2022

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Sample Student Responses and Scoring Commentary

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Sample F

- ☑ **Scoring Guidelines**
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The Response…				
Score of 1 **Report on Existing Knowledge**	**Score of 2** **Report on Existing Knowledge with Simplistic Use of a Research Method**	**Score of 3** **Ineffectual Argument for a New Understanding**	**Score of 4** **Well-Supported, Articulate Argument Conveying a New Understanding**	**Score of 5** **Rich Analysis of a New Understanding Addressing a Gap in the Research Base**
Presents an overly broad topic of inquiry.	Presents a topic of inquiry with narrowing scope or focus, that is NOT carried through either in the method or in the overall line of reasoning.	Carries the focus or scope of a topic of inquiry through the method **AND** overall line of reasoning, even though the focus or scope might still be narrowing.	Focuses a topic of inquiry with clear and narrow parameters, which are addressed through the method and the conclusion.	Focuses a topic of inquiry with clear and narrow parameters, which are addressed through the method and the conclusion.
Situates a topic of inquiry within a single perspective derived from scholarly works **OR** through a variety of perspectives derived from mostly non-scholarly works.	Situates a topic of inquiry within a single perspective derived from scholarly works **OR** through a variety of perspectives derived from mostly non-scholarly works.	Situates a topic of inquiry within relevant scholarly works of varying perspectives, although connections to some works may be unclear.	Explicitly connects a topic of inquiry to relevant scholarly works of varying perspectives **AND** logically explains how the topic of inquiry addresses a gap.	Explicitly connects a topic of inquiry to relevant scholarly works of varying perspectives **AND** logically explains how the topic of inquiry addresses a gap.
Describes a search and report process.	Describes a nonreplicable research method **OR** provides an oversimplified description of a method, with questionable alignment to the purpose of the inquiry.	Describes a reasonably replicable research method, with questionable alignment to the purpose of the inquiry.	Logically defends the alignment of a detailed, replicable research method to the purpose of the inquiry.	Logically defends the alignment of a detailed, replicable research method to the purpose of the inquiry.
Summarizes or reports existing knowledge in the field of understanding pertaining to the topic of inquiry.	Summarizes or reports existing knowledge in the field of understanding pertaining to the topic of inquiry.	Conveys a new understanding or conclusion, with an underdeveloped line of reasoning **OR** insufficient evidence.	Supports a new understanding or conclusion through a logically organized line of reasoning **AND** sufficient evidence. The limitations and/or implications, if present, of the new understanding or conclusion are oversimplified.	Justifies a new understanding or conclusion through a logical progression of inquiry choices, sufficient evidence, explanation of the limitations of the conclusion, and an explanation of the implications to the community of practice.
Generally communicates the student's ideas, although errors in grammar, discipline-specific style, and organization distract or confuse the reader.	Generally communicates the student's ideas, although errors in grammar, discipline-specific style, and organization distract or confuse the reader.	Competently communicates the student's ideas, although there may be some errors in grammar, discipline-specific style, and organization.	Competently communicates the student's ideas, although there may be some errors in grammar, discipline-specific style, and organization.	Enhances the communication of the student's ideas through organization, use of design elements, conventions of grammar, style, mechanics, and word precision, with few to no errors.
Cites **AND/OR** attributes sources (in bibliography/ works cited and/or in-text), with multiple errors and/or an inconsistent use of a discipline-specific style.	Cites **AND/OR** attributes sources (in bibliography/ works cited and/or in-text), with multiple errors and/or an inconsistent use of a discipline-specific style.	Cites **AND** attributes sources, using a discipline-specific style (in both bibliography/works cited **AND** in-text), with few errors or inconsistencies.	Cites **AND** attributes sources, with a consistent use of an appropriate discipline-specific style (in both bibliography/works cited **AND** in-text), with few to no errors.	Cites **AND** attributes sources, with a consistent use of an appropriate discipline-specific style (in both bibliography/works cited **AND** in-text), with few to no errors.

