sense of how the world works: science

Slide 4 The philosophy is to strike while the iron is hot. The iron is not hot at the same time for all children. Sensitive periods are age ranges in which the iron is hot and in these age ranges the child will naturally be drawn towards those specific aspects of the environment that meet their developmental needs.

Examples of this that we are all familiar with are how learning a foreign language is easier at an early age or a child choosing to have his parents read the same book over and over again which is nature's way of building fluency. (Reading instruction experts say that the best way to increase fluency is repeated readings of the same text.)

Slide 5



Slide 5 The “normalization” of the child

“Follow the child” is probably the most misunderstood element of Montessori philosophy. Most people think that follow the child means that the child just does whatever he wants.

Montessori is very medical in practice. When you go to a doctor, the doctor doesn't say, why don't you tell me what to do. The doctor observes you and your body and listens to you and uses her medical training and medical knowledge to diagnose and treat. A good doctor with extensive training who has known you for a long time is going to diagnose and treat you better. Montessori teachers use their extensive training in child development and their extensive training in scientific observation of the child to decide what lessons and work to present to a child. Then the Montessori teacher gets out of the child's way so that the child can achieve his “normalized” state. The teacher watches and then repeats, like a servant who is invisible and knows when to step in to serve at just the right moment.

Slide 6

Montessori Practice

Differentiation vs. Individualization



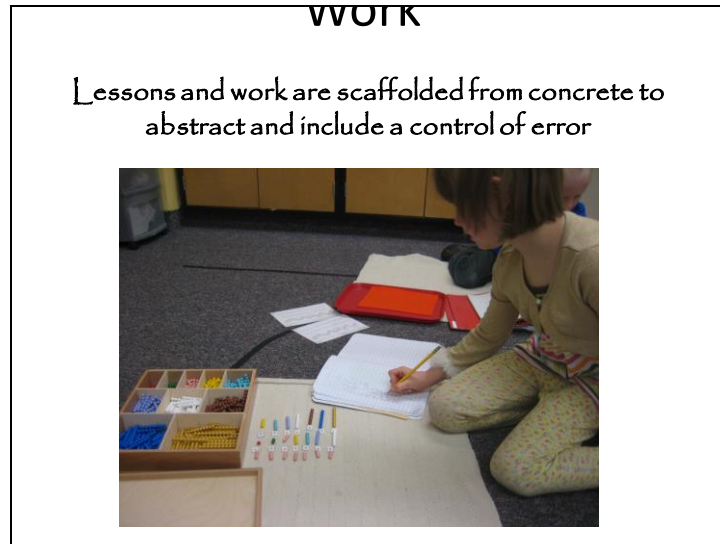
Slide 6 Here is what Montessori looks like in practice in the classroom. Differentiation is when everyone is doing the same thing, just adjusted for skill level. Individualization is when each child is doing something different. While Montessori philosophy is simple – a child’s natural state is to love learning, following the child’s sensitive periods within his plane of development – Montessori practice is not. How does a Montessori teacher individualize learning for all students?

Slide 7

**Slide 7** A Child's natural work cycle

In order for a child to get to that “zone” where real concentration and love of learning is happening, he needs time. A three hour uninterrupted work cycle is part of the Montessori practice. During this long work cycle, a teacher might be sitting and observing, or giving an individual or small group lesson.

Slide 8

**Slide 8** Work

Montessori materials move from concrete (hands on) to abstract (just paper/pencil) and include a control of error. Materials contain multiple levels of challenge and can be used repeatedly at different developmental levels. With materials like this children can self-monitor their own work and their own progress rather than depend on the teacher for right/wrong feedback.

Slide 9

Multi-Age Grouping

*Yes, peer
mentoring
and
collaboration*
And also...

Age range in which to
master skills

Long term relationship
with teacher





Slide 9 Multiage groupings

The age ranges that are chosen to meet the sensitive periods (ages 3-6, 6-9, 9-12) allow the teacher to prepare materials and an environment that meets the needs for that particular sensitive period. The children learn from watching each other, teaching each other, interacting, etc...

There has been lots of research on the benefits of peer collaboration and learning. Some of the other lesser known benefits of multi age groupings are the longer relationship with the teacher and the allowance for a time range in which to master skills, rather than getting labeled after a certain grade level.

