

**Benefits of Choice in a Montessori Classroom on Student's Behavior and Focus**

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## Benefits of Choice

### Abstract

Studies have shown when students are given a choice, students are more likely to be engaged in the task along with having higher completion rates. Montessori philosophy emphasizes the importance of giving students choice of work; the philosophy encourages student responsibility and enables students to have more control of the environment.

Through a prepared environment, children should be able to make choices on the works they want to complete, or in which order they want to complete them. Middle school students often lack motivation and engagement; through student choice, motivation and engagement will ideally increase. This case study was in a Montessori middle school mathematics classroom. There were three classes of students, two sixth grade classes and one-seventh grade class. Students in this study were posed with various choices throughout their math classes. The data was recorded through teacher observation, student surveys, and work completion during times when students made choices.

Through observation, the study showed students had greater levels of engagement when presented with a choice. Student work completion rates also were higher when students were able to select their work. The student survey suggested the majority of student's preferred to be given a choice in their work and students felt they produced higher quality work when given a choice.

## Benefits of Choice

### **Introduction**

Throughout my second year of teaching, I have been observing my students and assessing their needs and behaviors. I started by focusing on the time frames of students' positive and negative behaviors, and found a correlation to when they do and do not have choice in the classroom. I began to pose choices to my students more purposefully and consistently. I hypothesized that if students have more choices in the classroom, students would feel a sense of perceived control and in turn have better behaviors in the classroom and have higher engagement levels.

In middle school Montessori classrooms, students should be making choices daily. "I either give the other person control, or he will take it on his own terms."(Fay & Funk, 1995, p.28). I gave students two choices, with both outcomes being positive and leading the students to understand the concept. The students had the option of learning the concept in whichever manner they chose.

As the year has gone on, I have created more project-based choices for students. For example, students are assigned a project and are able to choose what the project is about; they are able to design their work through that choice. These choices have empowered the students to connect mathematics to their everyday lives through their own choices. Taking this approach to teaching has enhanced the Montessori "prepared environment" motto in my classroom. In order to give students choices, there must be a prepared environment to enable students to make choices and have positive engaging results of those choices.

### **Literature Review**

“The free choices made by the children enabled us to observe their psychic needs and tendencies” (Lillard, 2005, p. 91). Giving students choices in the classroom is allowing them to have more control over their activities, which shows what they need and the choices they are making (Lillard, 2005). Offering students choice can enhance their feelings of self-determination and intrinsic motivation, which helps them participate in classroom activities (Books & Young, 2011). Choice is essential for students to take responsibility over their learning. In a Montessori setting, it is imperative to have a prepared environment that allows students to make choices throughout their day. The students need to be able to make these choices to start taking ownership over their learning. Children need to have the opportunity to have choice in choosing their works in a prepared environment (Hainstock, 1997). Autonomy is a goal within the classroom because it shows that students are intrinsically motivated to do work.

### **Autonomy**

“Autonomy has traditionally been equated to choice” (Katz and Assor, 2007, p.432). Choice has been found to enhance autonomy and intrinsic motivation. “Intrinsic motivation is enhanced when an individual feels autonomous and when information is provided about the individual’s competence in navigating his or her environment” (Patall, Copper &Wynn, 2010, pg. 7). If students perceive a task to be interesting, the students tend to have higher intrinsic motivation and they want to complete the task; therefore if students are able to choose the task, the students are showing interest in it. In the

## Benefits of Choice

Montessori setting, teachers act as a facilitator to students choices; the teachers purpose is to support the students in making choices and preparing an environment for students to make positive and productive choices. “Children are left alone when they are interested and concentrating on their *Works* while teachers intervene to help them make good choices when they become unproductive and disinterested in their works (Frick & Koh, 2010, p.11). The teacher is not in the classroom to make the students choices for them because that can prohibit autonomy; teachers are there to assist the student in making choices.

Autonomy support was contrasted with control, control being defined as external events that undermined one’s autonomy. Extrinsic rewards, imposed goals, competition and high stakes testing are types of situations that are considered to be “controlling”. When students perceive situations to be “directly controlling” and are not allowed independent options, or choice, it is predicted that they will have higher levels of anger and anxiety (Assor, Kaplan, Kanat-Maymon, & Roth, 2005). Having these types of feelings also can lower student’s success in the classroom. This relates to the Goal Theory, which focuses students’ perception for achieving a task; it represents the belief that the purpose of achieving this goal is personal improvement and understanding which leads students to independence (Anderman & Midgley 1998). Independence is essential for students to be able to want to make choices and be successful, not only in a Montessori classroom, but in their community, outside of the classroom environment. The Montessori classroom is a starting point for students to make decisions and be held accountable for those decisions. “Statistical analysis found that the Montessori children posted significantly higher ratings for intrinsic motivation towards academic schoolwork. Possible reasoning for this could

## Benefits of Choice

be because teachers practice Autonomy Support (supporting autonomy cognitively, organizationally, and through the learning environment), which could be effective toward children internalizing external motivations for schoolwork (Frick & Koh, 2010)

Motivation and autonomy are closely related. Students are more intrinsically motivated when there is an option to be independent. When students can make a choice in the classroom, they are more likely to see themselves as worthy and an essential part of the classroom environment. Choice thus results in more academic competence because they are taking ownership over their learning (Lillard, 2005).