Academic Paper

Overview

This performance task was intended to assess students' ability to conduct scholarly and responsible research and articulate an evidence-based argument that clearly communicates the conclusion, solution, or answer to their stated research question. More specifically, this performance task was intended to assess students' ability to:

- Generate a focused research question that is situated within or connected to a larger scholarly context or community;
- Explore relationships between and among multiple works representing multiple perspectives within the scholarly literature related to the topic of inquiry;
- Articulate what approach, method, or process they have chosen to use to address their research question, why they have chosen that approach to answering their question, and how they employed it;
- Develop and present their own argument, conclusion, or new understanding while acknowledging its limitations and discussing implications;
- Support their conclusion through the compilation, use, and synthesis of relevant and significant evidence generated by their research;
- Use organizational and design elements to effectively convey the paper's message;
- Consistently and accurately cite, attribute, and integrate the knowledge and work of others, while distinguishing between the student's voice and that of others;
- Generate a paper in which word choice and syntax enhance communication by adhering to established conventions of grammar, usage, and mechanics.

The Correlation Between Attention and Seating: How Students Feel Chairs With Wheels Influence Attentiveness In The Classroom

May 2, 2022

Word count: 4370

ABSTRACT

As attention based issues continue to increase, there is a growing need for solutions to protect the integrity of our educational programs. One of these interventions involves changing the environment students learn in, creating a classroom that mitigates attention problems. As an answer to issues such as ADHD, flexible seating has been a reoccurring solution to attention based issues in an educational setting. Flexible seating is a restructuring of the classroom environment that provides multiple options for students to use. However, one of these options stands out amongst the rest. Chairs with wheels fall under the broad umbrella of flexible seating, but there is currently no available research on how it alone affects students' attention. This paper looks into answering that question, and through a survey of students, looks to see how they personally feel about the issue. Flexible seating is currently an unrealistic goal for most school systems due to its cost, therefore the results of this research provide useful information into a possible solution to student's growing lack of attentiveness.

LITERATURE REVIEW

Introduction

It has become clear over the course of societal development that students struggle to sit still in their classrooms. This is made evident by the research currently being conducted into why students fidget and how it can affect learning. The resulting knowledge has led to a discovery that movement correlates with our ability to engage our mind in the process of education, specifically through attentiveness. A lack of overall attention in class is something I have noticed in my own academic setting, along with a tendency to fidget in class. Research currently suggests that the tendency to fidget in an educational environment benefits our learning capabilities. This is proven by the fact that "Cognitive neuroscience confirms that physically moving the body stimulates the brain; our term for this is 'movement for learning'" (Kilbourne et al., 2007, p. 3). Because of this, there are now many attempts made by educational institutions to utilize this information and alter the educational structure to the betterment of learning. One method that is most commonly discussed is revising the arrangement of classrooms. The classroom is one of, if not the most influential factor in a student's ability to retain content and more importantly remain attentive in the school. With a focus to grant students with the necessary conditions to move freely, their cognitive ability may benefit. This means that, if done correctly, the traditional class can indeed evolve in order to better suit this newfound standard. Otherwise, it is said that " these spaces become misaligned to student and faculty expectations, resulting in, minimally, frustration with classroom spaces while, at worst, posing as true barriers and impediments to learning and teaching" (Harvey & Kenyon, 2013, p 1). Because of this, it is made clear that an effective solution to this issue would be a reorganization of the classroom environment in a way that movement can be used in order to further student engagement.