Slide 10

Assessment

<p>Star Reading/Math Aims Web</p> 	<p>Observation</p> 
--	--

Slide 10 Assessment in Montessori

Constant observation is the formative assessment used the most in Montessori. STAR reading and math, Aims Web, Successmaker, and Accelerated Reader are all individualized formative assessments that are very valuable to Montessori teachers. The grade leveled math and reading program assessments are less helpful in an individualized, multi-age environment. Common core and Montessori align very well – *if you take off the grade levels*. Montessori materials and lessons meet all common core standards. I will include our alignment documents in the next presentation that I am sending you.

Slide 11


Self-Regulation

Through materials' control of error

Through self-assessment and self-monitoring of work cycle

Through work journals

Through freedom of movement



Slide 11 Self-Regulation and Executive Function Skills

The Montessori teacher prepares the environment so that the child can access, use, and take care of the materials by himself. She gives individual and small group lessons to the children and then gets out of their way so that the children can work and self-assess through the specialized materials. The child, through self-assessment and conferencing with the teacher, can decide and practice choosing where to work, what works to do, when to get a drink, when to wash his hands, and when to go to the bathroom. Giving the child opportunities to work on self-regulation helps the child develop self-regulation and executive function skills. One of the elements that we have here in our district is children transitioning to middle school after Montessori. Sometimes it is hard to go to an environment where you are not allowed to self-regulate. Kids start acting out and losing that “normalization”. Also, these children may still be on the learning continuum of self-regulation. The transition from Montessori to middle school in Helena would be interesting to study and talk about more.

Slide 12

3 Fundamental differences between Montessori and traditional education

Multi-age grouping Individualized lessons and work

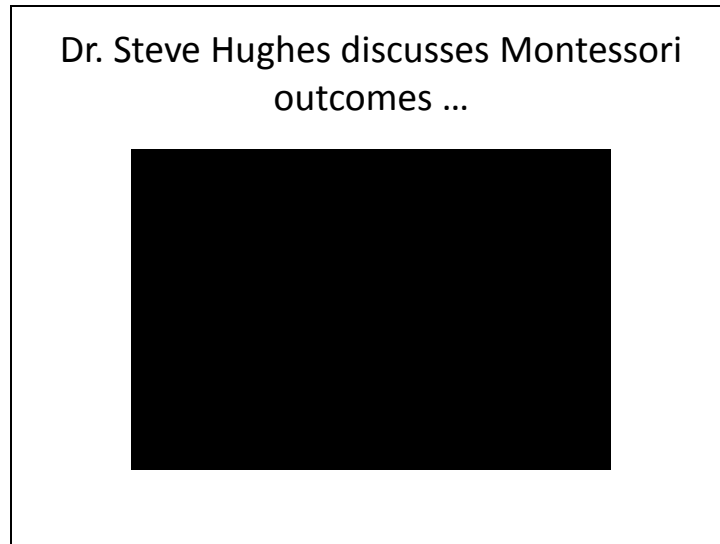
Specialized teacher training and materials



Slide 12 Fundamental Differences

I suggest that the best way to talk about Montessori is by isolating what makes it different from traditional education. If we talk about the relationship with the teacher, you will find that in both. If you talk about engaged learners, you will find that in both. These are the three things you will not find in a traditional classroom. You might see a teacher working individually with a child, but the entire structure of the work and classroom is not set up to be individualized.

Slide 13



**Slide 13**


I know you are all very interested in Montessori outcomes and how Montessori students compare academically and socially to traditionally educated students. As Montessori is growing more in the public sector, more and more research is being done. Probably the most interesting study to date was done in a district that has a lottery like ours. Here is Dr. Steve Hughes from the pediatrics and neurology department at the University of Minnesota Medical school discussing this research. I have a handout for you today that is an overview of the current research on Montessori Education. <https://www.youtube.com/watch?v=LcNvTPX4Q08>

Slide 14

Our Lottery

Montessori
Method of Education

Broadwater School



Smith School



Central School

March 23rd	We Mail letters and
Applications	
April 9th	Orientation
April 17th	Lottery Applications Due
April 22nd	Lottery

Slide 14 Our Lottery

Every year we have 36 openings for first graders into our Montessori program. Last year we had around 90 applicants for those 36 openings. Last year was the first time that we mailed a letter and application to every kindergarten family in the district. This increased the demand for the program, but also helped start to give us a more representative group of children in the program.

