

UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

SUPPORTING AND ENCOURAGING MOTIVATION THROUGH
INCLUSIVE ENVIRONMENTS AND INCLUSIVE PEDAGOGY IN GIFTED
AND TALENTED K-12 STUDENTS IN THE CENTRAL OKLAHOMA
REGION

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SUPPORTING AND ENCOURAGING MOTIVATION THROUGH
INCLUSIVE ENVIRONMENTS AND INCLUSIVE PEDAGOGY IN GIFTED
AND TALENTED K-12 STUDENTS IN THE CENTRAL OKLAHOMA
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ABSTRACT

Georgetown University defines inclusive pedagogy as “a student-centered approach to teaching that pays attention to the varied background, learning styles, and abilities of all the learners in front of you”. This includes gifted and talented students. Inclusive pedagogy must be paired with inclusive environments to be effective. The hypothesis for this study is that inclusive environments, when paired with inclusive pedagogy, will create a sense of belonging and motivate gifted and talented students. Three types of gifted and talented students will be analyzed and will be referred to as gifted underachievers, autonomous learners, and twice-exceptional students. Gifted underachievers have a fixed mindset, autonomous learners have a growth mindset, and twice-exceptional students have some sort of learning, physical, or emotional disability in addition to being gifted. A qualitative survey was conducted to analyze the motivation in students, pedagogy of teachers, and the environmental state of the school building. Questions were based in a new theoretical framework based on the intersection of inclusive environments, inclusive pedagogy, and motivation. These three areas overlap in a triple circle Venn diagram with autonomy at the center. This Venn diagram is named the Autonomy Venn Diagram. The inclusive environment circle will be rooted in the Six Dimensions of Wellbeing theory from Steelcase. The inclusive pedagogy circle will be rooted in the Inclusive Pedagogical Approach in Action (IPAA) framework. The motivation circle will be rooted in Self-Determination theory from Ryan and Deci. The research found that combining inclusive environments and inclusive pedagogy can increase gifted and talented

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student wellbeing and motivation through targeted approaches that do not marginalize any students in the process. External factors will always be present, so it is all the more important to cultivate positive and inclusive environments, physically, mentally, and emotionally, for the students that occupy them.

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INTRODUCTION

Georgetown University (n.d.) defines inclusive pedagogy as “a student-centered approach to teaching that pays attention to the varied background, learning styles, and abilities of all the learners in front of you” (para. 1). This idea can include varied backgrounds such as race, religion, financial class, and upbringing. Abilities or disabilities include those struggling with learning, physical, mental, or emotional disabilities and also includes those with high abilities. There has been extensive research on inclusive pedagogy and its impact on different races, religions, and other upbringings. There has been limited research on inclusive pedagogy impact on financial classes. Extensive research has also been done on inclusive pedagogy impact on students with disabilities. However, scarce research was found on the effects of inclusive pedagogy on gifted and talented students.

What is more, to be fully efficacious, inclusive pedagogy must be paired with inclusive environments (Ahmad, 2015; Benade, 2019; Clinkenbeard, 2012; Saricam & Ozbey, 2018). Inclusive environments are spaces that promote flexibility and wellbeing (Benade, 2019; Cheryan et al., 2014). The research presented in this paper will explore how inclusive environments and inclusive pedagogy can support and promote motivation and belonging in gifted and talented students in the Central Oklahoma region. These two areas, motivation and belonging, were chosen because they were common themes throughout initial research done on inclusive pedagogy (Benade, 2019; Cheryan et al., 2014; Clinkenbeard, 2012; Saricam & Ozbey, 2018). The study will take place in the

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Central Oklahoma region for convenience of the researcher. The hypothesis for this study is that inclusive environments, when paired with inclusive pedagogy, will create a sense of belonging and motivate gifted and talented students.

Questions include:

- What issues do gifted and talented students currently face in school environments?
- How can the interior environment shape student motivation?
- How can inclusive pedagogy encourage gifted and talented students?
- How does inclusive pedagogy contribute to motivation?
- How can the school environment foster belonging?
- How can motivation be increased or encourage with inclusive environments and inclusive pedagogy?
- Where do inclusive environments and inclusive pedagogy overlap?

LITERATURE REVIEW

A literature review was conducted exploring the topics of gifted and talented students, inclusive environments, inclusive pedagogy, belonging, and motivation.

Gifted and Talented Students

Currently, there is not an exact definition of what qualifies a student to be gifted and talented. Some define it as high achieving in school subjects, others base it off IQ levels, even others require their own special school district tests to detect gifted students (Betts and Neihart, 1988; Clinkenbeard, 2012; Saricam & Ozbey, 2018). Even though these discrepancies exist, Betts and Neihart (1988)

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created six typologies of students that are recognized as gifted and talented. The first type is called the successful type. This is the most common type of gifted and talented students; they learn parent and teacher expectations and perform to those levels. They are quick learners and able to score high on tests. These students are eager for approval from any authority figure. However, these students quickly get bored with school and put in minimal effort to the point where they eventually just go through the motions of school. Often, these students become competent adults. Yet, they remain unimaginative, do not fully develop their talents, and fully lose creativity and autonomy.

The second is called the challenging type. These students are not always identified as gifted and are typically extremely creative and may appear tactless or sarcastic. They question authority and do not conform to a system. Challengers tend to struggle with self-esteem and are either isolated at school or become class clowns. These students are at risk for drug addiction or dropping out of school only if no interventions are made to redirect their behaviors. The third type is called the underground gifted. Typically, this type does not appear until middle school and usually appears in girls. These students try to hide or bottle up their gifted abilities in hopes of feeling accepted by their peers. They are usually insecure and anxious, and while these students should not be allowed to abandon their gifts, they should also be given some freedom when experiencing this time.

The fourth type is the dropouts. These students are typically identified as gifted very late in their school careers. They feel rejected and feel that the system does not meet their needs. Their interests usually lie outside of school and then

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mentally check out of school, which could lead to them physically dropping out. Students in the dropout type have low self-esteem and could require counseling. The fifth type are called the double-labeled. These students are gifted and also have a physical, emotional, or learning disability. Students in this type may not show typical signs that other gifted students do and can hide the times they are having difficulty with a certain task. Unfortunately, these students can go ignored because they are perceived more often by their challenges or weaknesses than their talents or strengths. In more recent literature, these students are called twice-exceptional gifted students (Maddocks, 2019).

The sixth type is the autonomous learner. This type is very similar to the first type because they learn to work well within the school system. Autonomous learners tend to use the system to create more opportunities and challenges for themselves. They make the system work for them. Autonomous learners are very independent, self-directed, have high self-esteem, and feel secure creating their own education and pursuing their goals. In more recent literature, three of types remain prevalent- type 1 (the successful), type 5 (the double-labeled), and type 6 (the autonomous learner). The successful type has been called gifted underachievers, and these students have a fixed mindset, which will be discussed in the motivation section. The autonomous learner type has been called high-achieving gifted students (Clinkenbeard, 2012) and these students have a growth mindset. The double-labeled type has been termed twice-exceptional gifted students because they are gifted students who also have some sort of learning, physical, or emotional disability (Maddocks, 2019). For the sake of this paper,

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these three types of gifted and talented students will be analyzed and will be referred to as gifted underachievers, autonomous learners, and twice-exceptional students.

Inclusive Environments

On average, American students spend 11,700 hours of their lives in some sort of school facility from kindergarten through 12th grade (Hull & Newport, 2011, in Cheryan et al., 2014). Leon Benade claims space can “enable and disable; it can facilitate, or hamper, human actions” (Benade, 2019, p. 1).

Inclusive environments can encourage flexibility and promote student wellbeing (Benade, 2019; Cheryan et al., 2014). So, what do inclusive environments look like? Cheryan et al. (2014) say inclusive environments begin with adequate building structure. This includes lighting, daylighting, acoustics, temperature controls, and ventilation. Cheryan et al. (2014) also reported that “the majority of U.S. public schools have building-quality issues, with poor lighting, acoustics, temperature regulation, or air quality” (p. 6). Lighting should be controllable and assist in visual clarity without hindering it. Daylighting can increase student performance. A study was done in California, Washington, and Colorado on the effects of daylighting on math and reading test scores; daylighting was found to increase scores anywhere from 2% to 26% (Heschong Mahone Group, 1999, in Cheryan et al., 2014). When classrooms have excessive external noise, it is more likely the student achievement will decrease. A study done by Alexander and Lewis (2014) showed that 14% of U.S. public schools reported unsatisfactory or very unsatisfactory acoustics in their buildings (in Cheryan et al., 2014). Optimal

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temperature for learning is anywhere from 68 to 74 degrees Fahrenheit (Cheryan et al., 2014). Alexander and Lewis (2014) also reported that 14% of U.S. public schools claim unsatisfactory or very unsatisfactory levels of heating in their buildings (in Cheryan et al., 2014). Improper ventilation can lead to low air quality in any space. When air quality is low in learning space, student attendance has been proven to decrease, and it also affects teachers' abilities to teach at a satisfactory level (Schneider, 2002, in Cheryan et al., 2014). Again, Alexander and Lewis (2014) reported that 9% of U.S. public schools have unsatisfactory or very unsatisfactory air quality (in Cheryan et al., 2014). Low income schools disproportionately have low air quality. Another element of inclusive environments is accessibility. Ramps, elevators, automatic doors, desks, chairs, and classroom arrangement can all affect the participation of disabled students within a learning space (Cheryan et al., 2014).