## **Positive Psychology**

Positive psychology is defined as “the study of the conditions and process that contribute to the flourishing or optimal functioning of people, groups and institutions” (Gable & Haidt, 2005, p. 106). Positive psychology is relatively new research in schools and education. The research focuses on improving student initiative, academic engagement, and self-efficacy. There are too many classrooms that are not focusing on the student’s strengths and needs; rather, they are focusing on the standardized tests (Buck, Carr, & Robertson, 2008). Through studying and understanding positive psychology, educators can begin focusing on developing challenging and meaningful activities that can foster intrinsic motivation, which can then improve experiences in the classroom (Csikszentmihalyi, 1990). These experiences come from students having choice in the classroom, and the classroom having differentiated options for all students because their choices and interests will differ. When a student has choice and interest in a topic, they can begin to experience *Flow* -- when time awareness shifts, the individual feels in

## Benefits of Choice

control, and awareness and activity seem to blend; the individual experiencing flow is motivated to return to this experience (Csikszentmihalyi, 1990, 1997).

To enable students to experience “optimal functioning”, a study was conducted on 150 sixth and eighth graders in five different Montessori schools in four different states; there was a control group of about 160 students in traditional schools. The study was conducted using the Experience Sampling Method for seven consecutive days. The study was measuring students’ feelings toward school. The Montessori students reported more positive relationships with peers and teachers as well as more supportive teachers. They seemed to be learning to enjoy hard work; they spend less time listening to lectures, and more time in self-directed activities (Rathunde, 2003). These Montessori experiences reflect the results of students having choice in the classroom; choice helps students experience flow and a more enjoyable classroom experience. These types of experiences are created through students wanting to complete work and being interested in the topics and choices presented to them.

Students have a variety of interests, learning styles, and paces of learning. The goal of educators should be focused on inspiring students to become responsible life long learners who show initiative and are intrinsically motivated (Buck, Carr, & Robertson, 2008). Teachers need to learn to trust students in the decision making process of their work, the students need to be able to make choices about their learning. This will help education emphasize the strengths of the individual student (Gable & Haidt, 2005).

Teachers can start creating the *Flow* experience through, differentiating the curriculum, having a proper balance of challenge and skill levels for students, and incorporating and

## Benefits of Choice

allowing time for student choice. When students have a sense of increased personal control, choice, and initiative they can experience higher academic engagement and motivation (Buck, Carr, & Robertson, 2008).

Increasing student motivation and engagement is a goal in all classrooms. There was a study conducted on 80 students in various grades that were struggling with motivation and engagement in their classrooms. The purpose of this action research project was to increase the students' motivational levels in the classroom. The researchers decided to use positive reinforcement, creative engagement, student self-assessment, and student choice as their strategies for improvement (Kobus, Maxwell, & Provo, 2007). Through these positive changes in their classrooms, the researchers found that the students were more engaged and intrinsically motivated. They attributed these successes to their positive reinforcements, such as: positive comments to students,, which improved students self-efficacy, and lowered negative behaviors in the classroom (Kobus, Maxwell, & Provo, 2007).

Overall, positive psychology plays a role in student choice because, through positive encouragement and student initiative, the students are more like to enjoy their schooling. When students are enjoying what they are doing at school, they are going to be more motivated to learn and work hard. Middle school is a time of growth and development for the child. If the child is in a setting where they are being positively encouraged and allowed room to make choices, he/she is more likely going to be more engaged and motivated to learn (Buck, Carr & Robertson, 2008)



## Benefits of Choice

### **Student Engagement**

The ultimate goal of a classroom is to have 100% of students fully engaged. To achieve this goal, there has to be student buy in and student participation. A perceived sense of control enhances student engagement in the classroom (Perks, 2010). Enhancing student engagement comes from giving students choices and creating an environment where the students feel like they are enjoying their learning, and are using their strengths. A study was done on four different middle school classrooms. These students were given a pre and post study survey, the study gave students different choices in their daily curriculum. The study showed that 38% of the students had increased ownership of their work and felt like they were using their strengths more regularly in the classroom (Birdsell, Rem, Seyller, & Zobott, 2009).

