Multiage Learning Environments in the Secondary Montessori Classroom

By

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Abstract

Developing a successful multiage learning environment in an emerging urban, public, Montessori middle school has its challenges. However this challenge is overshadowed by the benefits this type of community fosters. Multiage learning environments provide students opportunities for peer learning, collaboration and development of leadership skills. Students will continue to develop the work of their minds, hands and hearts throughout their adolescent years, contributing their progressions to others in the multi-grade learning community. This study examines and explores the effects of various instructional, grouping, and interdisciplinary strategies on middle school Montessori classes with age grouping. The focus of this study is restricted to grades sixth through eighth. Strategies implemented and studied include routine work-time expectations, seating arrangements and charts and collaborative projects and assignments. The study is an examination of qualitative observations and is a quantitative analysis of a student survey on multi-grade learning environments. The success of different strategies was determined by student engagement, work completion, participation in small groups, and the student survey.

Introduction

Throughout my two years teaching science at an emerging urban, Midwestern, public Montessori school, I have observed a significant difference in both ability levels and cognitive/ social skill at the sixth, seventh, and eighth grade levels. The classroom environment is comprised of a blend of sixth, seventh and eighth grade students. While I find it challenging to differentiate instruction to meet the wide range of student needs in

my classes, I recognize there are many advantages to multi-grade classes. With a thoughtfully prepared and controlled environment, students are given opportunities to develop their social and leadership skills, as well as learn from each other.

Through student surveys and classroom observations, I have analyzed the implementation of various interventions and strategies. This methodology is put in place to develop a successful multi-grade learning community. I hypothesized that by identifying and utilizing students' strengths/weaknesses and using this observation to group students accordingly, my students would academically and socially benefit. Furthermore, this benefit would reach the student at an individual level, as well as benefiting the learning community as a whole. I monitored student engagement during work-time and offered students freedom and choice within limits. Student work groups and seating charts were designed based on student skill level and their ability to self-monitor. Through the implementation and examination of these strategies, I have been able to develop an environment where the vast majority of students can learn from each other, self-assess, and advocate for their education.

Literature Review

Montessori philosophy aims to educate the whole child and a major component is multi-grade classes. There are many benefits and challenges to having a multi-grade, or multiage structure in a secondary school. As previously emphasized, successful multi-grade classes provide students opportunities for peer learning, collaboration, and developing leadership skills. Montessori states, "…above all it is the education of adolescents that is important, because adolescence is the time when the child enters on

the state of manhood and becomes a member of society." (From Childhood to Adolescence, p. 60) A multi-grade learning community is a true representation of society, teaching our diverse adolescents to problem-solve, cooperate, build their community, and value one another (Donahoe, 2013).

According to Miller's (1996) research study on "What Works in Multiage Instruction," it takes a substantial amount of time to develop a successful program. Miller (1996) states, "implementation is best viewed as an evolving, long-term change at the deepest levels of teacher beliefs about how humans learn." This study emphasizes the strong role school leadership plays in the success of a multiage school program. The data shows that, in each of the four schools involved in the study, the site administrators recognize differences among staff and act with appropriate support; empower staff; facilitate development of a vision; and are highly visible in classrooms, the school, and the community (Miller, 1996). The study emphasizes, a strong vision and shared goals among leadership and staff is essential to the development of a successful multiage learning community.

In contrast to Miller's research study, Quail and Smyth's research emphasize the role of teachers in a multiage learning community. "Multigrade teaching can be seen as challenging because of the requirement to differentiate class material and activities to cater for children of different ages and stages (Quail & Smyth, 2014)." This study analyzes the impact on teachers, various teaching approaches, and student outcomes. The results show multi-grade classes have little impact on academic outcomes among children and discern other factors, such as teacher experience, play a much stronger role (Quail & Smyth, 2014). An additional 2011 study with similar conclusions was

completed in Sweden by researchers Lindstrom and Lindahl. Lindstrom and Lindahl presented evidence to support that mixed-age classes have a negative effect on students' cognitive skills, however this study found the negative effect decreases from grade six to grade nine (2011).

Adolescents in a Montessori environment are working towards reaching "valorization," becoming strong, positive contributors to society. "The adolescent is in a sensitive period for developing the qualities of valorization. Those qualities include joy, selflessness, optimism, confidence, dignity, self-discipline, initiative, independence, helpfulness, good judgment, and the ability to work with others" (Donahoe, 2013, p. 18). Adolescents working towards valorization, benefit from a multiage learning community where the environment and instruction is prepared specifically to support students' development of these very important qualities.

Investigating what makes a successful Montessori middle school is challenging. The research project conducted by Celeste et. al. (2003) identifies five categories that rank success in the middle school Montessori classroom: achievement, self-discipline, personal integrity, responsible citizenship, and enjoyment of work. All of these categories also support the development of valorization. This study surveyed Montessori parents, students, and teachers with outcomes that show different perceptions of success (Celeste, et. al., 2003). The study showed that a clear and common vision of success in Montessori secondary education requires establishment, measuring success beyond the constraints of test scores and mere academic progression.