Flexible Seating and It's Ties To Attention

Upon researching how the concepts of movement and classroom arrangement could intersect, one recurring topic was that of flexible seating. Also known as alternative seating arrangements, flexible seating is defined as "multiple seating options given to students in order to increase engagement in class"(Waleske, 2020, para. 1). Comparing these different seating options, there are different functions that certain models are able to perform. While some choices include things such as couches, beanbags, and yoga balls, they are often an unrealistic choice for schools due to their cost. Therefore, the most effective alternatives include adjustable height, variable distance from a table or desk, and most importantly ease of movement. Of these different types of movable seating, the most common is that of chairs with wheels mounted on four legs. Wheeled chairs are what sparked my initial curiosity, as the institution I currently attend has seen the majority of classes adopt this option. This model is the most common in school systems; however, only to a limited degree. In many cases only a handful exist in a single building, and few locations are yet to implement widespread use. Considering such chairs, it is noted that "Using movement activities throughout the day is an effective and enjoyable way to support learning and development"(Furmanek, 2014, p 6). Not only can academic benefits be achieved by movement, but there is something to be said regarding the ability to easily interact in groups as well.

Aspects of Attention & Possible Enhancement

The classrooms in my institution that hold these chairs with wheels have desks capable of interlocking with each other, forming groups of five known as nodes. By adopting teaching strategies that utilize these groups, further benefits of flexible seating may be observed. This was found to be true when

> A modest study was conducted investigating interaction in nodal classrooms in both language and content courses at the University of Michigan. Findings revealed that the nodal classrooms helped to improve concentration, mobility, group work, and the overall classroom experience of students. (Weiss et al., 2015, p 4)

Of these improvements the most important would be that of concentration, which I will later redefine to be engagement. Many students now find themselves unable to concentrate properly, with it progressively becoming harder for instructors to maintain the engagement of students. This situation is becoming more of a problem, shown by research done in the United States and United Kingdom where "The US study reported a 42% increase in ADHD diagnoses from 2003-11, with 8.8% having a current diagnosis of ADHD."(Verkuijl et al., 2015, p 1). This increase in attention based issues highlights the need for a solution in order to prevent the negative impacts that result. It has been found that

> Children with attention problems often experience considerable academic difficulties despite adequate intelligence (Ross & Ross, 1982). This has been noted by reports from teachers and parents, as well as researchers. If problems in attention can be identified early and objectively, interventions could be initiated that might help prevent such downward scholastic spirals. (Berman et al., 2013, p 4)

Regarding these interventions, one possibly effective method may be a transition from the traditional and grounded chair to a design capable of providing a form of movement for students. Much like my current school system, it is possible that implementation of flexible seating or chairs with wheels may increase alertness through physical stimulation. It is known that nodal classrooms, such as the ones with wheeled chairs, can significantly improve the performance on attention based assignments like the ACT. Considering that these are often long and more

difficult than a quiz or test, it is fair to say that extended periods of attention would be required. A study of this correlation at the college level claims that

> Based on their average composite ACT score, the expected final grade for the traditional room's students was 78.52 percent, while the ALC room's students had an expected grade of 71.77 percent. But the ALC students did substantially better than expected, earning an average of 76.49 percent, a score that is statistically equivalent to the traditional room's average of 78.45 percent. (Walker et al., 2011, p 13)

In this study the ALC room (Active Learning Classroom) at a university was arranged to have wheeled chairs and nodal desks, which supports a possible correlation between the use of such seating and an increase in attention. This is because the increase in grades would indicate content comprehension would be affected amongst students, which would be considered a direct result of attentiveness in the classroom during sessions and lectures. With these correlations being made, many ask what type of flexible seating may best remedy the attention crisis growing in an educational environment. I believe this to be chairs with wheels. However, while there is a plethora of research suggesting that such a connection exists, there is still another viewpoint to be considered.

Gap In Research

In regards to attention and classroom seating arrangements, the opinions of students who have experienced classes with both traditional and wheeled chairs is largely unknown. Most of the pre-existing literature gages students' attention through grades and extrinsic observation. My hypothesis, formed after reviewing the topic, was that from students' observations the benefits of wheeled chairs include better performance in certain aspects of attention. In my research I looked to find if this correlation can be supported by the students' personal opinions, and did so by

defining aspects of attention such as engagement, content comprehension, and ability to stay alert throughout the school day. These three subjects were based on the concepts I discussed regarding the research of Weiss, Berman, Walker, and their associates. Together I felt these three categories would cover the entire topic while providing further insight on how students perceived attention. With this, a better understanding may be had of the benefits of chairs with wheels and how they influence motion, classroom arrangement, and academic performance. From this I formulated my research question, and asked how do students feel chairs with wheels influence attentiveness in the classroom?

