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Flexible Seating Influencing Student Engagement

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Abstract

This action research project was conducted to determine how much seating options can affect the engagement of students in the classroom and if students are able to identify which seating options help them stay engaged. Students were exposed to a variety of different seating options and allowed to explore each one. Students took a survey to show which seating options they believed helped them stay engaged the most in the classroom. The data collected through the survey suggests that students are engaged in traditional and nontraditional seating options. The engagement levels depend upon the individual student.

Flexible Seating Influencing Student Engagement

There have been many changes to the structure of a classroom to help increase student engagement. Educators have made some drastic changes contributing to the new term, 21st century classroom. The 21st century classroom is a classroom that supports the growth of students in areas such as communication, creativity, collaboration, and leadership skills. Flexible seating is a classroom design that enhances a student-center approach to teaching and learning. This flexible seating idea was designed to increase student engagement by allowing students to exercise choice when picking the best seating option for them. This seating choice allows students to have control over their physical environment.

Flexible seating includes many types of seating options other than the traditional desk and chair. Some seating options might involve a physical component such as a stability ball, cushion seats for wiggling, and stationary pedals. Other seating options may include a change in height like sitting table, standing desk, or high top table. There are other comfortable options such as beanbag chairs, couches, or big chairs. These seats allow students to have several seating options to choose from that may meet some of their learning needs. Many of these seating options are modeled after the environment of a Starbucks.

The goal of flexible seating is to create an environment where the students feel they have a little more control over their learning. The purpose of this research project is to determine if students are more engaged in flexible seating options compared to traditional desks and chairs.

Literature Review

In the academic journal *Fit to learn: Optimizing your learning space*, Carter (2017) emphasizes the use of flexible seating in classrooms to foster a positive and comfortable working environment. Carter (2017) studied flexible seating in classrooms and found it created a space where teachers could give instruction and students could participate in independent work, group work, and movement while learning. These new types of spaces in the classroom should enable students to take control of their learning needs. Carter (2017) applauds teachers for taking a traditional classroom and transforming it into a relaxed and comfortable learning environment. In an additional article, Carter (2013) gives five tips to designing new learning spaces to fit the needs of students. The first tip urges teachers to consider the students' needs and get them involved with picking out seating options, which they believe they will learn best with when using (Carter, 2013). The second and third tip includes taking notes and using feedback of students at different flexible seating spots and observing teachers who are already using flexible seating. The fourth tip requests to always have areas where students can work independently or collaboratively with a group while the last tip is to use the child's needs to influence new seating options.

According to the article written by Joan Novelli (1997) there are different ways to incorporate flexible seating options into a classroom. Novelli (1997) explains that teachers should always consider the way they teach and the way their students learn before they start to make changes to the classroom seating. Novelli (1997) encourages teachers to really observe their students and figure out which ones are wriggling around, looking uncomfortable, or simply just getting up and moving. "Giving students the space

they need to accommodate their learning modalities can make an enormous different in the way they learn and behave" (Novelli, 1997, p. 1). Novelli (1997) found success when she first assessed her students' needs. The researcher assessed her students' needs by using a survey to help understand how students like to work when they are at home including options such as desk, bed, floor, or couch (Novelli, 1997). Novelli (1997) found that this survey allowed her to do a trial run and then ultimately provide accommodated alternative seating that matched the needs her students pointed out when answering the questions. By assessing students' needs, it was found that flexible seating worked well to engage students in the classroom.

Mead, Scibora, Gardner, and Dunn (2016) studied students' standardized math scores and how they were affected by using, different exercises while test taking. Mead, et al., (2016) used three different classes during this study. These three classes used different levels of physical activity while taking the test. These levels of activity ranged from no physical activity, to short breaks, and stability balls during test taking. Mead, et al., (2016) found the stability balls showed to be significantly higher than the class that used activity breaks and the class that did not physical activity at all.

According to the academic article titled, *Alternative Seating for Young Children with Autism Spectrum Disorder: Effects of Classroom Behavior* written by Denise Schilling and Schwartz, (2004) stability balls is a good use of alternative seating during intervention time. Schilling and Schwartz (2004) studied students with Autism Spectrum Disorder (ASD) when they were sitting in their typical whole group lesson seats verses stability balls that were used during intervention time. Schilling and Schwartz (2004) found that students were more engaged and showed more improvements during

intervention time when they were given the stability balls to use. Teachers in this study were also asked to indicate their feelings about therapy balls over a questionnaire. Schilling and Schwartz (2004) analyzed the questionnaires and discovered that teachers preferred their students with ASD to use the stability balls during intervention time to increase the amount of time focus time and engagement during instruction.