When comparing Montessori education to traditional education, it is important to study not only the academics, but also the motivation, interest, and flow. Traditional schools tend to emphasize performance goals, where Montessori learning environments emphasize creating a school personality or culture whereby students are motivated, engaged, and collaborative (Rathunde & Csikszentmihalyi, 2005). The results of Rathunde and Csikzentmihalyi's (2005) study showed that Montessori students reported higher affect, potency and intrinsic motivation and flow experiences than students from traditional middle schools. The study contributes these differences to the freedom, choices, and emphasis on collaboration, rather than competition in Montessori schools (Rathunde & Csikszentmihalyi, 2005).

Hattie (2002) analyzes various class compositions and their effects on involved peers. In particular, he studies combination classes, or otherwise stated, multiage classes. While recognizing the family and community atmosphere of multiage classes, Hattie argues that there is not enough evidence to support the effectiveness of this classroom structure. He contributes this to his view that teachers will teach in a similar way regardless of classroom composition. However, there may have been different results if he had differentiated between multiage classes due to location and population size, versus multiage classes structured specifically for pedagogical benefits with trained teachers, such as those offered within a Montessori environment.

In reviewing Rathunde and Csikszentmihalyi's research study on the social context of middle school in both a Montessori and traditional setting, there is a relationship between peer interaction and student engagement. The study shows that Montessori students spend less time in passive learning, such as note-taking or

lecturing and more time on collaborative tasks (Rathunde & Csikszentmihalyi, 2005). Being given the opportunities to collaborate and work with peers increases student motivation and engagement. This allowance provides opportunities for students to develop the qualities of valorization, working on leadership skills, self-discipline, and independence. Focus on students' concentration and hard work, rather than increasing test scores is the path to education reform (Rathunde & Csikszentmihalyi, 2005).

An additional study, conducted with secondary students in the Netherlands, examined the growth of independence among students with a teacher as a guide rather than direct instructor (Lockhorst, et. al., 2010). This study emphasizes the need for cooperation and dialogue among pupils. In order to develop higher level thinking, more project based learning activities and assignments incorporating creativity and self-produced knowledge are essential (Lockhorst, et. al., 2010). This social learning approach, or cooperative learning in the classroom has been found beneficial to Generation Z (people born between 1990's and 2000's); and "researchers found that well-designed cooperative instruction had a consistently positive effect, accounting for an average 17-percentile-point gain in student learning" (Igel & Urquhart, 2012, p. 17). The study also emphasizes the need for adolescents to become responsible for their own learning and the learning of others in their community.

Students must understand they are part of something greater, and begin to recognize and appreciate that "everybody does better, when everybody does better." Vaughn's study of empowerment in a Montessori environment, quotes Friere's argument, "education must begin with the solution of the teacher/student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers

and students" (Vaughn, 2002, p.184). This may be viewed as a radical change to some, that teachers learn from students, students learn from students, and students learn from teachers. Vaughn (2002) concludes that empowerment is a process of teachers and students in a community balancing individual freedom with the needs of the whole.

In reviewing the literature on multiage learning communities, it is clear there are many facets to developing a successful multiage program and not all the data supports the academic benefits of multiage classes. However, there is consistency in findings, which support the benefits of social development. Montessori education is a student-centered approach, and multiage learning communities allow for students to learn from their peers and teach their peers, mirroring a true society. Future research should focus on developing a common assessment of criteria of success in a Montessori multiage environment, rather than arbitrary standardized tests. Collectively the reviewed studies and research indicate multiage and Montessori learning communities are developing positive, socially accountable children that are and will continue to work towards the greater good.

Research Question

How does the multiage class composition influence the learning community?

Subsidiary Questions

- What components are essential to cultivate an environment where peers emerge as leaders and are able to assist students on specific tasks?
- How can students hold each other and themselves accountable for their work?

- What are the positive influences and what are the challenges of mixed grade level grouping in the class?
- How do teachers, schools, and administration work together to implement a successful mixed age grouping program in a secondary school?

Research Design and Methodology

The purpose of my action research was to develop and cultivate a successful multi-grade learning environment in my secondary science classroom. My aim was to increase student engagement and students' independence while developing student leadership skills. I implemented a new seating arrangement, group work roles, and administered a student survey throughout my action research. I recorded observations weekly and analyzed the data collected from the student survey. I was able to analyze the data and investigate how the learning community is influenced by the composition of multiple grade levels.

Participants and Setting

The participants in this study included seventy-two, diverse, middle school students. The setting was an urban, Montessori, public school located in the Midwest. The school has a population of approximately 490 students. The school population consists of 1.4% American Indian, 31.3% Asian American, 13.5% Hispanic American, 31% African American, and 22.8% Caucasian American. Of the approximately 490 students, 23.9% receive special education services, 77.5% receive free and reduced lunch, and 31% are English language learners.