METHOD

Overview

My method consisted of four steps. First, I identified the three factors of engagement, content comprehension, and alertness that would be used to quantify attention. Second, I reached out to students that attended the high school of study, for which I chose the pseudonym Oak Valley Highschool. I then provided them with a survey that measured these attention factors and how they changed from the different classroom's seating. Third, I gathered the survey information and created a model that accurately represented the students' responses on seating. Then, finally, informed the school on the results and what the most advantageous seating option may be.

Categories of Attention

Within this study I used the three recurring aspects of attention in my research to find a correlation between chairs with wheels and an increase in attentiveness for high school students. This meant engagement, content comprehension, and alertness throughout the school day would be used as a measure of student attention. Engagement is a measure of a student's ability to

converse with others and explain what they have learned. This is a skill discussed in Weiss' writing, and was measured in The University of Michigan's research. Similar to this, Content comprehension is a student's memorization of content which directly results from paying attention in their courses. A byproduct of this could be considered better grades and scores on tests, which is what Walker concluded was increased by chairs with wheels. As a final factor, alertness is defined as a student's physical ability to stay awake and aware of their surroundings in class. Alertness is the most physical aspect of attention, and I predict it to be impacted the most by the usage of chairs with wheels. As discussed by Berman in their study, chairs with wheels may act as a preventive measure to ADHD or the academic difficulties that many students are likely to face from it. An explanation to this would be the physical aspect of movement learning, which I believe may increase students' likelihood of success. Together these categories covered what most researchers consider attentiveness, and allowed me to break down the results of my study into specific aspects.

Survey Design

While first creating my design, I considered using quantitative data to investigate my hypothesis. However, after revising this I found a qualitative study into students' opinions would better serve both my gap and my studies' importance. A majority of prior research in the field of student attention focuses mainly on academic achievement, which only displays the end result of positive attention tendencies and not necessarily attentiveness itself. Due to my decision of qualitative research, I found a survey fit well. Before this choice I first considered an interview as it appeared to be the most direct form of ascertaining a student's opinions. With that being said, one of the major concerns encountered was the amount of time an interview would take to complete, and if the data collected would be abundant enough to draw a strong conclusion. Time

was a major concern since I gathered my participants from [redacted], and anything longer than 3-4 minutes may disincentivize participation. A survey using Likert Scales was chosen because of this, as it took much less time and would therefore attract more participants. The survey consisted of 12 questions, with 4 questions being dedicated to each of the three aspects of attention; engagement, content comprehension, and alertness. Using Likert Scales, I ran a pilot with 12 participants, and quickly encountered a problem. Likert scales are used commonly in qualitative research in order to gather subjects' opinions, with each question having a row of 5 options below it. One side of the spectrum is labeled strongly agree, followed by agree, neutral, disagree, and strongly disagree. The questions began with the phrase "do you feel that" before continuing on with the question. In my pilot study this caused multiple misconceptions. Subjects who had not encountered the phenomenon as stated in the question would bubble in the "strongly disagree" option, unaware that such a response indicated that they felt the opposite outcome was true. These false negatives directly impacted my survey's validity, with the correlation of results being confined to both extremes. This issue led to me modifying the Likert Scale system in a way that would not compromise its validity, and the five bubbles were altered into written statements that still conveyed their original meaning. In a second trial, I found the miscommunication to be eliminated, and finalized it as my completed survey.