Merritt (2014) studies the use of sensory and movement to contribute to student learning. Merritt (2014) examined student assessment scores when uses different types of alternative seating because alternative seating has been used very successfully in occupational therapy practice seen in some school settings. The researcher went on to find that assessment results along with teachers' observations of off-task behavior showed that alternative seating was playing a significant role in student success (Merritt, 2014). This data analysis shows how sensory integration positively affected student on task behavior and assessment results. Even though there were positive effects of using alternative seating in the classroom Merritt (2014) is still hesitant about the use of flexible seating without more substantial research.

Method

Participants

This action research project was conducted in a third grade general education classroom. There are 23 students ranging from ages 8 to 9. Out of the 23 students, there are 13 males and 10 females. Three students in this third grade class are on Individualized Education Plans (IEPs). There is also one English language learner (EL and one student newly diagnosed with Dyslexia and in the process of being put on an

IEP. Two other students in this class are receiving speech therapy. Four students are identified as a low Socio-Economic Status (SES).

Data Collection

The focus of this project was to determine if students are more engaged in flexible seating options compared to traditional desks and chairs. Those flexible seating options include traditional desk and chair, yoga ball, standing table, low table, wiggle seat, tall table, and round chair. Students were first put on a schedule to get the opportunity to try each seating option available in the classroom several times. After students had the opportunity to try each option, the student was allowed the freedom to pick their seating option every day. It was stressed that students need to highly consider engagement when picking their seat for the day.

The data that was collected in this study was done using a Likert scale. This Likert scale was given as a Google Form in a whole group setting. Students filled out the Google Form on their Chromebooks individually. The Likert scale included the seven seating options that are offered to students each day. Students were asked to think about their experience with each seating option before filling out the Likert scale.

The Likert scale given contained the seven seating options offered in the classroom and three points of engagement for students to choose. The three-point Likert scale was used to simplify the process for the third grade students. One indicated students felt that they were not engaged in that seating choice when sitting there. A three indicated students feel they are engaged when they are sitting at the seating option. The number two means students were somewhat engage at that seating option.

Table 1

Engagement Score by Student

Names	Traditional Desk and Chair	Yoga Ball	Standing Table	Low Table	Wiggle Seat	Tall Table	Round Chair
Student A	1	1	1	3	3	2	3
Student B	1	3	2	3	3	3	3
Student C	3	3	3	3	3	3	3
Student D	3	1	2	2	3	3	1
Student E	2	2	3	2	3	3	2
Student F	3	2	2	3	3	3	2
Student G	2	2	3	3	3	3	2
Student H	3	2	2	3	2	2	2
Student I	2	3	2	3	2	3	3
Student J	2	3	1	2	3	2	1
Student K	3	2	3	1	3	3	3
Student L	2	1	1	3	2	3	3
Student M	3	3	2	2	3	3	2
Student N	2	2	1	2	3	3	3
Student O	3	2	2	2	3	3	3
Student P	2	2	1	3	1	3	2
Student Q	2	2	3	2	3	3	2
Student R	2	2	3	2	2	3	2
Student S	3	2	2	3	1	2	3
Student T	3	1	1	3	2	2	1
Student U	3	3	3	3	3	3	3
Student V	3	3	1	3	2	3	2
Student W	3	3	2	3	2	3	3
	2.43	2.17	2.00	2.57	2.52	2.78	2.35

Data Analysis

Data was collected beginning in August 2017. Students were introduced to the different types of seating options and stressed the importance of picking based on engagement levels. Students were given several weeks to explore the seating options and several opportunities to self-reflect on their engagement levels at each seating option.

Students were able to indicate levels of engagement at each seating option. Table 1 indicates how the engagement levels can vary from student to student.

As shown on Table 2 below, 78% (15 out of 22) of students believed they were highly engaged when sitting at the tall table. The data represents that students sensed that out of all the seating options the tall table helps them stay the most engaged. Following the tall table, the next two highest levels of engagement were both 61% with the wiggle seat and the low table. These three seating options showed the highest engagement scores from all seven options.

Closely following those three options was the traditional desk and chair with 52% of students indicating they were at their highest level of engagement when sitting there. This demonstrates that out of all seven options the traditional desk and chair was a high engagement option for a little over half of the students in the classroom.