Of the seventy-two students that participated in the study, fifteen are in sixth grade, thirty are in seventh grade, and eighteen are in eighth grade. These students were observed throughout the semester and participated in a survey in their science classroom. The science classroom is comprised of nine lab tables that fit three to four students each, and three separate tables for small groups or individual work.

Materials

Observation binder and notes

Student group work roles and rubric

Students' self-assessments

Student survey on iPads

Procedure

At the onset of our second semester, beginning with a start date of January 2015, I welcomed a new group of science students. I began with implementation of a new seating arrangement, specifically designed to have 6th, 7th, and 8th grade students sitting together in table groups. My goal for the new seating arrangement was to increase student engagement, offer leadership opportunities and develop student social skills. As I circulated the room during work-time or lab activities, I tracked student engagement and on-task behavior using a class spreadsheet and clipboard.

Two weeks into the semester students completed their first self-assessment. The assessment included the following categories: preparedness, time-management, attitude towards work, contributions and pride. There is also space for students to reflect and submit additional comments.

Using my observation notes and the data from student self-assessments, I was able to change the seating arrangements in order to increase student engagement and decrease disruptive behaviors.

In March, I administered a student survey. Students used their iPads to complete the survey. The survey was used to collect information about students' perceptions of the Montessori philosophy, opportunities within the class and within the school, and their experiences and opinions of the multi-grade learning environments.

After collecting and analyzing observations, self-assessments, and surveys, I was able to reflect on my teaching practices, routines and rituals, and use this information to better serve the individual needs of my students and the needs of the whole learning community.

Data Analysis/Results

Overall, I aimed to simultaneously develop and improve the multi-grade learning environment within my science classrooms throughout my action research project. I implemented new strategies and recorded my observations of student engagement, leadership roles and analyzed student surveys to gain insight into their perspectives on urban, public, Montessori, middle school education. With a carefully prepared environment and curriculum, students are able to work with each other and support one another in their learning regardless of grade level.

Student Engagement and On-task Behavior

In an attempt to increase student engagement and on-task behavior I implemented a strategic seating chart and recorded weekly observations. Figure 1

shows the science classroom layout I put in place at the beginning of semester two. With this layout, I was able to arrange three students per numbered lab table. As previously mentioned above, there are also three separate spaces in the classroom. Here, students may work in small groups or independently, either near the window or at the round table.

With this new seating arrangement I observed students working together in a more collaborative manner. The eighth grade students were able to lead their tables, and all students worked to assist each other in staying on task, completing work, and sharing their thoughts to better understand concepts.

This layout allowed for me to conduct mini-lessons at the front three tables while students work independently at the back tables, numbers four through nine. Mini-lessons included science demonstrations, introduction of new concepts, hands-on lab activities, and projects. This smaller space provided an opportunity for students to ask questions of each other and problem-solve together while I was able to facilitate and direct the activity or lesson.

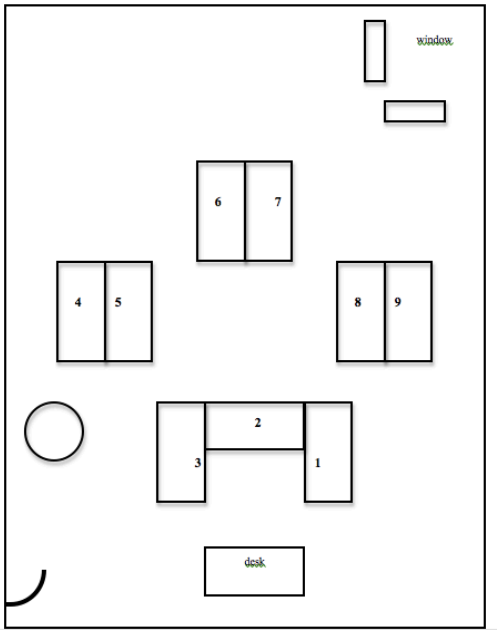


Figure 1: Seating room layout

Throughout the semester I recorded observations on student engagement, work completion, and on-task behavior. I observed an increase in student engagement during lab activities where students chose their group roles. These roles provided students with a level of accountability and responsibility within their collaborative table group. At the end of the activity, the table groups would complete a self-assessment. An example of the self-assessment is shown in Figure 2. Students continued to develop their reflection and self-awareness skills and completed many self-assessment rubrics throughout the semester, including lab group participation, independent project rubrics, and general science expectation self-assessment rubrics. The self-assessments promote intrinsic motivation and meaningful learning, as well as building student accountability. They provided students with an opportunity to reflect on their work and make goals for future success and improvement.