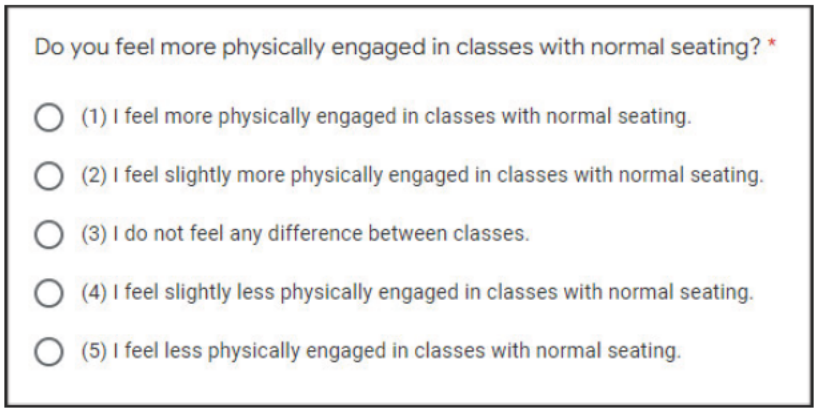


Figure 1: Modified Question Example

Eliminating Bias

In addition to this revision, I also varied the implied answers from question to question to ensure careful answering and reading for each statement. An example of this would be the prompts “do you feel more awake in classes with normal chairs?” and “do you feel more alert in classes with wheeled chairs?”. Cycling back and forth can prevent something called measurement error in a survey, which “occurs when respondents are unable or unwilling to provide accurate answers”(Dillman & Bowker, 200, p 5). While this would only happen if a subject quickly hurried through, it eliminated a limitation I would encounter later on. This also removes implied bias, with each question leaning towards a different correlation, meaning if there is a connection between increased attention and chairs with wheels it will be an honest pool of results.

Sampling

I selected snowball sampling within [redacted], as all students had standard seating and chairs with wheels. Using this method, I was able to ascertain 68 participants for my research, giving me a large pool of students for statistical accuracy. The only prerequisites of my study were that all participants enrolled in [redacted] must have classes with both standard seating and chairs with wheels. I started with asking a handful of students to participate, emailing them the survey and all applicable waivers that must be filled out to continue. They informed other classmates of the study, who were also sent the survey and applicable waivers. From there teachers were asked to address my survey in class, and if their students were interested to participate in the study. After their survey was complete and name entered, their provided information was removed from the submission in order to ensure anonymity. After the deadline for my research had expired, I closed the google form and thanked

those who participated. Once the results were in, I was able to take the survey answers and find how many students felt chairs with wheels helped or harmed their attention.

FINDINGS

Once the form was closed I collected all submitted surveys and began compiling the results. I organized the overall responses relative to if chairs with wheels had a positive or negative correlation to classroom engagement, content comprehension, and alertness throughout the school day. I created percentages based on the answers provided for each question, replacing the responses such as strongly agree, strongly disagree, etc., with the correlation it had to increasing attentiveness in the classroom.