In addition to the building structure environment, the symbolic environment is also important, as Cheryan et al. (2014) call it. The symbolic environment includes classroom layout and displayed objects. Classroom layout refers to space planning, flexibility, and choice. Furniture arrangement can influence the level of comfort students feel and the interactions they participate in with other students and the teachers present (Cheryan et al., 2014). Space planning should also be centered on the task demands and learning goals the teachers or school administration has for the students. Flexibility is a main goal for inclusive environments and can be implemented in the learning spaces through large open spaces, movable boundaries, and a wide range of furnishing options for

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students to choose from (Benade, 2019). Having choices within the physical environment can increase autonomy, and ultimately motivation, which will be discussed in detail later (Clinkenbeard, 2012; Brennan et al., 2019).

Inclusive Pedagogy

As mentioned before, Georgetown University (n.d.) defines inclusive pedagogy as “a student-centered approach to teaching that pays attention to the varied background, learning styles, and abilities of all the learners in front of you” (para. 1). When inclusive pedagogy is present, students and teachers work together to create an environment that is supportive and allows every person to feel valued equally (Georgetown, n.d.). Approaches to inclusive pedagogy include incorporating collaborative group work, giving formative assessments, and letting the students have control through choice in how they engage in the school subjects and display what they have learned (Brennan et al., 2019).

However, according to Brennan et al. (2019), many teachers do not feel prepared to implement inclusive pedagogy; this can be attributed to the fact that many teachers are not taught how to implement inclusive practice. There is also a heavy emphasis on standardized assessments and competition that can reinforce bell-curve thinking and notions of fixed ability (Florian, 2014 in Brennan et al., 2019). In order to begin the implementation of inclusive pedagogy, teachers must “be supported to challenge hegemonic assumptions regarding ability, and to develop a sense of responsibility for including all learners” (Brennan et al., 2019, p. 2).

A good example of inclusive pedagogy is Clinkenbeard’s TARGET model

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of motivation for gifted and talented students (2012). Motivation will be discussed in the last subsection of Literature Review. TARGET stands for task, authority, recognition, grouping, evaluation, and time (Clinkenbeard, 2012). Task refers to keeping gifted students on task and teaching them new things that keep them challenged. Authority gives gifted students choice and autonomy, which has been proven important by many other researchers as well (Benade, 2019; Clinkenbeard, 2012; Saricam & Ozbey, 2018). Recognition is typically an extrinsic motivator but can be used in a positive way of giving constructive feedback to gifted learners. Recognition should be for improvement, learning, and mastery of new material. Grouping refers to putting students into small groups with likeminded students who have similar interest and skill. While this is in direct opposition to inclusive pedagogy, Clinkenbeard (2012) suggests making the groups flexible rather than permanent, so that students have the opportunity to work with other gifted and talented students from time to time. Evaluation should be done thoughtfully and given in a one on one setting so as not to hinder self-efficacy of the gifted students while also giving them constructive feedback. Time refers to giving them challenging and productive work when they finish other assignments early. The goal of the TARGET model is to encourage mastery goals and motivational patterns in gifted and talented students.

Belonging

Belonging is defined as a sense of community or a feeling of a groups' care for each other (Saricam & Ozbey, 2018). This feeling is not static and can develop over time when sharing values, beliefs, or feelings with others. While it is

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not guaranteed that a sense of community will be felt by those who share a physical environment, there is proof that environmental factors influence the perception of interpersonal ties and support (Saricam & Ozbey, 2018). In fact, belonging is directly tied to social practices, or senses of community, which are required to create a truly inclusive space (Cheryan et al., 2014).

While belonging can be supported by the interior environment, belonging has been proven to not be an issue in gifted and talented students. In an experiment done by Godor and Szymanski (2017), student experiences regarding sense of belonging, student-teacher relations, and attitudes toward school concerning learning were measured using the PISA 2012 questionnaire. This questionnaire measures student performance in mathematics, science, and reading, and the 2012 version also had questions about student engagement and attitudes toward school (Godor & Szymanski, 2017). Measuring student performance helped to identify which students were considered gifted. The experiment showed that sense of belonging remained the same or better in gifted and talented students. 55% of gifted students had no significant differences to the other students, 40% had positive differences to the other students, and only 4% had negative differences to the other students (Godor & Szymanski, 2017). These results allowed the researchers to conclude that gifted and talented students either felt the same or higher levels of belonging within their school environments. These findings were also supported by Saricam and Ozbey (2018) who found that gifted and talented students had high emotional intelligence compared to their peers. However, Saricam and Ozbey (2018) did note that many education systems

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currently do not have a structure to support the growth of emotional intelligence or the training of social skills and communication.

Motivation

In this paper, motivation is defined as the reason why a person chooses to do a certain activity and continues to do the activity (Merriam-Webster, n.d.).

Motivation has been linked to reasons why some gifted students never reach their full potential (Clinkenbeard, 2012). Clinkenbeard (2012) also identifies several motivational theories that are research-backed and are useful to explain the psychology and education of gifted and talented students. These theories include expectancy-value theory, intrinsic and extrinsic motivation, goal theories, perception of self, and attribution theory. In expectancy-value theory, expectancies are beliefs of how successful they will be at a given task and value is the belief about why they engage in a task (Wigfield & Eccles, 2000).

Autonomous learners engage in tasks because they want to learn or succeed while gifted underachievers will not have a reason to engage in a task that they deem uninteresting. Gifted students tend to be intrinsically motivated, which means they are interested, focused, and curious about the task set before them. A common element in these two motivational theories is optimal challenge. Optimal challenge is an element of flow theory, developed by Mihaly Csikszentmihalyi, that says ability and skill must match the challenge, and additionally the challenge and skill must be relatively high (Ma et al., 2017).

Goal theories are strongly correlated to achievement within learning environments (Clinkenbeard, 2012). Two main orientations are mastery or

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learning goals and performance goals. Gifted students with mastery goals are focused on achieving the task at hand, learning new material, and wanting to develop new understandings. Gifted students focused on performance goals want to appear smart when compared to others and are concerned with all their displays of intelligence. The classroom environment can have an influence on whether students adopt mastery goals or performance goals (Clinkenbeard, 2012). Another goal theory is mindsets. Students can have growth mindsets or fixed mindsets (Dweck, 1986 in Clinkenbeard, 2012). Growth mindsets are present when students believe they can become smarter with increased effort and learning. This mindset is present in autonomous learners. Fixed mindsets are present when students believe they have a certain amount of intelligence that is fixed and unrelated to effort. This mindset is present in gifted underachievers.

SDT states that intrinsic motivation can only be reached if competence needs, autonomy needs, and relatedness needs are met. Self-Determination Theory will be more thoroughly discussed in the Methodology section. Interest is another form of motivation and is described as a “psychological state of being engaged and the predisposition to return to engagement over time” (Renninger, 2010, p. 109). Interest is composed of five main variables – engagement, stored knowledge, value, and feelings, interaction, neurological, and is an unreflective process (Renninger, 2010). In addition, there are four phases of interest. These phases are triggered situation interest, maintained situational interest, emerging individual interest, and well-developed individual interest. The first two phases can be influenced by the environment as they are situational. Triggered situational

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interest draws attention to a subject. This can be supported through group work and instruction as well as unexpected events (Renninger, 2010). Maintained situational interest occurs when a person reengages with content that previously triggered their attention. This can be supported through connecting skills, knowledge, and experience to the thing that sparked interest (Renninger, 2010). The shift between triggered and maintained situational interest are directly related to support from the environment (Renninger, 2010). The support from the environment can manifest in ways discussed in the Inclusive Environments and the Inclusive Pedagogy section of this paper.

METHODOLOGY

For this study, research was done in the form of qualitative surveys to gain insight on current inclusive and motivational practices and environments that are occupied by gifted and talented students in the Central Oklahoma region. The surveys were distributed to school faculty and staff that interact with gifted and talented students in the Central Oklahoma region. This region was chosen based on convenience. Faculty and staff were contacted via email from a collection of superintendent and principal emails through the school websites. Eligible schools were determined by the county in which they were location. These counties included Caddo, Canadian, Cleveland, Garvin, Grady, Kingfisher, Lincoln, Logan, McClain, Okfuskee, Oklahoma, Pontotoc, Pottawatomie, and Seminole. Schools within these counties were obtained through the K12 Academics website under national directories, school districts, and Oklahoma. From there, school websites were linked, and staff emails could be found on the websites. This

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method resulted in over 600 emails being sent.