Lab Group Participation Rubric

Lab Title:_____Date: _____Block_____Table Number_____

For every lab, each group member will be assigned a task to do. On the table below **write the name of the group member under his/her assigned task**. Group members will rotate tasks every lab). Each member should self-evaluate him/ herself according to the rubric to receive a maximum of 10 points for participation.

Lab Roles:

Project Director: The project director is responsible for the group.

Materials Manager: Responsible for safely handling, gathering, cleaning, and putting away materials and equipment.

Technical Manager: Records all data and assists with conducting lab procedures.

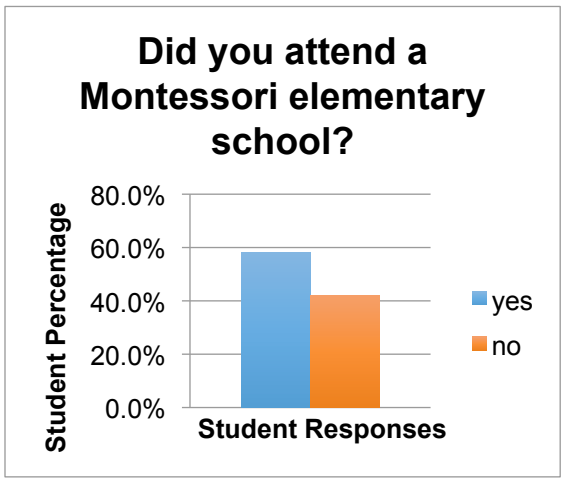
Safety Director: Responsible for enforcing all safety rules and conducting the lab.

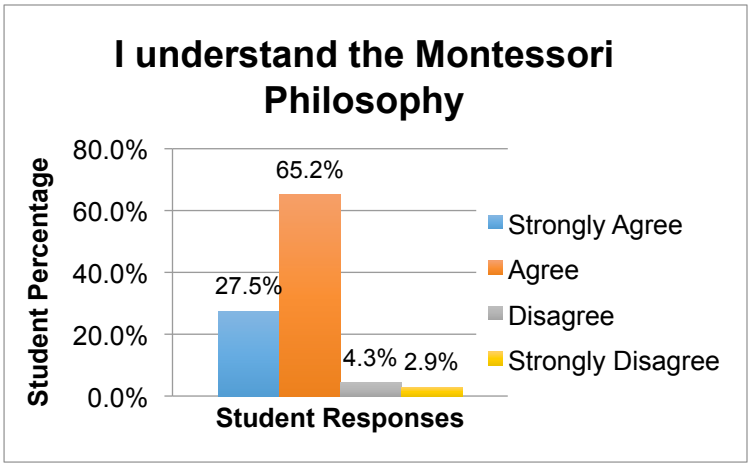
	Project Director:	Materials Manager:	Technical Manager:	Safety Director:
Completion of assigned task: Very good -2; intermediate-1; poor-0				
Follows proper safety procedures Always-2; sometimes-1; never-0				
Remains at lab station: Always-2; sometimes-1; never-0				
Remains engaged throughout lab Always-2; sometimes-1; never-0				
Presents responsible behavior (respects classmates, teacher and lab materials) Always-2; sometimes-1; never-0				

Figure 2: Lab group participation

Student Feedback on Montessori Education and Multi-grade Learning Environments

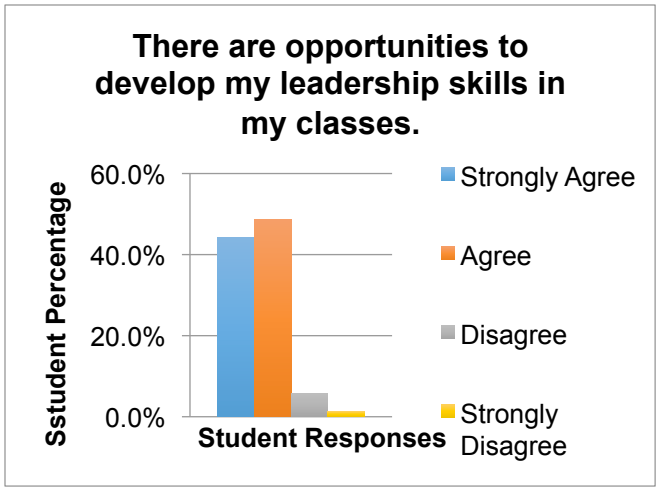
The majority of my science students participated and completed a student survey. The goal of this survey was to gain insight and perspective from my middle school students on multi-grade learning environments and Montessori education. When analyzing the data, I discovered that 58% of the student participants attended a Montessori elementary school and 92.7% said they understand the Montessori educational philosophy, as shown in figures 2 and 3 below. This data is significant because it adds to the challenge of teaching students in a multiage learning environment. Students who are not familiar with Montessori education or have not previously been part of a multiage learning community have to adapt to this new way of learning and becoming part of a cooperative learning community. However, surprisingly, the data shows that although 42% of students have not previously attended a Montessori school, 92.7% stated that they understand the Montessori educational philosophy.