Students need to be engaged in the classroom and engagement comes from motivation. There are two types of motivation, intrinsic and extrinsic. In the Montessori classroom, the students are being guided toward having higher levels of intrinsic motivation. When students are able to choose an activity, they are more likely to complete that activity and be more engaged in it because they had chosen it. Although they did choose the activity, it was prepared for them as a learning choice (Patall, Cooper & Robinson, 2008). When students are able to choose their activities they are increasing their self-determination. The self-determination theory states that people are intrinsically motivated when they are self-determined (Reeve, Deci, & Ryan, 2004). To be self-determined, a student or person must feel in control; they are able to view themselves as self-initiates and further be able to make choices regarding their actions and work choices. When students are able to

## Benefits of Choice

make choices, they are becoming more self-determined which in turn leads to having more intrinsic motivation.

Giving students these choices in the classroom steers them away from the external rewards and extrinsic motivation. In a traditional classroom setting, classrooms are based on many extrinsic rewards which prohibit students from increasing their intrinsic motivation; therefore, they tend to be less engaged. In this environment, teachers are controlling many situations, such as students' work and movement throughout the class period. This can eliminate students' desire to learn and alter their motivational tendencies (Brooks & Young, 2010). If students are a part of a community or classroom with more practices that are associated caring practices, such as choice and positive reinforcement, there will be increases in the students' motivation regardless of students' proficiency level, gender, grade level, ethnicity or economic status (Strobel & Borsato, 2012). The Montessori environment enables students to make daily decisions regarding their work and social interactions in the classroom. Self directed learning is higher among Montessori students because they are self-selecting work throughout their day. When people are completing a challenging activity, they are more likely to have success if they believe they are going to succeed; they are also more likely to be more motivated (Perks, 2010).

Overall, autonomy, positive psychology, and student engagement are the main outcomes of students having choice in the classroom. Creating a prepared environment helps provide a space where students can make choices. The students are more likely going to

## Benefits of Choice

be able to experience flow in an environment in which they have chosen their work, and are interested in it. When students are completing challenging activities, that they were able to choose, they are going to have a higher motivational level while completing these activities.

These three areas will be explored in my action research through positive interactions with students when students are making choices. Students' engagement will be observed and tracked in an environment where they have a variety of choices. This research has guided my project outline to lean toward tracking student engagement while positively encouraging the students and creating autonomy.

### **Research Questions**

1) How does student choice affect engagement in the classroom?

Supplementary questions:

2) Does giving students positive choices cause them to be more engaged in the classroom?

3) Does not giving a student choice cause them to be unengaged or uninterested?

### **Research Design and Methodology**

The purpose of my project was to measure student engagement based on the choices the students made in the classroom. My hope was to be able to guide students to make positive choices to enhance their engagement and time spent on task during our class

## Benefits of Choice

periods. For my study, I posed choices to students that had similar outcomes for their learning targets. The choices were given to all students and their engagement time was measured based on teacher observation and student perception. Throughout the research the engagement time was denoted as “on task and off task time”. Being on task was considered students working individually, with a partner, or a small group. On task or engaged conversations were noted when students were discussing their work or their choices of work with one another. Off task or unengaged referred to the observations of students who were not completing their assignments, were making negative choices, or doing nothing at all.

## **Participants and Settings**

The participants of my study were two different sixth grade classes, total of 31 sixth grade students, and one class of seventh grade students, totaling 23. Overall there were 54 participants in two grade levels broken down into three different math classes. The setting of all of the research was in my classroom. There were two levels of math, sixth grade and Pre-Algebra (seventh grade) mathematics. The students were in my class for 80 minutes per day. The two sixth grade classes were made up of 14 and 17 students. Generally, the students have a calm demeanor with minimal negative behaviors. The seventh grade class consisted of 23 students. The students in this class had a lot of energy and there were consistent attention-seeking behaviors.

The setting was in my classroom. In two of the classes, one sixth and the seventh grade class, I had a co-teacher. We took turns teaching lessons and dually managed behaviors.

## Benefits of Choice

We both observed students and their choices as well as the behaviors that correlated with having choice or not.

## **Materials**

The materials used for this study varied depending on the lesson. Students were presented with two different choices for each data collection period and choice observation. Each week the students received a new Checklist; this showed all of the work for the week, as well as the lessons the students were receiving. The choices were listed on each checklist - for example: Level One or Level Two, I-Pad Project or different art projects connecting to math. The items listed on the checklists are called shelf works; the students got to choose which shelf work they wanted to complete, and in which order they wanted to complete them.

I used student surveys to gauge the student's perception on their amount of choice in the classroom, and if it helped them or not. The survey (Figure 1) was given to all students. Along with the survey, I used an "On task, Off Task, Self-Monitor Chart" with the students during their choice times. This chart, Figure 3, was used frequently and in different choice observations.

## **Procedure**

I collected data through a triangulation method consisting of quantitative, qualitative and observational data. For quantitative data I used colleague observation, a teaching coach observed all three class periods and measured students that were on task and students that

## Benefits of Choice

were not on task. She tracked the time they spent on task and recorded it. She also observed the students choices, tracked what they chose, and how long they stayed interested in their choice. The co-teacher in my classroom was another source of observation. We both observed the students and she would confirm the observational data I collected and recorded through her daily observations of the students in the two class periods.