Slide 15

Montessori Issues in our District

- Licensure equivalency
- Materials/training costs
- Early education opportunities

Slide 15 There are some interesting things happening with Montessori in our district. Our Montessori program was started by a grassroots parent group 25 years ago. Our non-profit Montessori parent group, up until this year, has paid for all training and materials for our Montessori classrooms. This year, the district took over these costs. It costs about \$10,000 to get all of the materials for a Montessori classroom. These materials can last for over 50 years. You don't have to pay a million dollars to adopt a new curriculum every ten years. Training a Montessori teacher costs about \$10,000 depending on the level. We are doing some work in our state that will help alleviate the cost of training for our district through licensure equivalency. I'd love to talk to you more about the differences between traditional teacher education and Montessori teacher training. Rather than focusing on class management skills like in traditional training, Montessori training gave me the tools and training to meet the individual needs of my students.

-as our district explores growing an early ed program, with possibly a preschool in every elementary school this licensure issue could help

Thank you for allowing me to join you today. For those of you participating with me in my master's project, I will be sending you another presentation in a few weeks that you can watch and click around on on your own.

Slide 16

Sources

American Montessori Society. (n.d.). *Introduction to Montessori*. Retrieved January 27, 2015, from www.amshq.com: www.amshq.com/Montessori-Education/introduction-to-Montessori

Hughes, D. S. (2010, February 9). Dr. Steve Hughes discusses Montessori - Part 1. Retrieved January 27, 2015 from <https://www.youtube.com/watch?v=LcNvTPX4Q08>.

Maria Montessori. (n.d.). BrainyQuote.com. Retrieved January 27, 2015, from BrainyQuote.com Web site: <http://www.brainyquote.com/quotes/quotes/m/mariamonte125856.html>

Montessori Forward. (n.d.). *Montessori Forward*. Retrieved from Montessori Forward: www.montessoriforward.org

Montessori Guide. (n.d.). *Montessori Guide*. Retrieved January 27, 2014, from Montessori Guide: www.montessoriguide.org

Appendix F

<https://www.dropbox.com/sh/hfjrlick2zz9f0o/AABKjTmJWgVnUNnanMNlnpZ4a?dl=0>

Appendix G

Montessori Philosophy, Practice, and Outcomes Post-Survey

This form will not collect your email or log in information, and the researcher will not know who completed this form.

How do you feel about your comfort level in delivering information about Montessori philosophy?

1 2 3 4 5

I do not feel comfortable delivering information about Montessori philosophy.

Five empty boxes for a Likert scale response.

I feel comfortable delivering accurate information about Montessori philosophy.

What does "follow the child" in Montessori education mean?

Small empty box for a short answer.

How do you feel about your comfort level in delivering information about Montessori classroom practice?

1 2 3 4 5

I do not feel comfortable delivering information about Montessori classroom practice.

Five empty boxes for a Likert scale response.

I feel comfortable delivering accurate information about Montessori classroom practice.

How does Montessori education foster a child's self-regulation skills?

Why does Montessori education use multi-age groupings?

Small empty box for a short answer.

How do Montessori teachers individualize work for students?

Small empty box for a short answer.

How do you feel about your comfort level in delivering information about Montessori outcomes?

1 2 3 4 5

I do not feel comfortable delivering information about Montessori outcomes.

I feel comfortable delivering accurate information about Montessori outcomes.

How do Montessori education student outcomes compare to traditional education student outcomes?

What form of data is most valuable to you? Check all that apply.

- assessment results
- firsthand observations
- student feedback
- parent feedback
- teacher feedback
- Other:

What sort of information would help you feel more comfortable delivering information about Montessori?

On a 5 point scale, please indicate how strongly you agree or disagree with the following statement, "I believe growth of the Montessori program is good for our district."