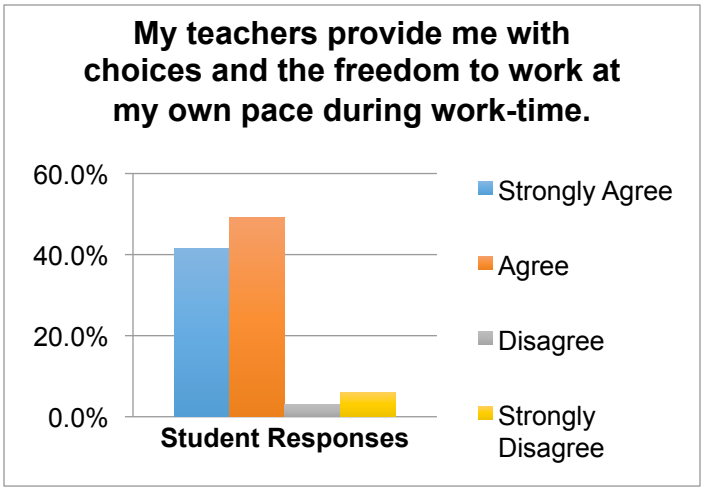




Figures 3 and 4: Student feedback from survey questions

While there are many elements that make a multi-grade learning community successful, two of the questions on the student survey were designed to collect feedback on two essential elements of a Montessori classroom: leadership opportunities and opportunities for choice and freedom within limits. In figures 5 and 6, student responses reveal there are a many leadership opportunities within their classes. Also, students are given time to work at their own pace and additionally given choices during work-time. This data is particularly important because it supports the assertion that Montessori students are given ample time and choice to meet our science standards.





Figures 5 and 6: Student feedback from survey questions

The results from the student survey were overall positive. The results are a reflection of the type of environment I have worked hard to prepare and the success of the intentional lessons and activities I have planned and applied with my classes. A great majority of students either agreed or strongly agreed with all the statements in regard to the multi-grade classes. The data showed an overwhelming majority of

students enjoy multi-grade classes, have developed friends of varying ages, and believe the class composition has aided in their social development. Based on the data, the areas where students disagree, to some extent with the statements, were the 16.7% of students that do not agree they are provided opportunities to teach their peers, and 12.3% that do not enjoy collaborative projects and activities. All other disagreements were below ten percent.