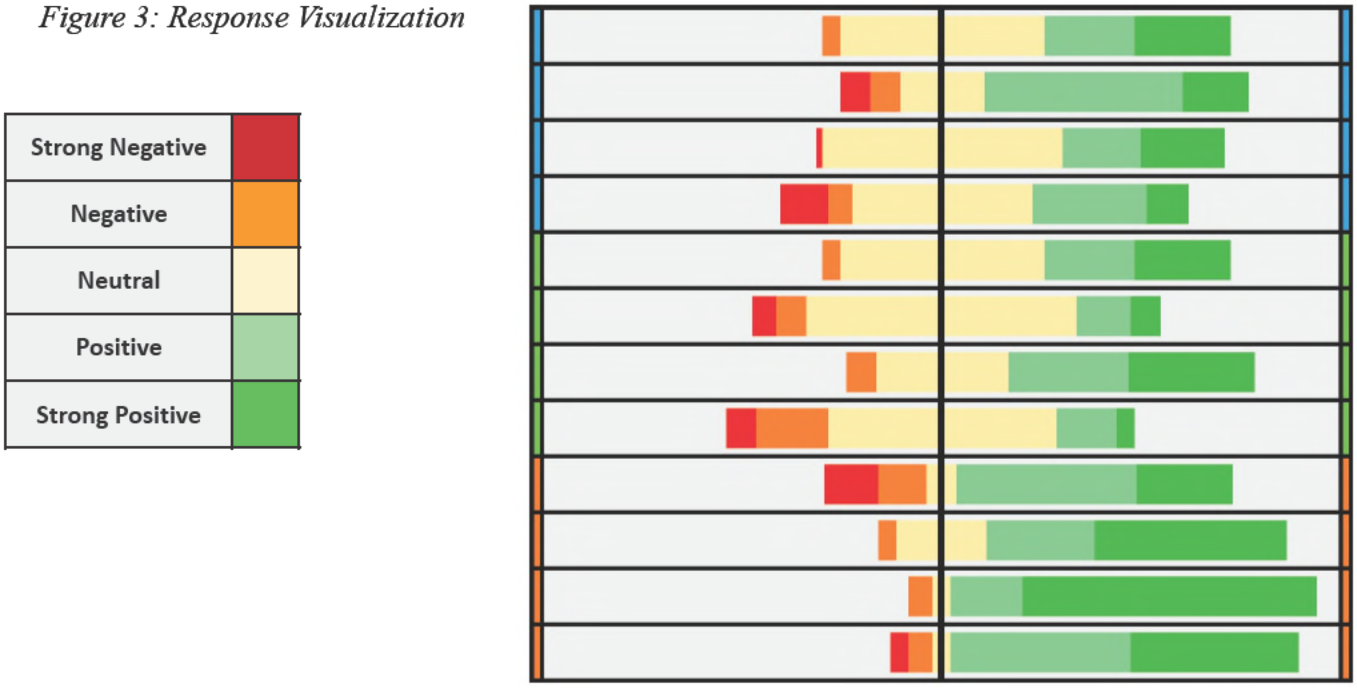
Figure 2: Survey Results

Question / Type	Strong Positive	Positive	Neutral	Negative	Strong Negative
1 -Engagement	23.5%	22.1%	50%	4.4%	0%
2 -Engagement	16.2%	48.5%	20.6%	7.4%	7.4%
3 -Engagement	20.6%	19.1%	58.8%	0%	1.5%
4 -Engagement	10.3%	27.9%	44.1%	5.9%	11.8%
5 -Comprehension	23.5%	22.1%	50%	4.4%	0%
6 -Comprehension	7.4%	13.2%	66.2%	7.4%	5.9%
7 -Comprehension	29.4%	30.9%	32.4%	7.4%	0%
8 -Comprehension	4.4%	14.7%	55.9%	17.6%	7.4%
9 -Alertness	23.5%	44.1%	7.4%	11.8%	13.2%
10 -Alertness	47.1%	26.5%	22.1%	4.4%	0%
11 -Alertness	72.1%	17.6%	4.4%	5.9%	0%
12 -Alertness	41.2%	44.1%	4.4%	5.9%	4.4%

Note: Alternating questions that prevented bias were reoriented to accurately reflect the positive and negative responses as opposed to agree and disagree.

In the question column the attention category is specified, and the following columns show how students perceived their attention was affected relative to chairs with wheels. For all three aspects of attention there was a positive correlation in responses, with 47.05% being positive for the engagement category, 36.4% positive in comprehension, and a substantial 79.05% positive in attentiveness. The negative responses were far fewer in number, being only 9.6%, 12.525%, and 11.4% respectively. The percentages of strongly positive were 17.65%, 16.175%, and 49.975%, while strongly negative was 5.175%, 3.325%, and 4.4%.

Figure 3: Response Visualization



34.69% of the responses provided were a neutral option, indicating that the study was improved by the alteration of the Likert Scale model. This visualization better displays the overall positive correlation between the three aspects of attention and chairs with wheels, although question 8 in the comprehension category resulted in a slightly negative response.