1 2 3 4 5

Strongly disagree

strongly agree

Appendix H

Challenges Facing a Montessori Public Program

Results of Individual Meetings

When the administrators were asked during the individual meetings what they think the biggest challenges for the Montessori program in the district are, several themes emerged. The perception that the Montessori program is elitist and is only for the children of the wealthy and more educated parents in the district topped the list of challenges. The administrators detailed what they believe are the causes of this elitist perception of the Montessori program. The Montessori program in this district was initially set up and funded 25 years ago by wealthy parents in the district in partnership with the district office administrators. In addition, up until 2014, only parents who were aware of the lottery entered their children in the Montessori lottery. Awareness of the Montessori program primarily came through word of mouth from existing Montessori families. The Montessori families have tended to be more affluent and well educated. As a result, the socioeconomic demographics in the Montessori program have not matched those of the entire district. However, last year the district office began doing a mailing about the Montessori program to every kindergarten family in the district. One administrator said that one of the strongest elements of the Montessori program is the level of parent support and participation but that this also fosters the elitist perception because other families may not have the time or resources to be as involved.

Another cause of the elitist perception mentioned by administrators is how proponents of Montessori speak about Montessori in a didactic manner with phrases like, “That’s not how we do it” or “Our way is better”. Several administrators wished aloud that there were a way to talk about Montessori education without putting down traditional education classrooms and teachers.

In addition, several administrators referred to Montessori parents as “tough”, insinuating that tough means demanding and exhausting in talking about the needs and benefits of the Montessori program. The administrators were referring to Montessori parents who make comments about Montessori being better than traditional education classrooms and advocating for the growth of the Montessori program.

The administrators’ second highest stated challenge for the Montessori program was the rift between Montessori teachers and traditional classroom teachers. Seven out of the 13 administrators said that there is a climate issue in their school caused by the Montessori lottery. Beginning in 2014, in an effort to equalize access to the Montessori lottery, the district sent out a mailing to all Kindergarten families. Kindergarten parents from each building ask their administrator about Montessori and if they should put their child in the lottery.

If there is no Montessori program in the particular school, then the administrator is faced with telling a family to leave their home school community for the Montessori program, which is housed in a different building. The administrators talked about the awkward position this puts them in to tell a family to choose a Montessori classroom in a different school over their own first grade teachers’ classrooms at their home school. One administrator said, “It builds resentment against Montessori among our staff when great families leave our building to go to Montessori.”

Another administrator clearly described this dilemma, giving the example of a situation in which a parent looks him in the eye and asks him which is better, his first grade classrooms or the Montessori program, which is housed at another school. The administrator clearly loves his school community and believes he has excellent teachers and happy families. Why would he tell a family to leave his happy and successful school? If this administrator tells the family to put

their child's name in the lottery, he is admitting that he ultimately believes that Montessori is a better program, which alters the climate among his staff, and begs the question why is he not providing this program at his own school? For administrators who house a Montessori program (two lower elementary classrooms and one upper elementary classroom), in their building, a similar climate issue exists. These administrators detail situations in which a traditional classroom teacher's feelings are hurt because a child leaves her classroom for a lottery-won place in a neighboring Montessori classroom.

The administrators recounted other perceived causes of the discord between traditional classroom teachers and Montessori teachers. The Montessori program does not use the district adopted math materials and does not have to administer the accompanying assessments. The traditional teachers' perception of this is that Montessori teachers have more freedom. The Montessori classrooms are fixed at 18 students, while traditional classrooms can fluctuate with enrollment up to 26 students. High mobility (students moving in and out of schools) is difficult for traditional teachers who are trying to do scaffolded, whole-group instruction. The Montessori classrooms, historically, have had fewer free/reduced lunch students than traditional classrooms. Some teachers feel that students who are on free/reduced lunch have less home support and higher percentages of discipline problems. The Montessori teachers have specialized, hands-on materials that are not available to the traditional classroom teachers. The traditional teachers' perception is that Montessori teachers have more support and more resources than they do.