The qualitative data collected were student surveys, the students were given the survey randomly and asked to complete it based on their feeling of choice in math class. The survey was conducted with a Likert scale ranging from one to five, one being strongly disagree and five being strongly agree.

I collected data through my own observations; I recorded notes weekly on the student's choices and the time they spent on task when they had choice compared to the times when they did not have choice in their assignments. I observed students during shelf work time, project work time, and station work time. During these observations, I observed the students' choices, their time spent on task and how long they were engaged during that time.

While observing, I would mark students who were on task, and students who were off task. I marked the student on task if he or she was completing the work, only taking minimal breaks or engaging in short conversations that may be slightly off task, asking questions or helping peers with their work, or quietly sitting and working. The student would be marked off task if they were not doing the assignment they chose, wandering

## Benefits of Choice

around the room for extended periods of time, or on their I-pads when it was not a part of the assignment.

Lastly, data collection included student time spent on and off task. They used the self-monitoring sheet to show when they were engaged or not during choice work time. They were instructed every five to ten minutes to check whether or not they felt they were on task or off task. These results were compared to my observational data during the same time frame and complied to find the total number of students on and off task during a specific choice time.

### **Data Analysis/ Results**

#### Math Class Choice Survey

Name: \_\_\_\_\_

Block: \_\_\_\_\_

Please answer the questions below using this scale:

5: Strongly Agree

4: Agree

3: Neutral

2: Disagree

1: Strongly Disagree

Answer the questions below based on how you feel about our math class.

1. I have choice in math class \_\_\_\_\_
2. Having choice helps me focus \_\_\_\_\_
3. When I have choice, I focus more \_\_\_\_\_
4. I am more on task when I am able to choose my task \_\_\_\_\_
5. I make positive choices during work time \_\_\_\_\_

## Benefits of Choice

6. I am more on task when I **do not** have choice in the task/work \_\_\_\_\_
7. I do better when I can choose what order I complete my work in \_\_\_\_\_
8. I know what on task looks like, feels like, and sounds like. \_\_\_\_\_
9. I like having choice in math class. \_\_\_\_\_
10. I get choice each day in math class. \_\_\_\_\_

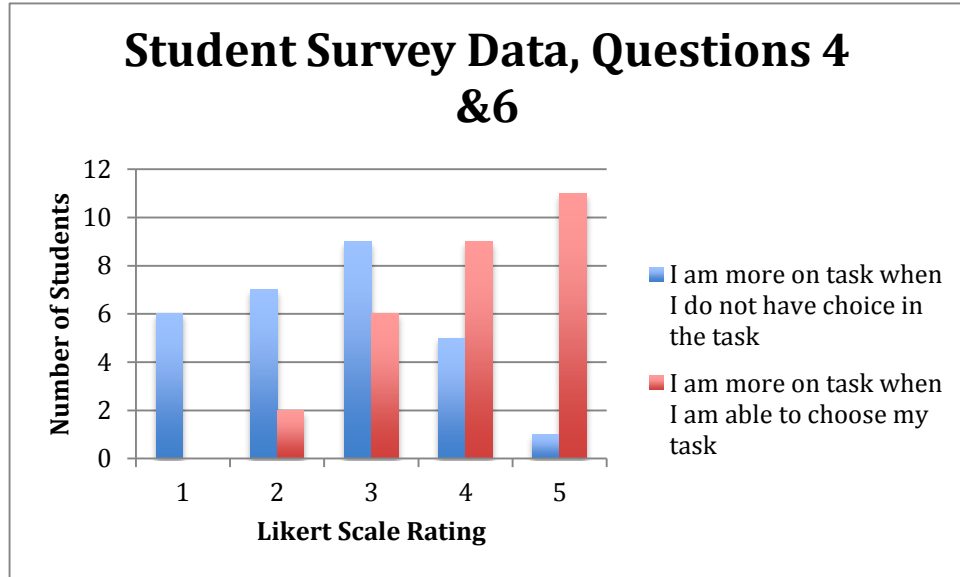
### **Figure 1: Student Survey**

From the survey, I gathered student's opinions about math class. The results were consistent throughout all three classes with minimal outliers. I gave students this survey because I wanted to gather their perceptions about choice in class, and if they felt as if they were able to make choices.

I found that many students prefer to have choice, and they feel as if they work better when they are given a choice compared to when they are not given a choice. They also feel more engaged when they are able to choose their work.

I used the results of the survey to create projects and options for the students when collecting and observing their engagement time data. The student's work and time spent on task increased when they were able to choose portions of their shelf work or what their projects were about. Incorporating choice into their projects allowed them to connect their projects to their lives, and deepened their understanding of the mathematics connected to everyday life.