In addition to school leadership, teachers that had a previous relationship with the researcher were contacted verbally and then asked to reach out to their fellow peers. Third, social media was used to reach a larger audience. A post was published originally on Facebook and was then shared by other Facebook users. The survey platform used was Qualtrics with a quick link made through Tinyurl. Because surveys are optional, number of responses was determined by willing participants. Ultimately, 94 responses were recorded through Qualtrics. Usable responses were determined by a complete response. There were 52 complete responses recorded. The survey questions targeted inclusive pedagogical practices, inclusive environmental factors, and motivation currently seen in their gifted and talented students. External factors were also considered like parental relationships (if known), income levels based on the school district, and similar considerations. In addition to questions rating the above issues, open comment sections were available after each section of the survey. There were also multiple opportunities to upload pictures of the spaces being discussed in the survey. These two areas were completely optional to the respondents.

Limitations include the amount of time had to complete the research, access to school faculty and staff, and access to the physical environments. In addition, reaching potential people to take the survey was limited to what emails were accessible online and how many people shared the posts made about the survey. Also, there was no face to face interaction throughout this research. Approval procedures for the research included a submission to the University of

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Oklahoma's Institutional Review Board. This submission was ultimately approved for human research.

Questions were based in a new theoretical framework based on the intersection of inclusive environments, inclusive pedagogy, and motivation. These three areas overlap in a triple circle Venn diagram with autonomy at the center. This Venn diagram will henceforth be referred to as the Autonomy Venn Diagram. The inclusive environment circle will be rooted in the Six Dimensions of Wellbeing theory from Steelcase (2017). The inclusive pedagogy circle will be rooted in the Inclusive Pedagogical Approach in Action (IPAA) framework (Brennan et al., 2019). The motivation circle will be rooted in Self-Determination theory from Ryan and Deci (2000).

Six Dimensions of Wellbeing

In recent research done by Steelcase (2017), the research team identified six dimensions of wellbeing that are impacted in some capacity by the physical environment's design. It is actually a part of a larger concept called the interconnected workplace (Steelcase, 2017). Nicholas de Benoist, a researcher at Steelcase, claims that a variety of work settings to choose from can foster wellbeing in employees (Steelcase, 2017). It is also known that choice, which is directly related to autonomy, is a factor of inclusive environments (Benade, 2019; Clinkenbeard, 2012; Saricam & Ozbey, 2018). Three key ways of offering choice are providing palette of place, palette of posture, and palette of presence. Palette of place is the use of different areas to encourage different types of work. In schools, this could include areas for play, study, test taking, collaborating, and

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doing general homework. Palette of posture is providing many different sitting and standing options to perform the former tasks mentioned. Palette of presence nods to the mixed technology we now use in the classroom, especially virtual learning. These three palettes create the Six Dimensions of Wellbeing, which are optimism, mindfulness, authenticity, belonging, meaning, and vitality.

Optimism fosters creativity and innovation and is directly tied to self-esteem (Saricam & Ozbey, 2018). Relationships and our environment can have a large impact on self-esteem and sense of mastery according to research done at the University of California (Steelcase, 2017). Mindfulness is rooted in the motivational theory of flow which is being totally engaged and immersed in a task while feeling completely focused (Clinkenbeard, 2012). Authenticity is centered in relationships because these help stabilize people and build trust. Belonging is a root of inclusive pedagogy and is a step in Maslow's motivation model (Steelcase, 2017). While authenticity allows people to be themselves, belonging helps connect people as part of a larger group. Meaning gives people a sense of purpose, which is an element of inclusive pedagogy. This helps people identify their strengths and understand how they contribute to their group. Finally, vitality connects the mind and the body through the importance of movement. The body can help keep the mind healthy through muscle movement, and the brain is the most influential organ to gifted and talented student growth.

Inclusive Pedagogical Approach in Action

The Inclusive Pedagogical Approach in Action framework is a tool in inclusive pedagogical research to support students and teachers alike (Brennan et

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al., 2019). The IPAA framework is made up of three key mindsets that must be withheld by the school and the individual teachers. First, teachers must believe that a student's ability and capacity to learn is not fixed but can be supported and grown through actions taken by the teacher. Second, teachers must believe in their ability to teach all students, particularly those with special educational needs. This would apply to twice-exceptional gifted students. Third, teachers must be willing to work with others. Collaboration is a key component to implementing inclusive education, but this can only be done through the support of the school (Brennan et al., 2019).

Self-Determination Theory

Self-Determination theory was developed by Richard Ryan and Edward Deci and is rooted in intrinsic motivation, which is high in gifted and talented students (Ryan & Deci, 2000; Clinkenbeard, 2012). SDT states that intrinsic motivation can only be reached if competence needs, autonomy needs, and relatedness needs are met. Competence refers to the need to feel effective in dealing with the current environment occupied by the learner. Autonomy, which is at the center of this overall theoretical framework, is the need to participate because a student chooses to participate. There has also been research on autonomous environments, which directly correlates to inclusive environments, where students adapt the spaces they are occupying to fit their needs (Benade, 2019). Relatedness is the need within a student to establish a bond with other people and with their environment. Relatedness is also rooted in wellbeing, which is the focus of the Six Dimensions of Wellbeing (Ryan & Deci, 2000).

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Expected Results

The results expected from this research are that currently the environments inhabited by gifted and talented students in the Central Oklahoma region are lacking in autonomy and wellbeing. It is expected that some faculty members uphold aspects of inclusive pedagogy, but the majority of faculty does not directly focus on a full inclusive education. Lastly, it is expected that motivation in gifted and talented students is moderate to high overall, but there are a few outlying students. These students are anticipated to be dealing with external issues outside of the learning environment, but these can still be addressed to some degree within the learning environment.

DISCUSSION

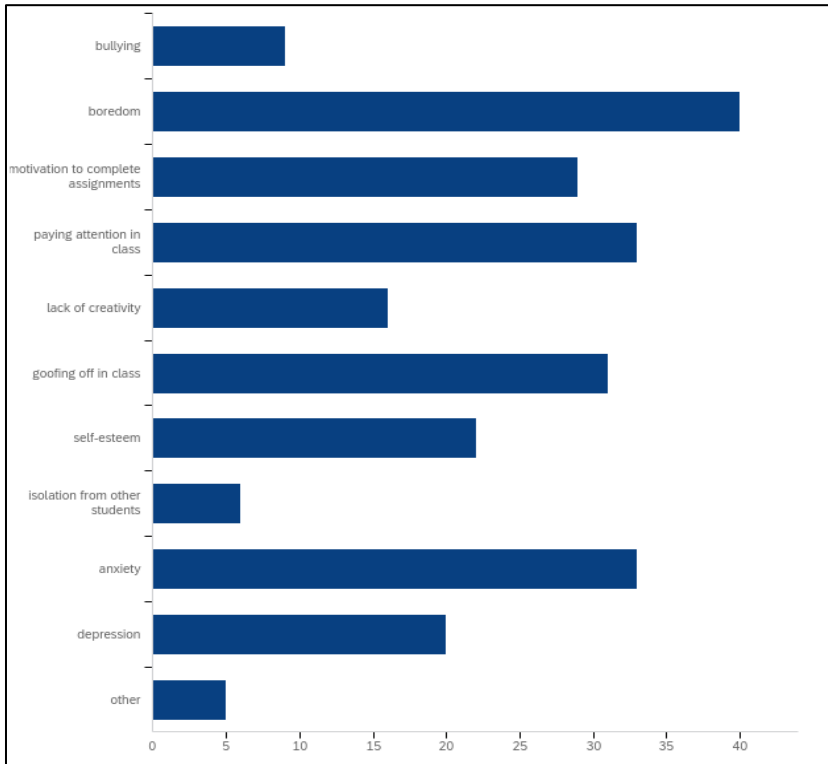
The largest group of respondents in the research survey were grade and core subject teachers. The second largest group was specialist or resource teachers, which is the category that gifted and talented teachers would fall under. Many challenges or struggles gifted and talented students face were identified by the teachers, boredom being the largest area. Anxiety, paying attention in class, motivation to complete assignments, and goofing off in class followed as seen in Figure 1. All other figures can be found in Appendix A.