Each administrator described varying degrees of this climate issue in their building. One administrator said that the mention of the word "Montessori" elicits negative verbal comments. Another administrator said that attending a Montessori training would be considered a "black

mark” on the individual by other teachers. Another administrator described the teachers as having neutral feelings toward Montessori, while another described the kindergarten and first grade teachers in her building as “threatened” by Montessori. Another administrator talked about staff saying that the Montessori teachers “have it so easy because they have all the good kids”. Three administrators said that the Montessori program in this district would have fewer challenges if it was housed in its own building, rather than being spread throughout the elementary schools.

Six out of 13 administrators mentioned funding as one of the biggest challenges facing the Montessori program in their district. Several administrators stated that the Montessori program needs to show justification for funding. The administrators did not specify whether the return on investment should be shown through student achievement data or some other form. Several administrators discussed the overcrowding and crumbling infrastructure of some schools and how if the Montessori program were discontinued, the district would be able to absorb those students back into traditional classrooms, saving space. Another administrator shared misgivings about the district spending money on a program that benefits only some students, not all.

Six out of 13 administrators said that one of the biggest challenges for the Montessori program in this public school district is equalizing access to the program. Even some of the administrators who were openly negative toward the Montessori program talked about how unfair it is that our district cannot serve all of the families who want their children in a Montessori program. In addition, these administrators are bothered by the fact that the at-risk students in the district have a far lower percentage of representation in the Montessori program, despite the fact that the district provides transportation for students in the Montessori program. The administrators see the difficulty of the lottery process as the source of this disparity. Many

of the administrators in the individual meetings asked for data to see if the new process of sending information about the Montessori program and lottery to all kindergarten families is helping to lessen this inequality.

Three out of 13 administrators mentioned issues about Montessori students transitioning back to regular education classrooms. One administrator with experience at the middle school level said that the students coming from Montessori classrooms do not know how to follow rules and have a hard time transitioning to different activities. Another administrator who had six students over a number of years come back to a traditional elementary classroom from a Montessori classroom said that these students were far behind academically. Another administrator, with middle school experience, talked about staff at the middle school describing Montessori students as “so entitled” and they “always have to guide their own learning”. Two of the 13 administrators mentioned the challenge of delivering an authentic Montessori program in a traditional public school district environment. One of these administrators said that the biggest challenge for the Montessori program is keeping the Montessori program authentic while blending it with the vision of the school district. This administrator said that the Montessori program needs to look different than the traditional education program and that the challenge is communicating this to the central office. Another administrator warned that it seems that the Montessori program and traditional education program are starting to “run together” because some of the Montessori classrooms are requesting district materials.