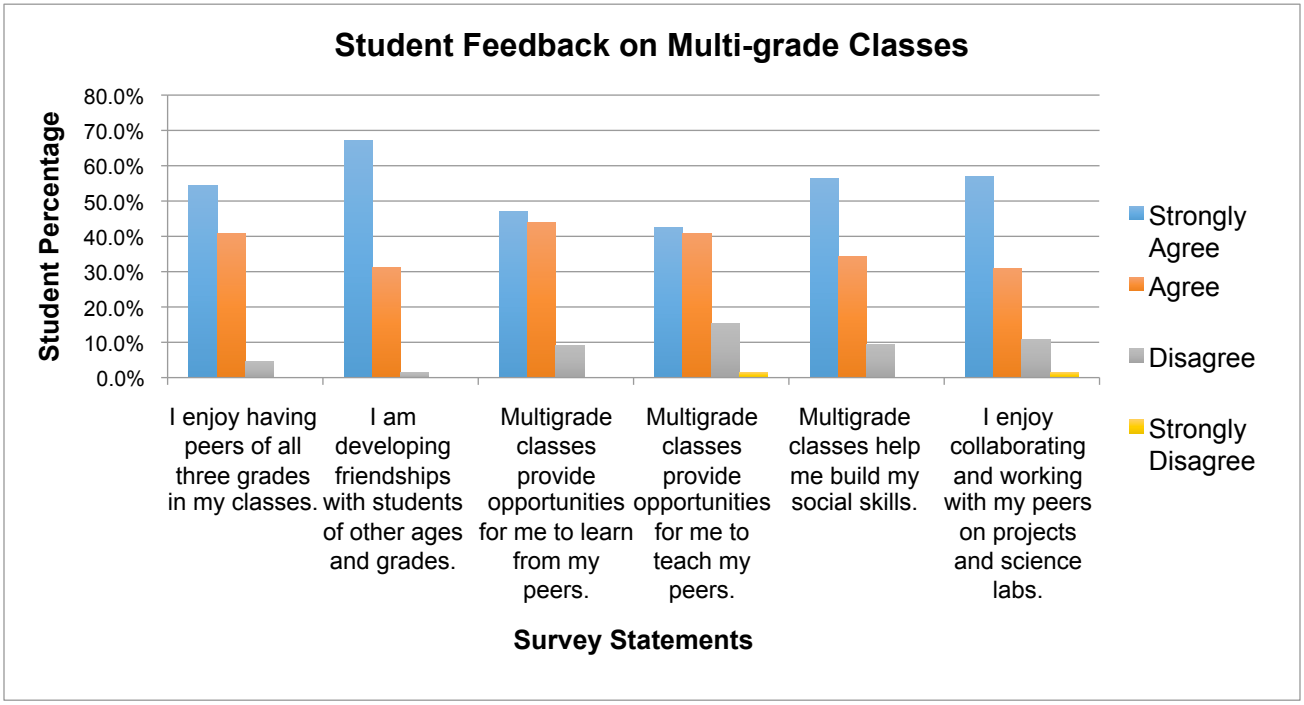


Figure 7: Student feedback on multi-grade classes

Limitations

This study had several limitations. First, the study was limited to solely my science students therefore the data does not reflect the multiage learning community in regard to the school as whole. Additionally, the study would have benefited from quantitative data collection on students' roles and on-task behavior during different

class activities. Recording the type of activity and number of students engaged in cooperative learning would be useful data when analyzing how the multiage class composition influences the learning community. Though this study does highlight the positive social outcomes of a multiage learning environment, it does not examine the academic outcomes. Finally, it does not address the need for further differentiation of work to meet students' individual needs.

Future Action Plan

I will continue to explore and implement new strategies to improve the multi-grade learning community. I truly believe students learn through experience and I would like to plan more field studies within the community, as well as more interdisciplinary projects. Sharing my research, data and results with my co-workers and other teachers will benefit the entire learning community. We can continue to work together to cultivate a rich and engaging learning environment.

One particular element I need to improve upon, and we have been discussing in our professional learning communities, is differentiating for different grade/ability levels within the content. Allotting enough time to plan varied levels of work and options for different science concepts is essential to fostering a successful multi-grade learning environment. In the future, I will spend more time working with the science department to plan additional work and projects that offer choices and a variety of ability levels to meet each student's individual needs.

Discussion/Conclusion

Maria Montessori (1973) stated: “"But, above all it is the education of adolescents that is important, because adolescence is the time when the child enters on the state of manhood and becomes a member of society” (p. 60). As a middle school educator in an urban area, it is essential to remember that I am guiding a group of 11-14 year old adolescents in becoming independently productive members of our society. Montessori education and the multiage learning environment aid in the development of students’ social skills and prepare them for their future in today’s society.

Research on multiage learning environments has shown that the most significant benefits to multiage learning environments are its social effects. The social effects include developing leadership skills, improving social skills and building a greater sense of community. These are the skills our adolescents need in order to become positive contributing members of society. Life outside of school encompasses learning from others’ experiences. Why not structure our youth’s education to mirror a realistic society where we all have the opportunities to share what we know and learn from each other?

With this study, I tested my hypothesis to see if strategically grouping students based on their strengths and grade levels would academically and socially benefit students and the learning community. My results support my hypothesis in that students’ engagement increased with a new classroom layout; leaders emerged during table group activities, and students’ perceptions of the multiage learning communities became positive overall.

Many strategies were implemented to structure a successful cooperative learning community, where students were given leadership opportunities and daily opportunities to learn from each other. The school continues working toward developing and implementing a variety of Montessori elements and building our population of Montessori students. The strategies I applied in the classroom and the data I collected show that developing a successful multiage learning environment takes time and is forever evolving based on student needs and the needs of the learning community.

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Appendix A- Permission Letter

Example of letter that went home with students

October 2014

Dear Families,

This year is off to a great start. I am Kristin Simonson, your child's science teacher. I am currently enrolled in a secondary Montessori graduate program with the University of Wisconsin- River Falls. As part of my Master's coursework I will be conducting an action research project this year. I will be examining how mixed-age classes influence the middle school learning community. My plan is to implement and study a variety of instructional, environmental, and collaborative strategies in the Montessori classroom in order to determine whether they enhance the success of our mixed-age classes.

My research will include a student survey and the collection of observational qualitative data on student interactions and independent work-time. The purpose of the action research project is to help cultivate a collaborative learning environment where peers can learn from each other, as well as provide relevant, current strategies for our teachers and future teachers regarding successful mixed-age classes.

I am requesting your permission to allow me to use your child's responses to the survey as well as any observational data I collect during class. I will use a pseudonym and not your child's real name for my research. All surveys and interviews will be kept anonymous.

It is my hope that through this action research we will continue to develop and enhance our collaborative, respectful, and supportive learning community.

Please contact me with any questions, concerns, and/or comments. Thank you for your support.