Inclusive Environments

There are two main elements of inclusive environments – the physical, built environment, and space planning. Factors surveyed under the physical environment include artificial lighting, daylighting, acoustics, temperature controls, and sick building syndrome. Most participants in the survey rated

Figure 1

Gifted and Talented Student Challenges



This graph displays common challenges recognized by school staff that gifted and talented students face.

lighting from somewhat bad to somewhat good, giving lighting ultimately a middle of the road rating. Additionally, less than 50% of survey participants stated they use the provided overhead lighting in their classroom. This leaves much room for improvement as lighting has a large effect on human health (Samani & Samani, 2012). Daylighting, much like artificial lighting, was rated mixed between somewhat bad, OK, and somewhat good. The inconsistency in daylighting points to the fact that there is room for improvement. This was also the case with acoustics in the classroom and throughout the school in general. 32% of survey participants stated they do not have control of their classroom

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temperature. Unregulated temperatures can cause poor scores on tests and poor student performance (Allen & Fischer, 1978 in Cheryan et al., 2014). 34% of survey participants claimed to have cases of Sick Building Syndrome within their school. Sick Building Syndrome (SBS) is when a person suffers from allergy-like symptoms while occupying a certain building. These symptoms disappear shortly after leaving the building causing SBS (Burge, 2004). This is over 1/3 of respondents and points to a large change that needs to take place in the upkeep and maintenance of schools in the central Oklahoma region. Many participants commented that their schools are outdated and need of repairs. Several cited building leaks, construction noise and debris, and poor lighting controls. One participant commented

We can't turn all the lights off in the common areas, limiting what we can do. The bathrooms are a source of problems, [because they are] overcrowded and a blind spot for drugs [and] fights. We have emergency stairwells for fires, etc. [where] students are able to hide, smoke, have sex. We have increased our camera coverage, but because we are not able to always monitor them, they are used to get evidence of wrongdoing, instead of preventing it. Also, the doors, while locked from the outside, are not monitored and students use them to sneak in drugs, food, etc.

The physical school environment can affect student focus, health, and irritability. When good building structure is present, student motivation and wellbeing will be positively influenced and allow students to focus on tasks at hand.

The second large part of inclusive environments is space planning. 41% of

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survey participants said their school was moderately easy for new students to navigate. While this number is higher than anticipated, schools have quite a bit of room for improvement in this area. Navigation skills directly correspond with competence, an element of Self-Determination theory. Good navigation can improve students' palette of place, which is tied to inclusive environmental wellbeing. Comparatively, classrooms and offices are in a much better state with 80% of participants claiming they are very or extremely easy to navigate.

Flexibility of common spaces was commonly rated slightly, moderately, or very flexible. Again, these results vary greatly, and central Oklahoma could benefit from concentrating on the pros of flexible spaces. Classrooms were rated similarly to common spaces. Flexibility has a high influence on autonomy because it provides an element of choice (Ryan & Deci, 2000). Vitality is also influenced by flexibility. Flexibility leads to more movement which can increase muscle movement and ultimately a healthier brain (Steelcase, 2017). While flexibility was rated moderately, choice of different seating groups in common spaces was only slightly agreeable to 37% of respondents. Lack of choice can have a negative impact on student autonomy and can decrease palette of posture, part of environmental wellbeing.

39% of survey participants only slightly agreed with the statement that school common spaces spark interest in students. However, 40% also rated that they very much agree that their classroom or sparks interest in students. Interest can influence students to be curious and creative, which also support optimism and mindfulness. These two things are elements of the Six Dimensions of

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Wellbeing. The statement that school common spaces allow students to form connections and relationships with each other was only moderately agreed with by 39% of respondents. However, 56% of respondents very agreed that their classrooms allow students to form connections and relationships with each other. Relationships have a direct influence on relatedness, which is an aspect of Self-Determination theory. Relationships can also increase optimism and belonging, two elements of the Six Dimensions of Wellbeing. Cultivation of school pride was rated similarly to the relationship statistics and can also have an influence of relatedness in Self-Determination theory.

All in all, the space planning of the schools discussed in the survey were moderate in nearly every area of navigation, flexibility, choice, and relationship fostering. While this response is not necessarily rated poor, there is still much room for improvement in every aspect. A few mentioned navigation issues throughout their school as well as open areas that cause distractions for the occupants. One comment was made about the location of certain classes within the school space planning. They stated, “the special ed classrooms are mostly in the back hall, leading to a de facto segregation.” This separation can lead to feelings of detachment and ignorance. Most of the environments researched therefore are not considered to be fully inclusive environments. In the Six Dimensions of Wellbeing, all dimensions are present in different ways, but could be increased in the physical building structure when it comes to lighting choices and maintenance. In school space planning, classrooms have a lot of personalized focus and opportunities, but common spaces were lacking in nearly every

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dimension of wellbeing.

Inclusive Pedagogy

Survey participants were asked to describe their own personal pedagogy using three words. Answers varied from technology aids, positive encouragement, and scientific methods of teaching. From these answers, eight themes appeared – instruction, inclusivity, expectations, autonomy, motivation, relationships, positivity, and personal connections. Inclusivity, autonomy, and motivation are all main topics of this paper, so it was good to see that teachers are already practicing these attributes. Instruction and expectations can be connected to competence, which again is a main element of Self-Determination theory. Mindfulness and meaning, part of the Six Dimensions of Wellbeing, are also encouraged through instruction and expectations. Relationships, positivity, and personal connections are all part of relatedness in Self-Determination theory. These themes can also be seen in the Six Dimensions of Wellbeing in optimism, belonging, authenticity, and meaning.

When it comes to providing collaborative group work or activities, 44% of respondents claimed they provide collaboration most of the time. Collaboration encourages relatedness and is a main approach of inclusive pedagogy (Brennan et al., 2019). 88% of survey participants said they mostly or always assess students' understanding of a given task. This is significantly positive as it related directly to competence in Self-Determination theory, is a main approach to inclusive pedagogy, and is encouraged through the Inclusive Pedagogical Approach in Action (IPAA) framework (Brennan et al., 2019). Over 40% of respondents

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claimed to give ownership of learning activities to students most of the time. Nearly half of survey participants also said they sometimes allow students to choose where they learn within the physical school setting. Ownership leads to autonomy and can encourage choice, which is an approach of inclusive pedagogy. Ownership also supports authenticity in the Six Dimensions of Wellbeing. However, some teachers commented a balance of ownership and control is needed to guide the students effectively.

Survey participants agreed that students' ability to learn can be supported and grow through actions they take, and they agreed that they are willing to work with other to implement inclusive education with 70% voting for "a great deal" in both questions. 70% of respondents believed they are able to teach any student that comes into their classroom or office by voting "a lot" and "a great deal" in agreement with the statement. These three statements are the three key mindsets outlined in the IPAA framework. The IPAA mindsets also encourage competency and relatedness, as well as authenticity, mindfulness, and optimism, which are part of the Six Dimensions of Wellbeing. Collaboration is also a key element of inclusivity (Brennan et al., 2019). Based on the survey results, school staff are excelling in the IPAA and inclusive pedagogy section of the Autonomy Venn Diagram.

Motivation

Survey participants were asked to rate different aspects of motivation for the three individual gifted and talented student types. As discussed earlier, these types are gifted underachievers, autonomous learners, and twice-exceptional

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students. Gifted underachievers were moderately rated in believing they will be successful at a given task. Believing in success is an element of competency in Self-Determination theory. While this area is moderate for gifted underachievers, there is still room for growth. They were rated slightly to moderately in interest, focus, and curiosity about a given task. Interest, as stated earlier, leads to creativity and curiosity, which are positive attributes for students. Mindfulness and autonomy can encourage focus and curiosity. In addition, gifted underachievers were rated “slightly” in believing they can become smarter with increased effort and learning. This is a trait of gifted underachievers and directly corresponds to competency (Betts & Neihart, 1988). Fourth, they were rated from slightly to very about believing their intelligence level is fixed. Again, this is a gifted underachiever trait and can be influenced by levels of competency (Betts & Neihart, 1988). Gifted underachievers relationships with their peers were rated somewhat good. This is a very positive statistic and indicates that relatedness in gifted underachievers is at relatively high levels.

Autonomous learners being successful at a given task was very agreed with by respondents, as was autonomous learners being interested, focused, and curious about the task at hand. They were often typically described as believing they can become smarter through increased effort and learning to a high degree and don't often believe intelligence is fixed. Autonomous learners were also described as having somewhat good to extremely good relationships with their peers. Competency, autonomy, and relatedness appear to already be high in autonomous learners. Therefore, it could be theorized that the physical

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environment has little influence on autonomous learners because they are already at an intrinsic and heightened sense of motivation.

Twice-exceptional students were moderately rated in believing they will be successful at a given task. There was a variety of responses when it came to twice exceptional students being interested, focused, and curious. Survey participants voted from slightly agree to very agree with the previous statement. When asked if twice-exceptional students generally believe they can become smarter with increased effort and learning, responses ranged from not agreeing at all to agreeing extremely. This was again the case when asked if they believe their intelligence level is fixed, which is to be expected as these two questions were the inverse of each other. Relationships with other students for twice-exceptional students was rated to be OK. Twice-exceptional students seem to be all over the board and could be influenced by preconceived levels of competence and a potential lack in autonomy given the disability side of their traits. One survey participant wrote “many of my twice exceptional are not noticed for the positive/good things they do but targeted for their behaviors instead that can interfere with their learning.”