My hypothesis was that the benefits of wheeled chairs from a student's perspective include better performance in certain aspects of attention, and after reviewing the results of my study it is proven to be correct by a sizable margin. Alertness throughout the school day was the most physical category involved in my study, and as such it showed the most positive correlation. Nearly half of the respondents indicated a strong positive, showing that alertness is a benefit of chairs with wheels. This was expected. However, I was surprised to find that not only did students feel their attention was positively impacted in the other two aspects, but in both cases the positive responses were 3 times more than that of the negative. This shows that my hypothesis was correct, and that students feel the benefits of wheeled chairs include better performance in certain aspects of attention.

DISCUSSION

Analysis

In comparison to other research results regarding flexible seating in general, my results show that there is a conclusive correlation between attention and chairs with wheels at least in the three aspects I studied. In previously mentioned research into how student's attentiveness was impacted by Active Learning Classrooms, they found that "teaching a class in an ALC has significant positive effects on student learning outcomes and student perceptions of the learning experience, and results in significant changes in faculty and student behavior"(Walker et al., 2011, p 26). This shows that grades feel the positive effects of flexible seating, and from my research it can be inferred that the increase in ACT scores is caused by greater attentiveness in classrooms.

An additional study that my research is able to support is that of Molly Espey, an instructor at Oxford University that surveyed his students before and after changing the

classroom design to include flexible seating for group work. These seating arrangements were movable pods where up to five students could freely position themselves within the classroom. After reviewing the results of his study he concluded that "students appreciate having the physical flexibility to work comfortably in groups"(Espey, 2008, p 12). I believe that this physical flexibility provides comfort by allowing students to move freely, much like chairs with wheels for students individually. This physical movement was proven to be a major factor in my results, with the alertness aspect drawing the closest ties to movement learning.

Looking back on another source that inspired my study, Donna Furmanek's research had found "Using movement activities throughout the day is an effective and enjoyable way to support learning and development"(Furmanek, 2014, p 6). Now that I have conducted my own research, her findings concur with my own to a degree, and highlights the positive role physical activity can play in an educational setting. Overall these researchers' conclusions further emphasize the importance of movement learning in how students have perceived their own attentiveness in the classroom.

Because of the physical ability to move, alertness during the school day was extremely improved by the presence of chairs with wheels and showed little change between questions. Classroom engagement also saw a moderate increase when wheeled chairs were in use, with the responses staying somewhat consistent as well. However, content comprehension provided insight into the possible limitations chairs with wheels might have. Questions 7 and 8 regarded a relatively similar subject matter, and yet the two questions yielded drastically different results.

Figure 4: Questions 7 & 8

Question 7 asked “Do you find yourself having an easier time on tests and quizzes in classes that have chairs with wheels?” and came out as overwhelmingly positive, while question 8 asked “Do you find yourself feeling more prepared for exams in classes that have chairs with wheels?” and came out as the only negative response. Overall 25% said they disagree to chairs with wheels helping in exams, while only 19.1% said they thought it helped. While this margin is slim, I believe the combination of neutral and negative responses show that chairs with wheels may lose their effectiveness in situations similar to an exam. Compared to question 7’s test and quizzes, an exam is often considered a high stakes assignment. Students are in most cases under elevated amounts of pressure, with the expectation of providing undivided attention for extended periods as to not go over the allotted time. Because of this, it can be assumed that the discrepancy between the two questions can be a result of this pressure, and that higher pressure environments may change the sentiment students have towards chairs with wheels.

Limitations

In the earlier stages of my research I attempted to eliminate as many confounding variables as possible. The most effective of these efforts was the pilot study I conducted prior to issuing my final survey. The feedback I received from this allowed me to change the wording of my questions, simplify the consent and assent forms where applicable, and most importantly it made me aware of the Likert Scale's shortcomings. Because of this I was able to alter the design of the survey options, which almost entirely eliminated false negatives and gave me a more accurate pool of results.

With this all being said, there are still certain aspects of my research that may have been influenced by outside factors. The greatest of these is how teachers that had chairs with wheels may have garnered more attention than those without. [redacted] did not receive the chairs with wheels at random, with departments of different class subjects or individual teachers making the decision to either take the new seating arrangements or keep the standard ones. It can be argued that teachers who make the decision to take chairs with wheels are less

concerned with maintaining a professional learning environment, and actively look for ways to make their teaching methods more engaging. Because of this factor, it is possible that the increase in attention may be caused by the teacher utilizing the chairs more so than the chairs with wheels themselves.