Sincerely,

Kristin Simonson

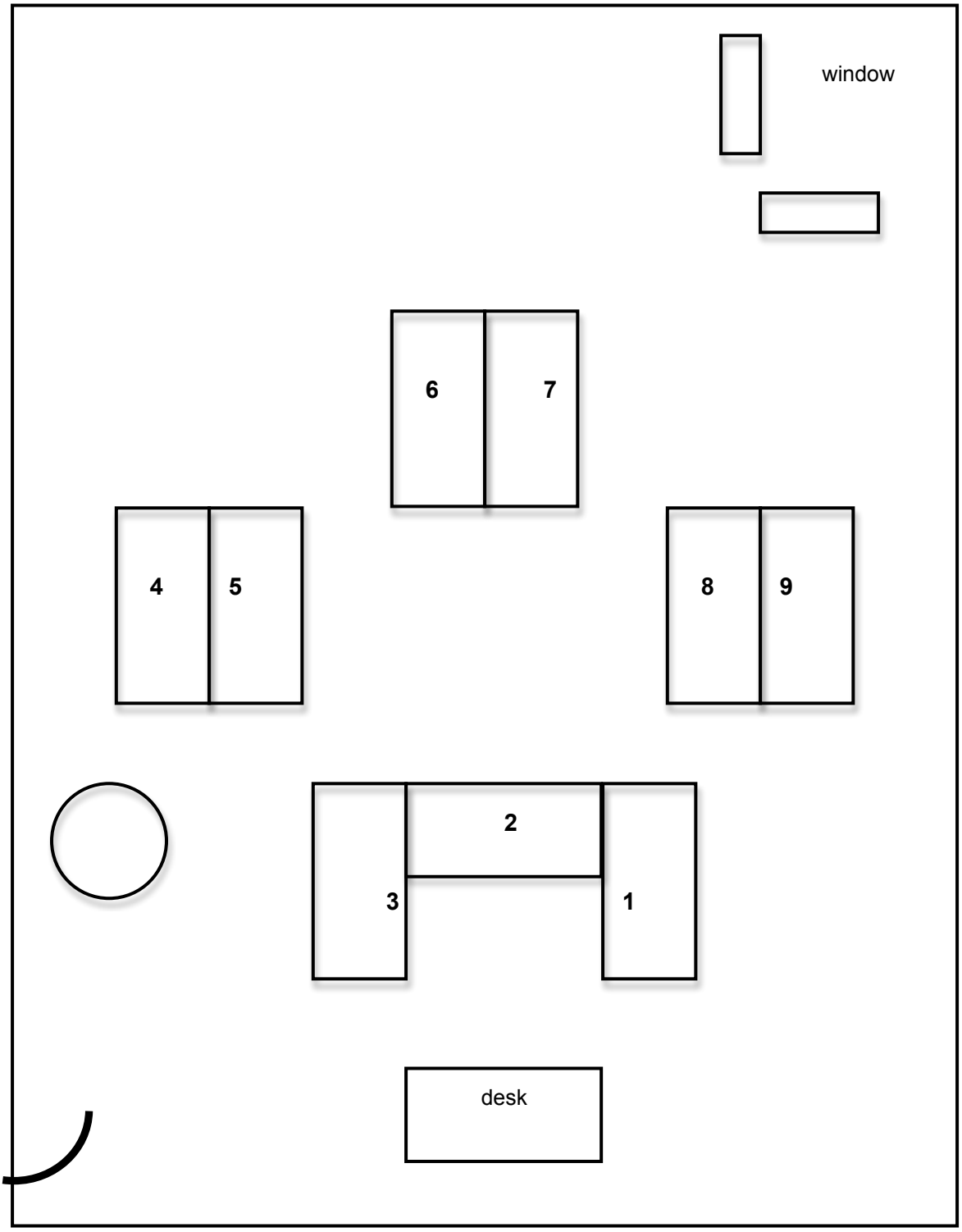
Please sign and detach bottom portion, return to Ms. Kristin during science class

I give permission for my child _____ to participate in the Action Research Project regarding mixed-age classes.

Parent/Guardian's Name _____

Parent/Guardian's Signature _____ Date _____

Appendix B- Seating Arrangement



Appendix C- Student Survey

SURVEY FOR COLLECTING STUDENT FEEDBACK ON MONTESSORI EDUCATION

Please respond to the following questions carefully and honestly. Your opinions are extremely important—they will help shape the instruction in this class for the rest of the year and for years to come. **Your responses will not affect your grade. Please do not put your name on the survey.**

Montessori Classroom

1. I understand the Montessori philosophy.
a) strongly agree b)agree c)disagree d) strongly disagree

2. I chose with my family to continue my Montessori education through middle school.
a) strongly agree b)agree c)disagree d) strongly disagree

3. There are opportunities to develop my leadership skills in my classes.
a) strongly agree b)agree c)disagree d) strongly disagree

4. My teachers provide me with choices and the freedom to work at my own pace during work-time.
a) strongly agree b)agree c)disagree d) strongly disagree

Multiage Learning Community

5. I enjoy having peers of all three grades in my classes.
a) strongly agree b)agree c)disagree d) strongly disagree

6. I am developing friendships with students of other ages and grades.
a) strongly agree b)agree c)disagree d) strongly disagree

7. Multigrade classes provide opportunities for me to learn from my peers.
a) strongly agree b)agree c)disagree d) strongly disagree

8. Multigrade classes provide opportunities for me to teach my peers.
a) strongly agree b)agree c)disagree d) strongly disagree

9. Multigrade classes help me build my social skills.
a) strongly agree b)agree c)disagree d) strongly disagree

10. I enjoy collaborating and working with my peers on projects and science labs.
a) strongly agree b)agree c)disagree d) strongly disagree

The following questions about your identity will not be used to identify you, but to help me better organize and evaluate this data.