The last section of the motivation question was about gifted and talented students as a whole. 45% of survey participants sometimes allow their students to choose where they work. This five point scale ranged from never, sometimes, about half the time, most of the time, and always. A similar response was given when asked how often they allow the students to choose how they do their work with 40% voting sometimes. This points to a low rate of autonomy and could also

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have an impact on vitality, which is one of the Six Dimensions of Wellbeing. The next three questions all related to the example inclusive pedagogical framework centered on motivation called the TARGET method. This was discussed in the Literature Review section under Inclusive Pedagogy. Respondents said that most of the time gifted and talented students receive recognition for their achievements and are given constructive feedback. These two areas can increase levels of competency, which is a main factor in Self-Determination theory. However, 50% of respondents said that only sometimes do gifted and talented students get to work with each other. This is called grouping and is the G in the TARGET method. Grouping allows gifted and talented students to be challenged and helps spread group work more evenly because they have similar ability levels (Clinkenbeard, 2012). Yet, as stated before, this can sometimes be in opposition to inclusive pedagogy, so having a mix of times to work together would be optimal. Only 18% of respondents said they have gifted and talented students work together half of the time. 48% of survey participants said they sometimes give extra work to gifted and talented students who finish assigned work early. Giving extra assignments allows for competency, autonomy, optimism, mindfulness, and can stimulate interest. While autonomous learners excel in the motivation section of the Autonomy Venn Diagram, gifted underachievers and twice-exceptional students are lacking in the competence and autonomy sections of Self-Determination theory.

External Factors

Another factor that could influence motivation in gifted and talented

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students is whether the school is a Title 1 school. A Title 1 school is a low income school given financial assistance to “to help ensure that all children meet challenging state academic standards” (U.S. Department of Education, 2018, para. 1). Of the survey participants, 90% claim to work in a Title 1 school. Other factors identified by the respondents included care for younger siblings, difficult home life, trauma, lack of parent involvement, lack of plans after high school, lack of discipline, the COVID-19 pandemic, and drug abuse. One participant mentioned several external factors.

[The] pandemic, racism, learning gap, [and] a community that can't or won't prioritize education [are external factors]. A state legislature determined to underfund and undermine our public schools. Home life is more chaotic with so much death and uncertainty. Gangs, drugs, and food insecurity are daily occurrences. The job market takes advantage of my students labor and jeopardizes their safety at every turn. College has increasingly become a pipe dream and inaccessible academically and financially. Mental health crises are higher than ever, for both students and teachers. Let's also throw in some natural disasters and strained healthcare/support systems and you have a better understanding of my students' reality.

CONCLUSION

Combining inclusive environments and inclusive pedagogy can increase gifted and talented student wellbeing and motivation through targeted approaches that do not marginalize any students in the process. External factors will always

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be present, so it is all the more important to cultivate positive and inclusive environments, physically, mentally, and emotionally, for the students that occupy them.

Recommendations

Inclusive environments seemed to be lacking in adequate lighting according to the survey. Over half of the participants said they do not use the provided overhead lighting in the school. Lighting should be reassessed and kept up to date with LED and other lighting technologies that improve overall lighting quality. Additionally, construction was a main concern among those who left comments in the survey. Construction practices should be kept up to date in cleanliness standards and understand the school schedule to coordinate ways to keep the school a safe and healthy place. Navigation was also a large concern and could be greatly improved by implementing better wayfinding tools. This could include adding signage, creating paths using different colorways, or having other visual markers and cues. Flexibility and choice among seating options were also poorly rated. These could be improved by adding a variety of seating postures like low soft seating such as bean bags, low hard seating for small drop zones, sitting height soft and hard seating depending on the activity taking place, and high seating options for those that prefer taller seating. Standing options should also be explored and considered. This does not always mean new seating has to be purchased, but some places could be reutilized to provide different posture options. This would positively correlate to the Six Dimensions of Wellbeing as well. Interest in common spaces also needs attention according to the survey

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results. Interest can be sparked through interaction. Interactive walls have recently gained popularity and are often times cheap ways to revamp a space in a positive way. This could be adapted to fit every age group from elementary to high school age students. Adding variety and interest in these ways will also increase relatedness, which is a main element of Self-Determination theory and strengthen this area of the Autonomy Venn Diagram.

Inclusive pedagogy could be supported through the addition of dedicated collaborative spaces. Collaboration was moderately included in many of the respondents' routines and could be increased with space dedicated for such a purpose. A prominent concern among the survey participants was the need to maintain control of the classroom while providing autonomy. This could be executed by creating visually clear zones with sightlines to every corner of the classroom or common space. Sightlines should be a main consideration of designers when it comes to schools, especially in breakout areas.

Motivation was relatively high with autonomous learners, however gifted underachievers and twice-exceptional students could use support in a few areas. Competency, interest, and curiosity were lacking for both gifted underachievers and twice-exceptional students. Competency can be increased through choice of a given task and persistence. Teachers should provide some variety to finishing tasks as well as giving ample opportunity to complete them to encourage persistence. This can be supported in the physical environment by providing storage for multiple activities and leaving space for teachers themselves to be creative within their own classroom so they in turn can provide choice and

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interest for their students. As mentioned earlier, interactive walls and activities are a great way to encourage curiosity within students.

When it came to the questions about gifted and talented students in general, autonomy was lacking in many areas. Autonomy can be supported by encouraging choice and initiative. Choice again can be where or how to work within the school environment, so variety here is key. Initiative can be encouraged through providing all tools needed to complete a given task. This can range from paper and pencil to laptops and chargers. The interior environment can support this by adding necessary storage and charging options that are movable and plentiful. Structure is also a key element of autonomy and appears to already be emphasized by teachers given the comments and concerns listed in the survey. Structure can also come from creating clear visual boundaries between quiet and loud areas or play verses work areas.

Future Research

Future research opportunities include broadening the survey sample size outside of central Oklahoma. Conducting personal interviews could also increase the qualitative research pursued in this research paper. Finally, observations would be very valuable to enrich the insights gained from this research topic.

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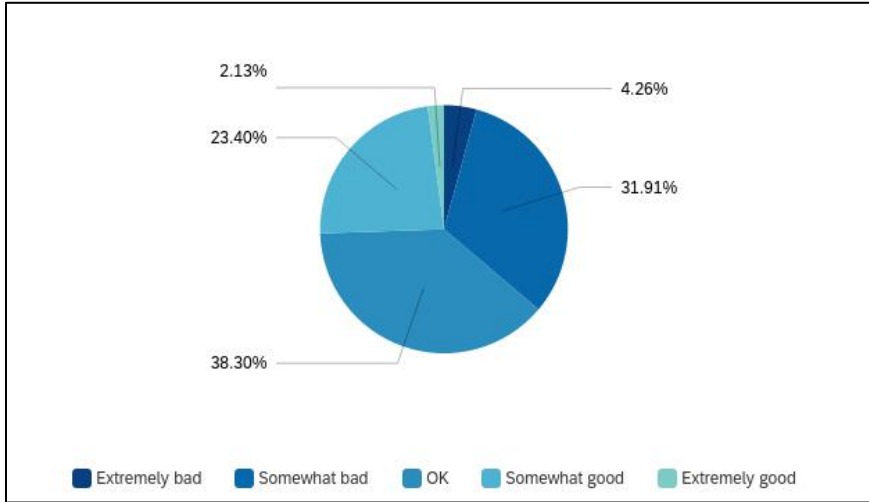
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APPENDIX A – FIGURES

Figure 2

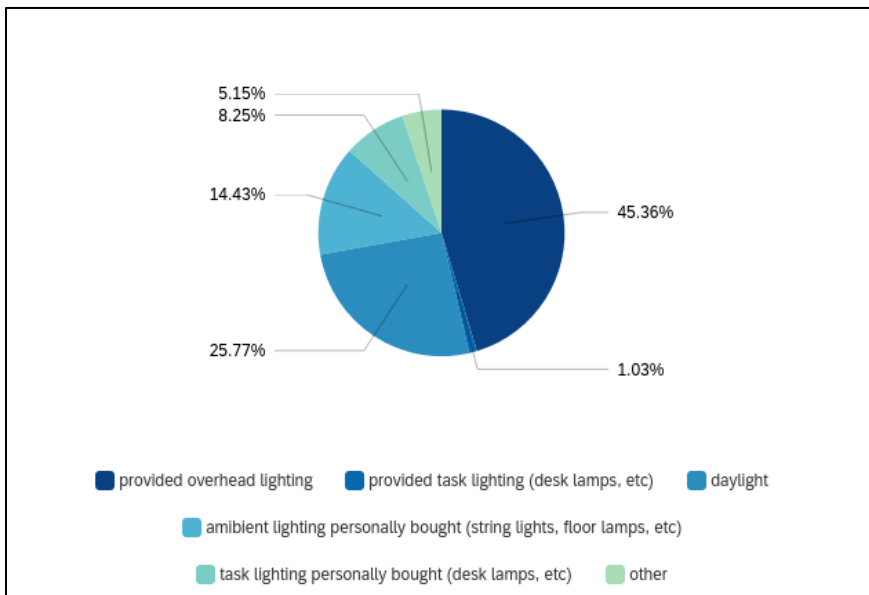
Artificial Lighting Rating



This graph displays the ratings given about the quality of artificial light in schools.