Table 2 illustrations the highest engagement levels for each type of seating option. Only 30% of students believed they were highly engaged when standing at the standing table and 35% are highly engaged when sitting on a yoga ball. In addition, 48% of students felt highly engaged when using the round chairs. These three seating options were only high engagement choices for less than half of the students in this class.

Table 2

High Engagement

Seating Options	Percent of High Engagement	Average Engagement Score
Traditional Desk and Chair	52%	2.43
Yoga Ball	35%	2.17
Standing Table	30%	2.00
Low Table	61%	2.57
Wiggle Seat	61%	2.52
Tall Table	78%	2.78
Round Chair	48%	2.35

Students were able to indicate which seating options helped them stay the most engaged in class. It was found that the traditional desk and chair was a high engagement seating option for a little over half the class. There were three seating options that received a higher engagement score and three seating options that received a lower engagement score. The traditional desk and chair is still a seating option that many students believe helps them stay engaged. Other students find that changing height of their seats or allowing to move physically while sitting at a seat allows them to stay more engaged. The researcher believes that the engagement level of the students differ from

student to student. Each student has different needs, which shows when they choose which seating option helps them stay engaged in the classroom.

Discussion

Limitations

One of the limitations in this study would be the fact that the participants used were students from the researchers own classroom. Another limitation to this study is the makeup of the participants. Although the research included males and females, these students are from middle and high class. There is not a strong representation of low economic statues families represented in the study. This classroom makeup could affect the results of the study. The lack of diversity of the participants could skew the data.

Further Study

Future studies looking into the effects of flexible seating should consider collecting data from a wide variety of participants. Researchers may benefit from using participants from multiple classes, different ages, and socioeconomic status. Researchers may also want to gather more information on how movement and physical activity affect the brain and attention span. Future studies may also want to change the types of seating options available to students based on observations and individual student needs.

Conclusion

The findings accumulated through this study suggest that students are able to identify the types of seats that help them stay engaged in the classroom. The data compiled shows that different seating options work well for different students. While some students enjoy the traditional desk and chair others, find they are more engaged in a nontraditional seating option. That data did not show any one seat being the best option

for students but showed that engagement levels will vary from student to student depending on their individual needs and preferences.

References

Carter, D. (2017, March). Fit to learn: optimizing your learning space. *Principal Leadership*, *17*(7). Retrieved from http://go.galegroup.com.ezproxy.nwciowa.edu/ps/i.do?p=PROF&sw=w&u=nwcollege&v=2.1&it=r&id=GALE%7CA498337792&asid=cb6ebdc28931c427fc666dfe878de6c4

Mead, T., Scibora, L., Gardner, J., & Dunn, S. (2016). The impact of stability balls, activity breaks, and a sedentary classroom on standardized math scores. *The Physical Educator*, *73*(3), 433+. Retrieved from http://ezproxy.nwciowa.edu/login?url=http://go.galegroup.com.ezproxy.nwciowa.edu/ps/i.do?p=PROF&sw=w&u=oran58619&v=2.1&it=r&id=GALE%7CA480028748&asid=8112d5338e5648184f21c4b06bc939ee

Merritt, Jill M. (2014). Alternative seating for young children: Effects on learning. *Journal of American International Journal of Contemporary Research, 4(1),* 12 – 18. Retrieved from http://www.aijcrnet.com/journals/Vol_4_No_1_January_2014/3.pdf

Novelli, J. (1997, September). Seating solutions. *Instructor* [1990], *107*(2), 78+. Retrieved from http://ezproxy.nwciowa.edu/login?url=http://go.galegroup.com.ezproxy.nwciowa.edu/ps/i.do?p=PROF&sw=w&u=oran58619&v=2.1&it=r&id=GALE%7CA19844867&asid=8f3a3be9ffe7cf1f5d275e81f8c8a107

Schilling, D. L., & Schwartz, I. S. (2004). Alternative seating for young children with autism spectrum disorder: Effects on classroom behavior. *Journal of Autism and*

Developmental Disorders, 34(4), 423-32. doi:http://dx.doi.org.ezproxy.nwciowa.edu/10.1023/B:JADD.0000037418.48587.f4

Wierman, M. (2016, December 3). 4 Key Elements of 21st Century Classroom Design. Retrieved from http://www.gettingsmart.com/2016/12/21st-century-classroom-design/