11. Did you attend a Montessori elementary school?
a) yes b) no

12. What grade are you in this year?
a) 6th grade b) 7th grade c) 8th grade

Please use this space to comment on any of the above questions or on anything you wish to share at this time.

Appendix D- Student Group Roles

Lab Roles and their descriptions

P. D. - Project Director

The project director is responsible for the group.

Roles/responsibilities:

- Reads directions to the group;
- Keeps group on-task;
- The only group member allowed to talk to the teacher;
- Shares summary of group work/results with the class.

M.M. - Material Manager

The material manager is responsible for obtaining all necessary materials and/or equipment for the lab.

Roles/responsibilities:

- The only person allowed out of seat to pick up needed materials;
- Organizes materials and/or equipment in the work space;
- Facilitates use of materials during investigation;
- Assists with conducting lab procedures;
- Returns all materials at the end of lab to designated area.

T.M. - Technical Manager

The technical manager is in charge of recording all data.

Roles/responsibilities:

- Records data in tables and/or graphs;
- Completes conclusions/final summaries;
- Assists with conducting lab procedures;
- Assists with clean-up.

S.D. - Safety Director

The safety director is responsible for enforcing all safety rules and conducting lab.

Roles/responsibilities:

- Assists P.D. with keeping group on-task;
- Conducts lab procedures;
- Reports **any** accident to the teacher;
- Keeps track of time;
- Assists M.M. as needed

Credited to Ms. Sanchez at http://sanchezclass.com/home.htm

Appendix E- Student Group Work Rubrics

Lab Group Participation Rubric

Lab Title:_____Date: _____Block_____Table Number

For every lab, each group member will be assigned a task to do. On the table below **write the name of the group member under his/her assigned task**. Group members will rotate tasks every lab). Each member should self-evaluate him/ herself according to the rubric.

Lab Roles:

Project Director: The project director is responsible for the group.
Materials Manager: Responsible for safely handling, gathering, cleaning, and putting away materials and equipment.
Technical Manager: Records all data and assists with conducting lab procedures.
Safety Director: Responsible for enforcing all safety rules and conducting the lab.

	Project Director:	Materials Manager:	Technical Manager:	Safety Director:
Completion of assigned task: Very good -2; intermediate-1; poor-0				
Follows proper safety procedures Always-2; sometimes-1; never-0				
Remains at lab station: Always-2; sometimes-1; never-0				
Remains engaged throughout lab Always-2; sometimes-1; never-0				
Presents responsible behavior (respects classmates, teacher and lab materials) Always-2; sometimes-1; never-0				

Appendix F- Student General Expectations Self-Assessment

Category ⇓	How I did ⇒	Exemplary	Proficient	Emerging	Needs Improvement
Preparedness		Brings needed materials to class and is always ready to work. Quiet and calm when class begins.	Almost always brings needed materials to class and is ready to work. Rarely needs time to settle down before working.	Almost always brings needed materials but sometimes needs to settle down and get to work	Often forgets needed materials or is rarely ready to get to work.
Time-management		Routinely uses time well throughout the project to ensure things get done on time; consistently stays focused on the task and what needs to be done. Very self-directed.	Usually uses time well throughout the project, but may have procrastinated on one thing. Focuses on the task and what needs to be done most of the time. Other group members can count on this person.	Tends to procrastinate, but always gets things done by the deadlines. Focuses on the task and what needs to be done some of the time.	Rarely gets things done by the deadlines. Rarely focuses on the task and what needs to be done. Lets others do the work.
Attitude		Never is publicly critical of the project or the work of others. Always has a positive attitude about the task(s).	Rarely is publicly critical of the project or the work of others. Often has a positive attitude about the task(s).	Occasionally is publicly critical of the project or the work of other members of the group. Usually has a positive attitude about the task(s).	Often is publicly critical of the project or the work of other members of the group. Often has a negative attitude about the task(s).
Contributions		Routinely provides useful ideas when participating in the group and in classroom discussion. A definite leader who contributes a lot of effort.	Usually provides useful ideas when participating in the group and in classroom discussion. A strong group member who tries hard!	Sometimes provides useful ideas when participating in the group and in classroom discussion. A satisfactory group member who does what is required.	Rarely provides useful ideas when participating in the group and in classroom discussion. May refuse to participate.
Pride		Work reflects best efforts.	Work reflects a strong effort.	Work reflects some effort.	Work reflects little effort.
Comments and reflection:					