Figure 3

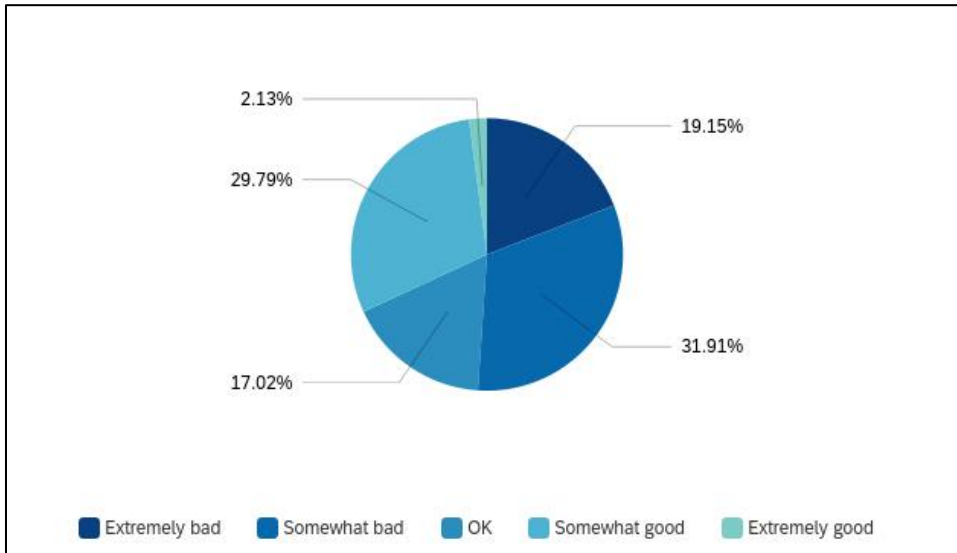
Types of Artificial Lighting in Schools



This graph displays types of lighting used by school staff.

Figure 4

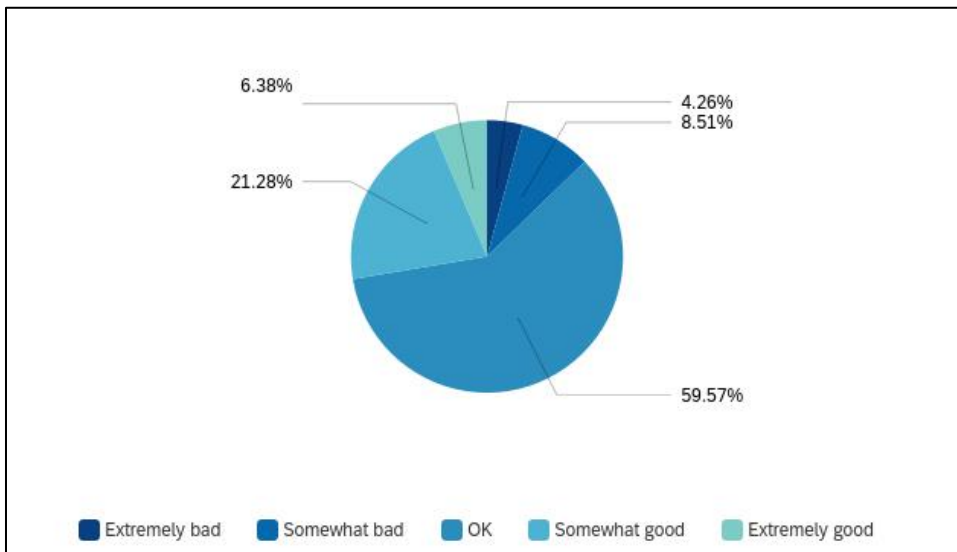
Daylighting Quality Ratings



This graph displays the qualitative levels of daylighting in schools.

Figure 5

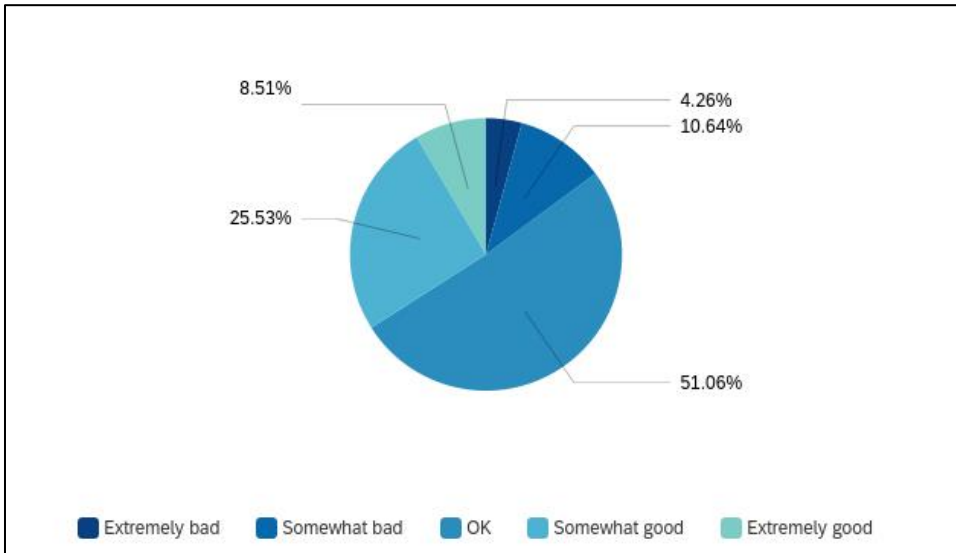
Acoustics in School Common Areas Ratings



This graph displays the qualitative levels of acoustics in school common areas.

Figure 6

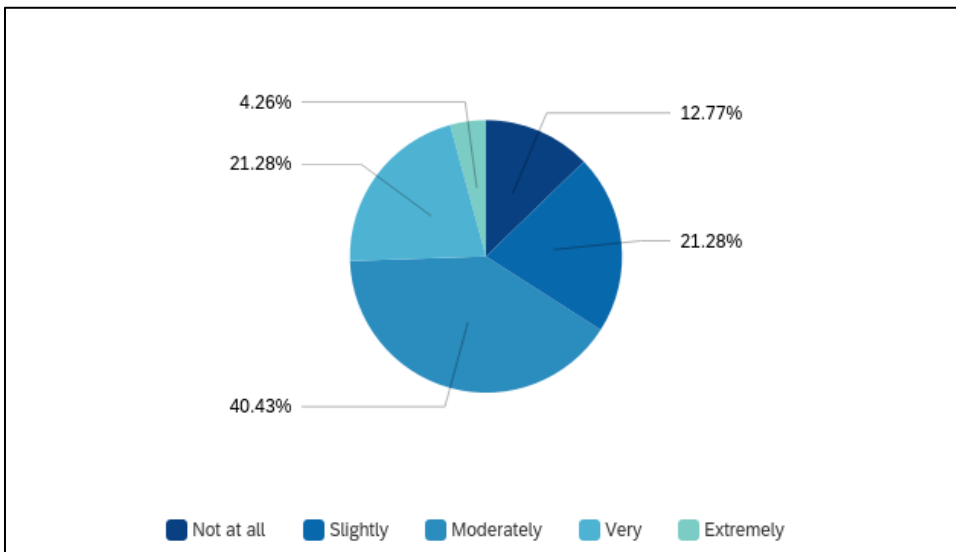
Acoustics in School Classrooms Ratings



This graph displays the qualitative levels of acoustics in school classrooms.