In addition to this, if I were to repeat my research I would change my sampling method. In order to gain a healthy amount of participants, I choose snowball sampling through schoolwide emails. However, this does not accurately represent the entire student body, and the students that I failed to reach may have had an influence on my final data. If this research was to be repeated again I would advise some form of random sampling, as it would more accurately represent the student body as a whole.

Future research

Following the research I have conducted, There are many directions that this subject may be built upon in order to solidify the correlation between attention and chairs with wheels. My new understanding is that high pressure situations may change the sentiment students have towards wheeled chairs. If this study were to be expanded upon, I would advise that further research would be done comparing levels of stress. Through this we can discover just how much of an effect pressure has on students' attention, at what threshold does the benefits of flexible seating turn into hindrances, or if the difference is negligible and the response to question 8 was a fluke.

In addition to this, future research could be conducted into how the correlation between attention and chairs with wheels changes nationwide. It is possible that in areas with different curriculums, cultures, and school buildings, the correlation may change. This applies to ages as well. After researching the influence chairs with wheels has on students in highschool, further

research is required to find how this may change in pre K, elementary, or even college. As students age, their ability to pay attention for extended amounts of time may grow or diminish, and finding a conclusive answer may go a long way in correcting attention based issues in an educational setting.

Conclusion

My research has shown that students feel chairs with wheels increase their attention in regards to engagement, content comprehension, and alertness. The correlation in the data shows with clear consistency that these increases can be attributed to the unique moving properties of the chairs, and how they allow classrooms to become more engaging mentally through movement learning. Because of this newfound understanding, It can be concluded that chairs with wheels alone show the same benefits as that of flexible seating. This is groundbreaking, due to the fact that many school systems are incapable of funding Active Learning Classrooms that have flexible seating. This is due to the large variety of unique furniture used for flexible seating such as couches, beanbags, and others that cost considerably more than standard chairs. Because of this, chairs with wheels may prove to be the best of both worlds for students, by being affordable and effective in regards to mitigating attention difficulties. In the future school systems may apply this research to their highschool classrooms, and chairs with wheels can be solidified as an effective solution to the ADHD and attentiveness crisis. Although further research must be conducted to discover the limitations of my research and how different environments influence it, I have addressed a major gap in the scholarly conversation of how students are impacted by chairs with wheels.

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Academic Paper

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Sample: F
Score: 3

This paper earns a score of 3. This paper presents a topic of inquiry on page 7: “how do students feel chairs with wheels influence attentiveness in the classroom?” This focus is carried throughout the paper. The researcher situates this topic of inquiry within mostly scholarly works with some unclear connections. The researcher presents a gap on page 6, stating, “the opinions of students who have experienced classes with both traditional and wheeled chairs is largely unknown.” Although the student presents some limitations of the methods, a lot of the details on how the method was designed are missing (see pages 7-11). For instance, only some of the survey questions are presented in the body of the paper. The limitations of the methods are presented on page 9, with a discussion of the pilot study using 12 participants. The findings of the research are discussed on pages 11-13. While the research does provide one survey question on page 9 and two more questions on page 15, the paper does not have all the questions provided in the survey, which leads to an ineffectual argument for a new understanding presented on page 17.

This paper does not earn a score of 2 because the three survey questions provided on pages 9 and 15 are used to generate survey data with reasonable replicability. The student generated data leads to a new understanding with an ineffectual argument. Unlike a paper that earns a score of 2, this paper has student generated data as seen on pages 11-13.

This paper does not earn a score of 4 because the research conveys a new understanding with an “ineffectual argument.” The paper is based mostly in scholarly works, but there are some unclear connections to the topic, specifically, students’ feelings on chairs with wheels and attentiveness in classrooms. The methods are missing some details and justifications, making them reasonably replicable, but not logically defended.