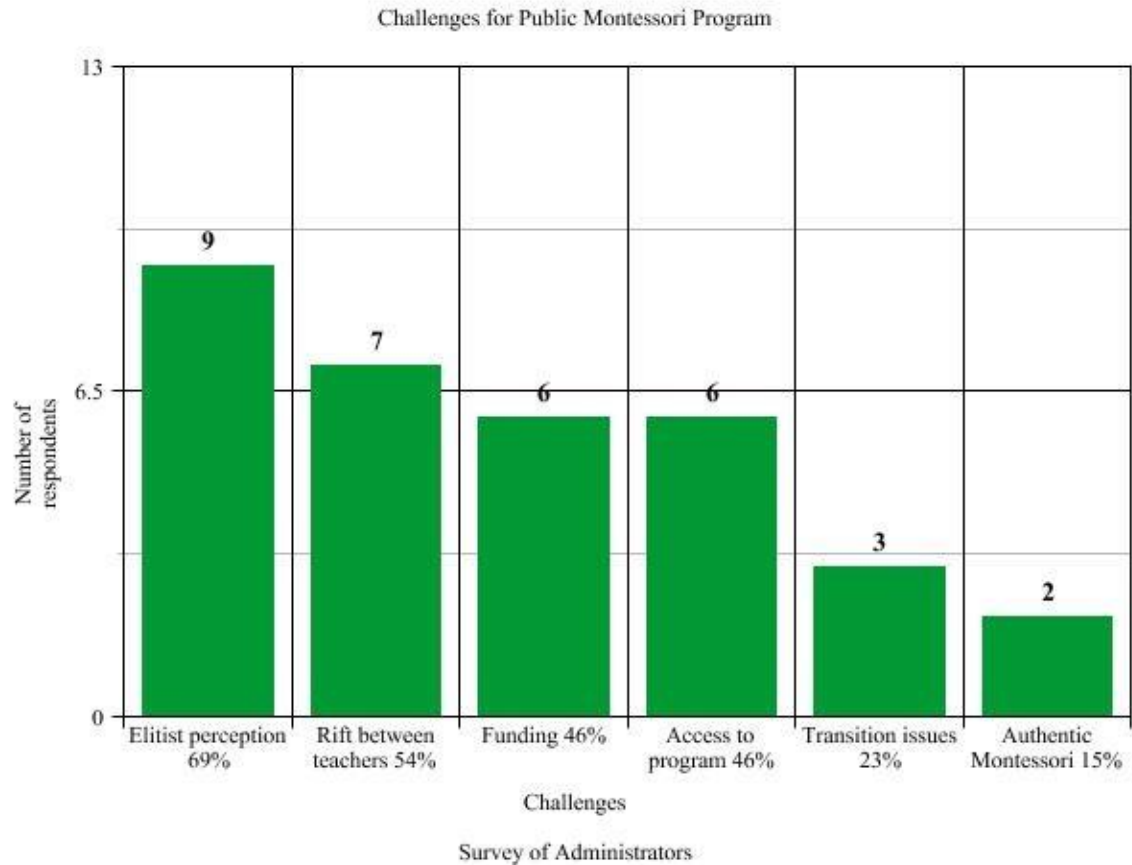


Fig. 13. Administrators identify challenges for the Montessori program.

“Suggestions from administrators”

Throughout the individual meetings, the administrators offered suggestions for the Montessori program. One administrator proposed webinars about Montessori for administrators to be able to view Montessori works in action and be able to discuss the method with colleagues. Several administrators recommended that Montessori teachers invite district administrators into their classrooms to observe. Administrators also voiced a desire for there to be trainings on how to use Montessori math materials made available to all district teachers, suggesting that this would build better relationships between traditional classroom and Montessori teachers. An administrator proposed that the Montessori program aim to solve the mobility issue at low socio-

economic schools by offering transportation to a Montessori building for these families from first through fifth grade, regardless of the families' changing address within the district. Many of the administrators suggested that the Montessori community create a "Basics of Montessori" document or presentation, with clear, simple, bulleted items for administrators, teachers, and parents. Several administrators suggested some work be done to assist students transitioning from Montessori classrooms to regular education classrooms. One administrator recommended that the Montessori community do some work to detail what sets Montessori apart from great traditional schools. Based on the challenges for this Montessori program that the administrators identified during the individual meetings, the researcher has the following recommendations (see Appendix I).

Appendix I

Recommendations for School District

The researcher recommends that the school district send the administrator in charge of the Montessori program to a MACTE accredited Montessori administrator training. Upon return, the researcher recommends that the administrator in charge of the Montessori program institute a Montessori teacher evaluation in order to ensure delivery of authentic Montessori education in the district. In addition, Montessori specific professional development for Montessori teachers would benefit the Montessori program in this district. The researcher also recommends that the school district do a longitudinal study of the district's Montessori program, comparing lottery winners and losers through high school, and make this information available to the National Center for Montessori in the Public Sector. Another recommendation for the school district is to provide a district-wide training on Montessori education in order to streamline accurate information between teachers and families and to help Montessori students transition back to traditional education classrooms.

Recommendations for Public Montessori Parent Group

The researcher recommends that the Montessori parent group do parent trainings focusing on skills in talking about Montessori and diplomatic advocacy. The researcher recommends that the parent group focus on getting information about the Montessori program in this district to low-income, highly mobile families, communicating the potential benefit, "You may move, but your child can stay stable in a program". The parent group should partner with the district to investigate whether the Montessori program should stay housed in three different elementary schools or should be housed in its own building.

Recommendations for Montessori Public Policy Initiative

The researcher recommends that the Montessori Public Policy Initiative develop a rubric for basic knowledge of Montessori for administrators without Montessori training, supplemented by a multi-media resource list for increasing knowledge about Montessori philosophy, practice, and outcomes. The researcher recommends that research be done on how Montessori education can mitigate public school districts' staffing, infrastructure, and curriculum adoption costs.