Figure 7

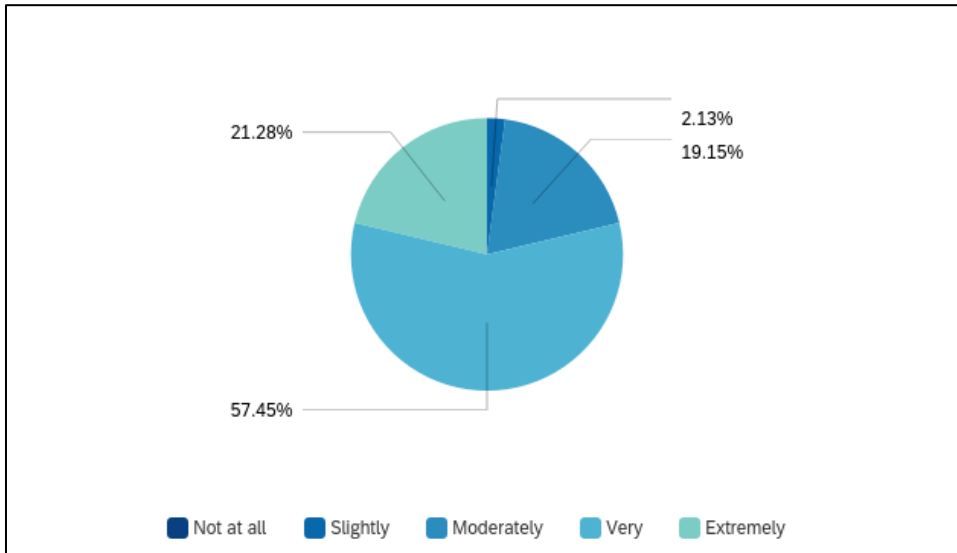
Navigation Quality in School Common Areas



This graph displays the qualitative levels of navigation in school common areas.

Figure 8

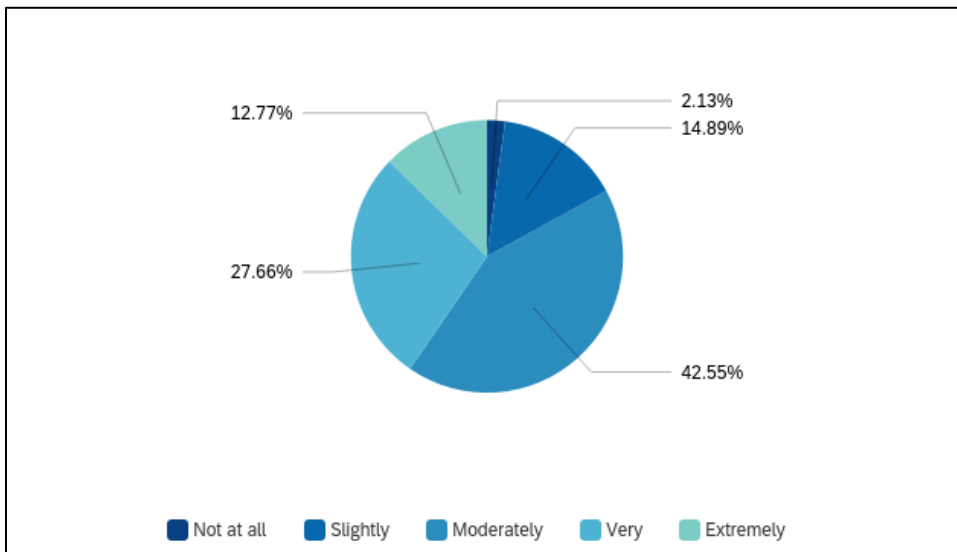
Navigation Quality in Classrooms



This graph displays the qualitative levels of navigation in classrooms.

Figure 9

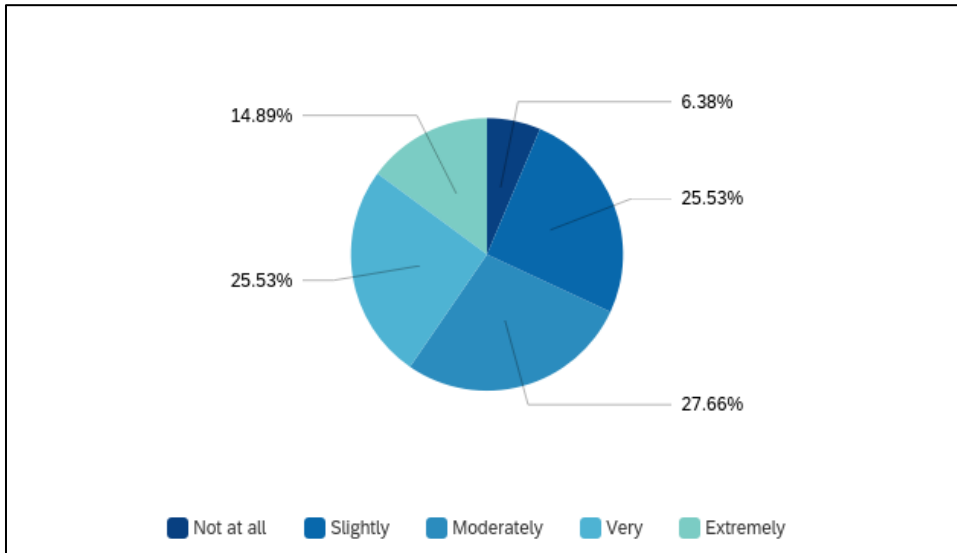
Flexibility Quality in School Common Spaces



This graph displays the qualitative levels of flexibility in seating in school common areas.

Figure 10

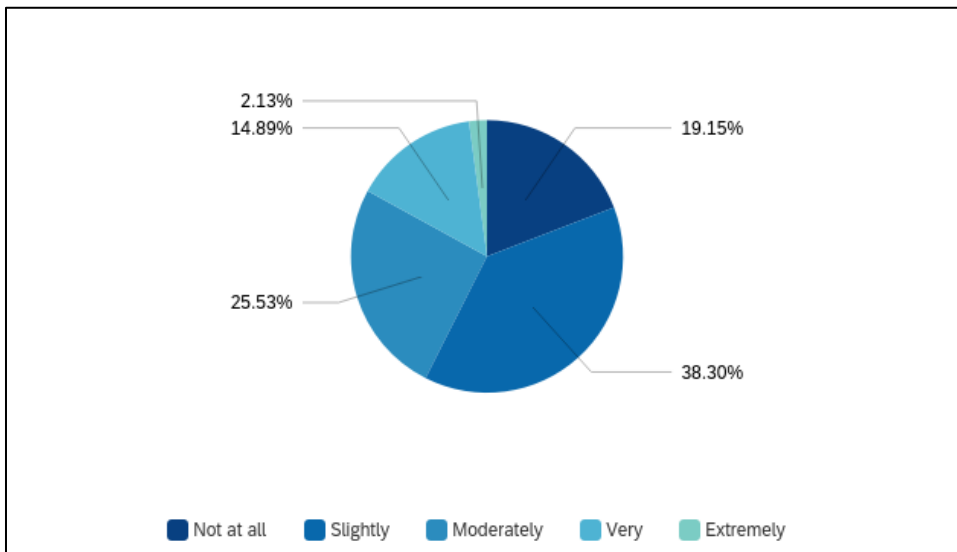
Flexibility Quality in Classrooms



This graph displays the qualitative levels of flexibility in seating in classrooms.

Figure 11

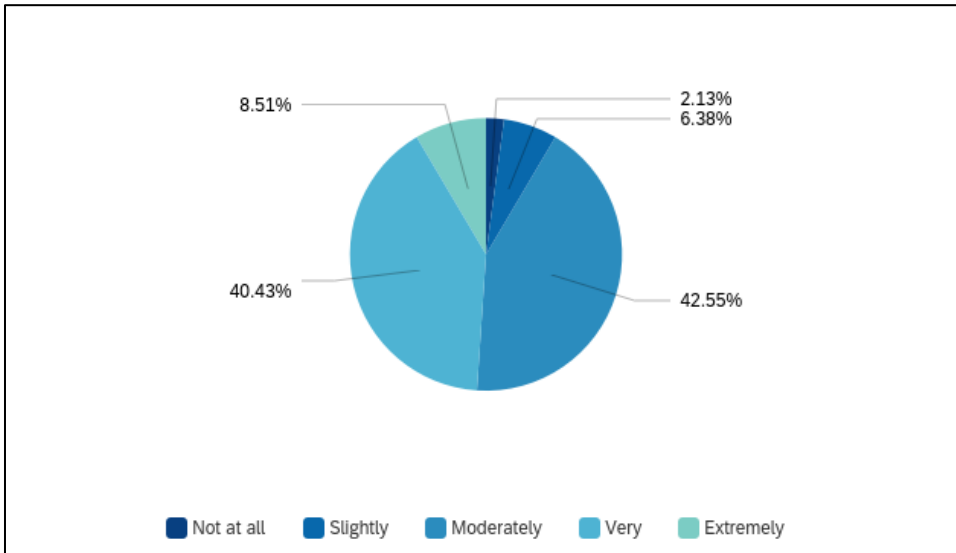
Interest Quality in School Common Spaces



This graph displays the qualitative levels of interest in school common spaces.