**Figure 2: Student survey data, questions 4 & 6**

The graph above compares student’s responses to questions four and six of the student survey. The data is from the sixth grade classes only. This data was selected because these classes have the same curriculum and similar positive and negative behaviors.

Question four stated: “ I am more on task when I am able to choose my task.” Question six stated: I am more on task when I do not have choice in the class room.” The data taken from student’s responses shows that students consider themselves more on task when they are able to choose a task versus when they are not able to choose their task.

The one student who strongly does not like having choice is the only outlying student, 20 out of 28 students either strongly agree or agree that having choice helps them stay on task.

The discussion of being on task and off task is frequent in my classroom. We have set expectations to which t each class contributes throughout the school year. Question eight of the survey asked students “I know what on task looks like, feels like, and sounds like”;

## Benefits of Choice

all but four of the students responded with agree or strongly agree. This question's response validates the student's responses to questions four and six, which are displayed in the graph. This data shows that students think they perform better when given choice in the classroom. As a part of the Montessori curriculum they are given choice frequently in my classroom, and their response shows they not only enjoy that, but they are also able to work better when given choice opposed to not given choice.

### On Task, Off Task Student Monitor Chart

During check ins, use your card to show whether you are feeling on task or off task. Put a check mark in the box next to the check in number to help you keep track.

**Figure 3: On Task, Off Task Student Monitor Chart**

Before giving students the chart above, the students and I had a whole group discussion

| Check-Ins | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------|---|---|---|---|---|---|---|---|---|----|
| On-Task   |   |   |   |   |   |   |   |   |   |    |
| Off-Task  |   |   |   |   |   |   |   |   |   |    |

about what being on task looks like, feels like, and sounds like using a Y-Chart. The students completed the chart individually, as a table, then we combined everyone's ideas and made a class chart. This class chart was used as a reference point for students who were displaying off task behaviors during choice time. The students then were given the chart above during their station work and choice work time. They had check-ins every five to eight minutes, measuring if they were on task or off task, if they were off task they

## Benefits of Choice

discussed a strategy to get them on task with the person sitting next to them or myself, we also would reference the Y-Chart often.

When using the chart the choices the students were making were a part of their station time. This was group work time, where students would switch stations every 15 to 18 minutes. The students got to choose the groups they worked with and which stations they wanted to complete.

The photos below show student work using the Modified On Task Off Task Chart. The difference in this version on the chart is that students wrote down individually what on task and off task looked like and felt like for them. This change gave students the opportunity to take ownership of their time on and off task during the choice work, and a direct reference to redirect them with when they were off task.

**Stations Check-ins: Are you on task?**

Look at the list you made about what being on-task looks like for YOU to determine whether you are on-task or off-task at each checkpoint.

Make a check in the appropriate box.

| ✓        | 1 | 2 | 3 | 4 | 5 |
|----------|---|---|---|---|---|
| On-Task  | ✓ | ✓ | ✓ | ✓ |   |
| Off-Task |   |   |   |   | ✓ |

On-task for me looks like....  
Focus  
Doing work  
your calm  
Silent

Off-task for me looks like....  
loud talking around  
jumping around  
Not doing any work

**Stations Rubric**

Complete this rubric at the end of stations; it is your exit slip!

| Grading Scale          | 4   | 3   | 2                                | 0-1                               |
|------------------------|---|---|----------------------------------|-----------------------------------|
| Effort                 | I tried my best.  | I tried pretty hard.  | I kind of tried.                 | I didn't try.                     |
|                        | I asked for help if I needed it.                                | I asked for help if I needed it.  | Sometimes I got distracted.      | I got distracted a lot.           |
|                        | I showed all my work.   | I showed most of my work.   | I showed some work.              | I didn't show work.               |
| On-Task, Off Task Time | I was on task for all 5 check-ins.                              | I was on task for 4 check-ins.  | I was on task for 3 check-ins.   | I was on task for 0-2 check-ins.  |
| Station completion     | I completed all stations and checked my work with the controls. | I completed all stations but didn't check all my answers with controls. | I completed some of my stations. | I completed parts of my stations. |

Student Total: 8  
Teacher Total: \_\_\_\_\_

**Figure 4: Modified Student On Task Off Task Chart**

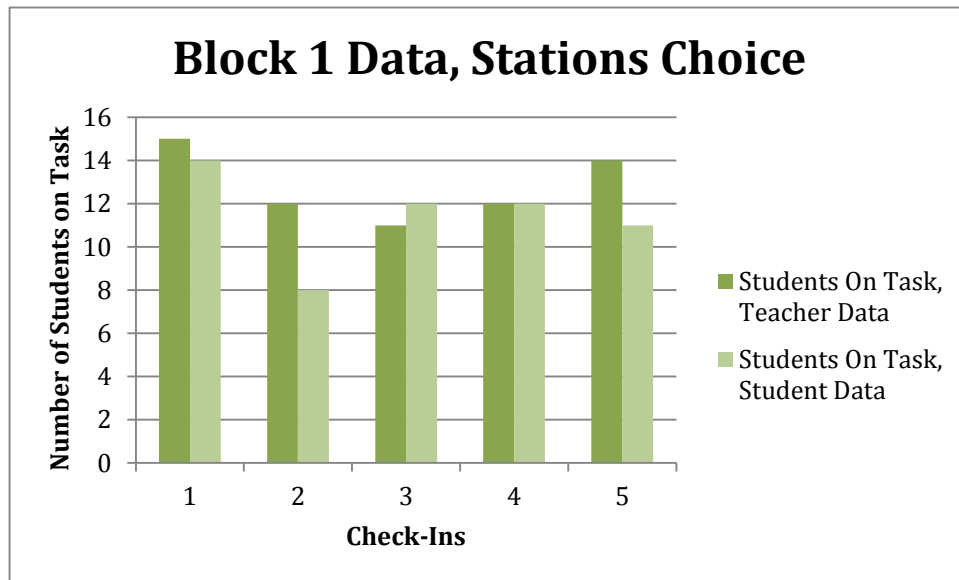
When using the modified chart, the students had check-ins every ten minutes, instead of

## Benefits of Choice

using a visual timer; I used a chime to tell the students when the check-in was.

The rubric, right, was discussed at the beginning of class as a reference and grading tool for the students to grade themselves on how well they thought they worked. Once completed, I would grade their work based on the three categories.

Using this chart enhanced student's engagement time. It was a positive reference for them to use when they were getting off task. Using this self-monitoring tool helped the students regulate their choice time, and enabled them to know how long they had to complete their work. The choices in on task behaviors were different for each student that empowered the students to set standards for themselves and follow them.

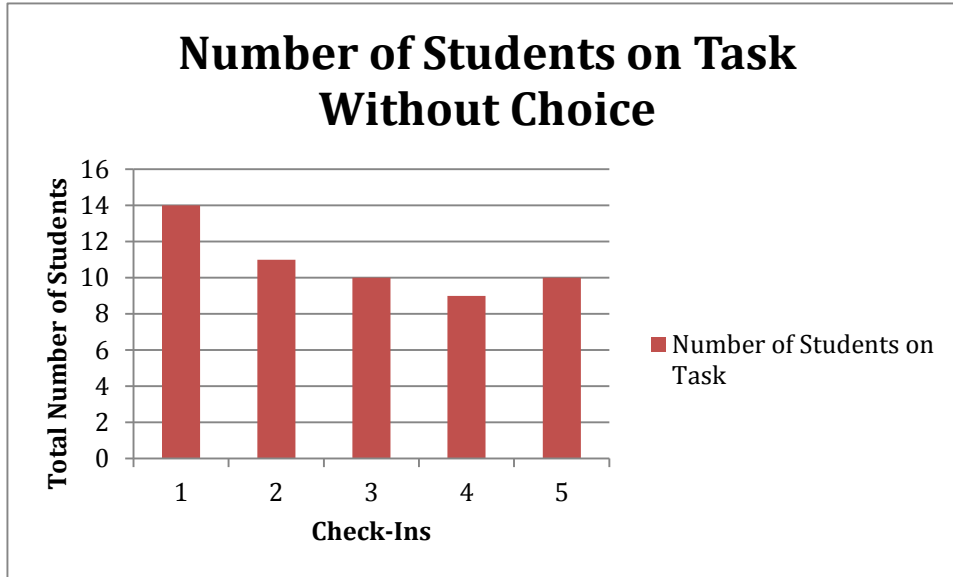


**Figure 6. Teacher data vs. student self-observation data on choice time using modified chart**

## Benefits of Choice

The chart above shows the student's self-observation data versus my observational data on student time spent on task during station choice time. The check-ins took place every ten minutes. During this time the students were completing a variety of probability stations. There were five station options, of which the students had to choose three to complete. The data shows my observation of the students' time spent on task, according to their work completion and classroom expectations. The student's data is based off the Modified On Task, Off Task Chart the students completed in figure 3. The students set their own expectations and referenced their expectations for each check-in. Comparing my observations to the student's observations shows that we have the same expectations and standards for what being engaged looks like and does not look like. This graph shows that 68.75% of the students were on task for at least 40 minutes of the choice work time, and at least 50% were on task for all 50 minutes of the choice time. According to my observation at least 81.25% of all students were on task for at least 40 minutes. This shows that when students are able to choose their tasks, they are engaged for the majority of the time they have to work on those tasks. The total number of students in this selection was sixteen, and it took place during my first block class.

The data in the graph is of the same group of sixth grade students, Block One. The data is from the day after the choice stations in Figure 6 The students were given one option of work to complete, covering the same topic area as the previous day, probability. The total number of students in this data collection was sixteen.



**Figure 7. Number of students on task without choice**

This graph shows that students are less engaged and less on task when they did not have a choice in their work. For four of the check-ins, at most, only 68.75% of students were on task. Three of the check-ins, only 62.5% or less were on task.

Figures 6 and 7 show that more students are on task or engaged for longer periods of time when presented with choice in the work. The students enjoy making the choices of work and how they wanted to learn the concepts. Therefore they are spending more of their time being engaged in their work when they had choice.

All students were given the same project having to do with Prisms. The students were assigned to create five prisms of their choice out of paper then draw or describe a family member on their prisms. The students had three days of work time, with individual check-ins on their completion. The fourth day of the project, the students had to present their prism family to the class.

## Benefits of Choice

Through my observations, I found that on average in both sixth grade classes, 94% of the students were on task for 45 minutes of the 60-minute work time. The 6% that were off task were asked why they were off task, and their responses ranged from “I am frustrated with this project” or “I am bored” or “I don’t know what family members to chose to do the project on”. This observation was of 31 sixth grade students in two different classes.

### **Figure 8. Student project work: Family Prism Project**

In the seventh grade class, twelve out of the 24 students chose to do the project; the other twelve chose to complete a normal checklist. This choice was only given to this class because many of the students did not understand the concepts necessary for completing the project.

I observed that giving the students this choice created higher engagement through out the work time. During the project work, six of the students were on task for 45 minutes of the 50 minute work time, four of the students were on task for 35 minutes, and two students were on task for less than 35 minutes.

The pictures below are examples of students who are one task working on their project work. The prisms show students chosen family members, how they measured the prisms, and some descriptive words they chose to describe their family members.

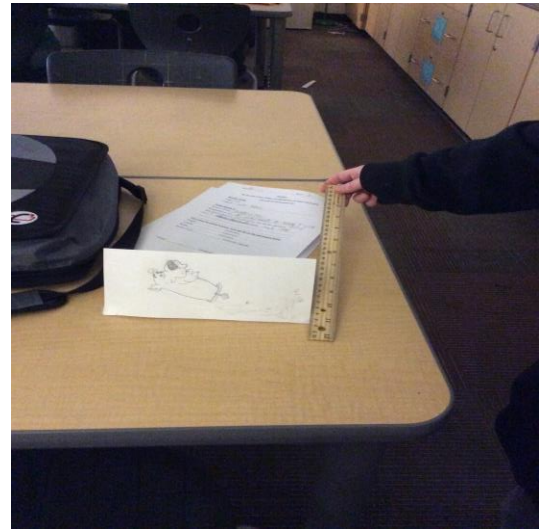
## Benefits of Choice

The students enjoyed this project because they were able to connect it to their friends and family members. In the final presentations of the projects the students were asked, “What did you learn?” Some of the responses are below:

*“I learned that prisms are everywhere”*

*“I learned math can be fun”*

*“I learned how to find surface area and volume of prisms”*



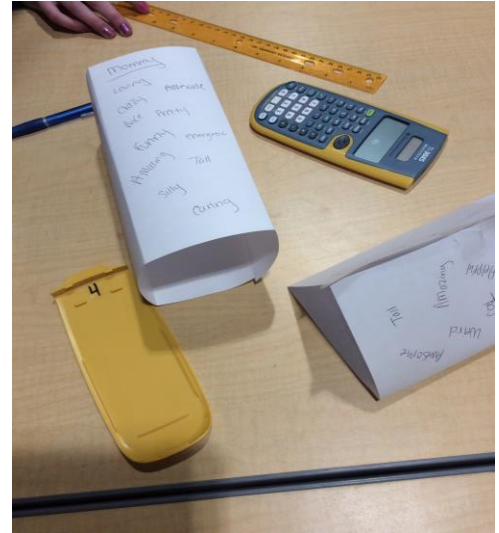


## Benefits of Choice

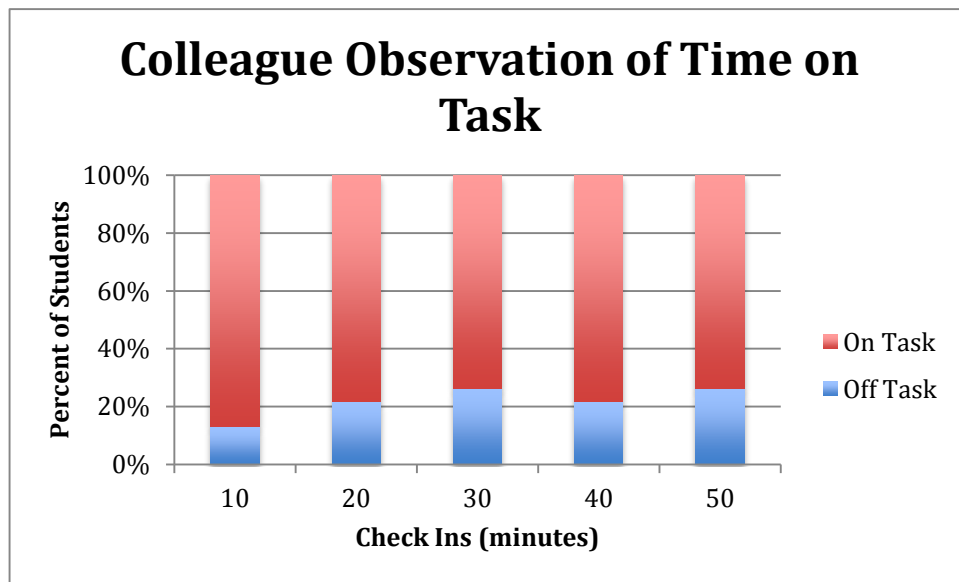
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**Figure 9.**  
**Prism**  
**Project**  
**Photos**



The students deepened their understanding of finding surface area and volume through the choices they were able to make with this project. The students showed prolonged engagement when they were able to choose the tasks and make connections to their lives.



**Figure 10. Colleague Observation Data**

My colleague observation happened three to four times, with coaching session follow-ups regarding the lessons she observed. When observing she was noting which students

## Benefits of Choice

where engaged or disengaged. She observed the students using the self-monitoring tool, and noted if it helped them or not. Her observational notes are as follows: “Students used a tool to self-monitor behavior during work time. At most times during the lesson, 70-75% of students were using the tool and meeting work time expectations.” This observation took place during students making choices during station work time and project work time.

This data is consistent with my data and the student’s self-monitoring data. It shows that when students have choice, the majority of the students are on task and engaged in the lesson and work.

## **Limitations**

One of the main limitations was the measurement of time each student spent on task through my observations. Students at times would look like they were off task, so I would ask them a question to get back on task, and they would quickly be redirected. In doing this, it could have skewed the data because their engagement was not solely attributed to their choice, being that I had to redirect them.

Another limitation was the accuracy of the students “On Task, Off Task Student Monitor Chart”, some students did not take this seriously and would either not mark their chart, or they would put checkmarks for on task and then not have completed any work. This limitation was predominately in my seventh grade class. They did not like having to keep track of their time as much as the sixth graders did. My hope was that students would use this tool to guide themselves, and they would start taking responsibility for turning their off task time to on task time. Some students did this others did not. I tried goal setting

## Benefits of Choice

with the students who were not on task; for example, eight on task check marks and two off task check marks during choice time. This gave students a reference point, but did not work consistently.

Another limitation was when students came to school with previous issues prohibiting them from completing their work. For example: being overly tired, hungry, angry, sick sad, etc. I have students come to school with these issues each day. Some days, students are dealing with more than they can handle and cannot focus and are not willing to try to get work done. This is a challenge in all classes, when the limitation is evident I try to problem solve with the students experiencing these issues, often times we can work through them, but it takes away from their work time, and then their individual engagement data is skewed.

## **Future Action Plan**

I am going to continue using choice in the classroom. Choice is a fundamental part of Montessori education, and it benefits students not only in the classroom, but also for their future. At the start of the next school year, I am going to incorporate choice in more ways than student work. I am going to have weekly room job choices for the students to choose from. I hope it will create ownership for the students in the classroom. I am also going to allow them to choose types of mini lessons they want to attend. For example, some students benefit from hands on lessons where others benefit from verbal lessons. I am going to create these lessons and have students use the whiteboards to pick a lesson type to attend. I hope this option will deepen students understanding and willingness to learn math because they will be choosing how they are learning it.

## Benefits of Choice

I am also going to continue using the project choices. The students connected deeply with these projects. I want to create a choice project for each concept the students work on. The projects will either be throughout the learning process of the concept, at the end of the concept, or to kick off the concept, more of an introduction.

### **Discussion/Conclusion**

“The Montessori environment needs to be designed to meet the child’s goal for self-construction”(Lillard, 1972, pg.76). Through a prepared environment, students are able to make positive choices in their work. From my observations, student survey’s, choice work and projects, and student on task off task monitoring, I have concluded that giving students choice in my classroom affects the students engagement positively.

My three research questions: 1) How does student choice affect engagement in the classroom? 2) Does giving students positive choices cause them to be more engagement in the classroom? 3) Does not giving a student choice cause them to be unengaged or uninterested?, have been answered in terms of my classroom and students.

Giving students choice in the classroom had a positive affect on the student’s engagement throughout the class periods when they had choice. I have learned that students crave to have choice in their work and in their lives. They took pleasure in connecting their work and projects to their lives outside of school, and choosing which people in their lives to

## Benefits of Choice

connect the math too. Students were able to build responsibility and increase engagement in the classroom through making choices.

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## Benefits of Choice

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