Figure12

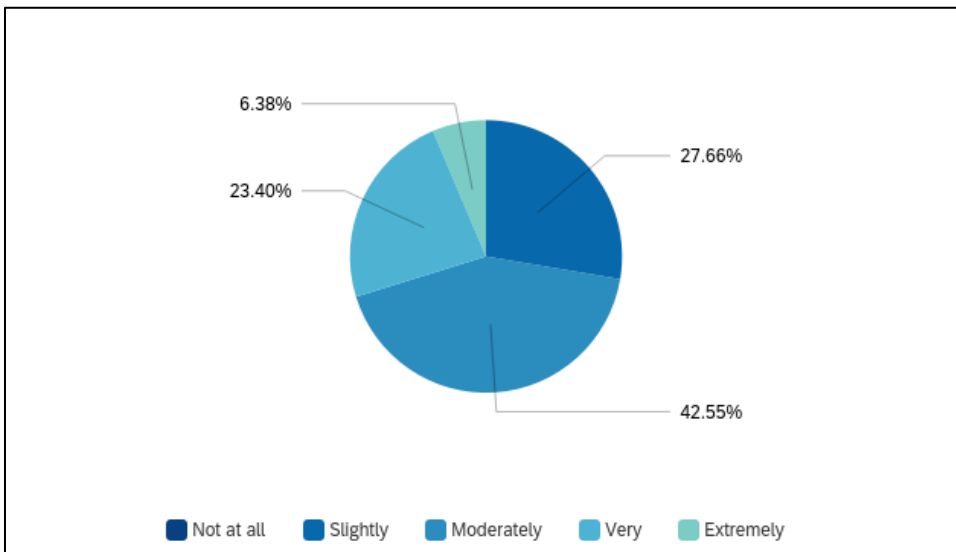
Interest Quality in Classrooms



This graph displays the qualitative levels of interest in classrooms.

Figure 13

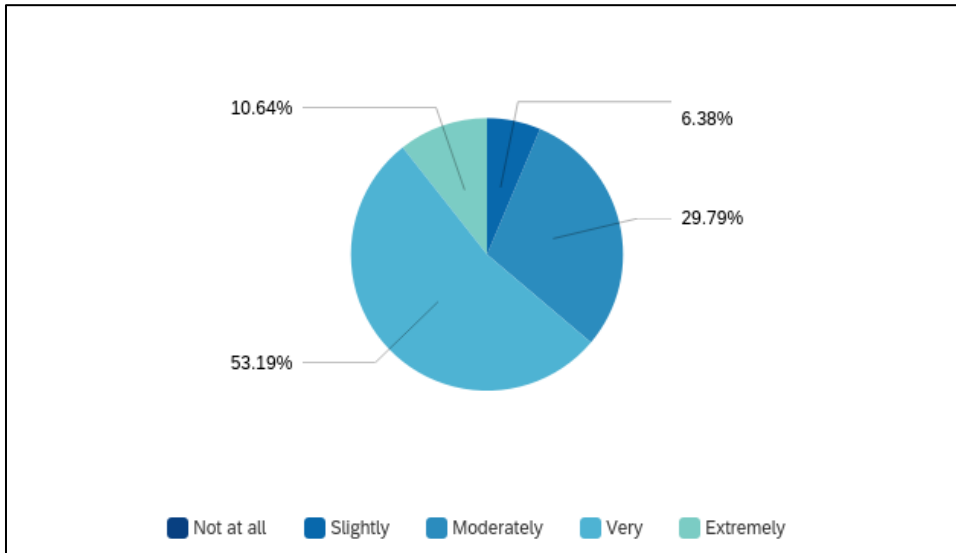
Relationship Connection Quality in School Common Spaces



This graph displays the qualitative levels of relationship connection in school common spaces.

Figure 14

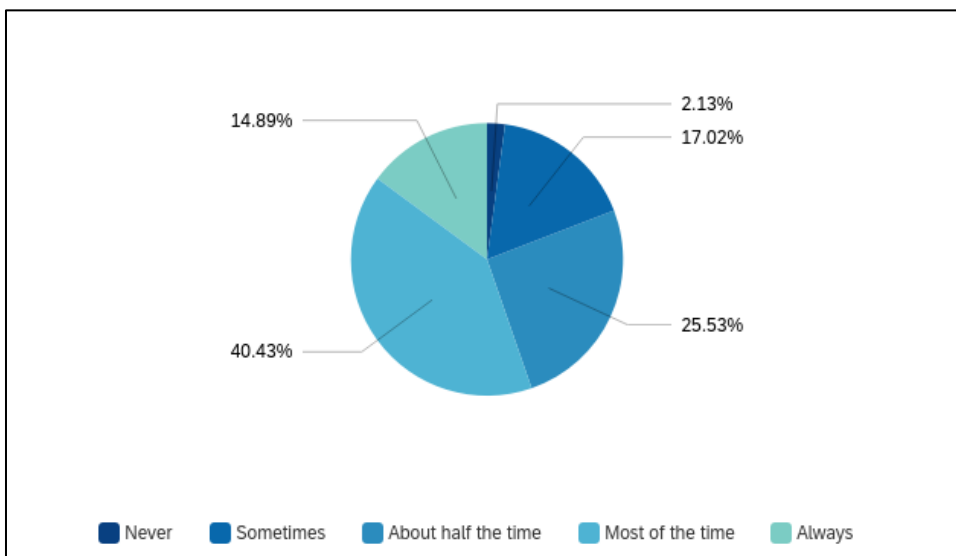
Relationship Connection Quality in Classrooms



This graph displays the qualitative levels of relationship connection in classrooms.

Figure 15

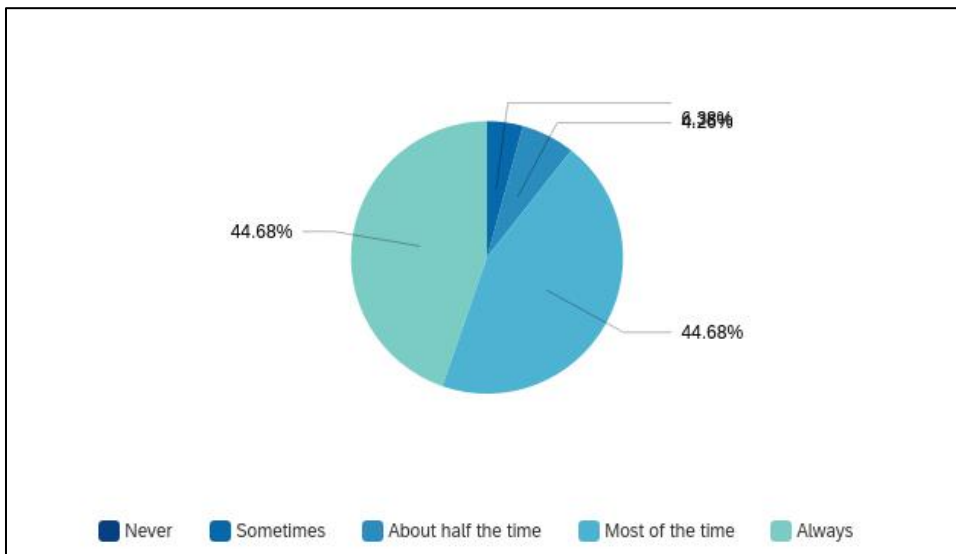
Opportunities for Collaborative Group Work



This graph displays the frequency of collaborative group work opportunities.

Figure 16

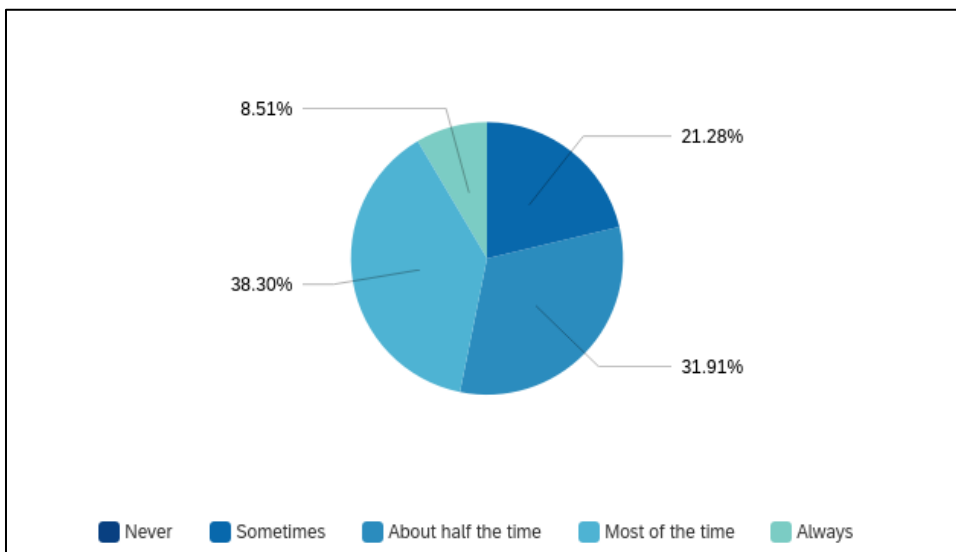
Opportunities for Assessment



This graph displays the frequency of assessments given by respondents.

Figure 17

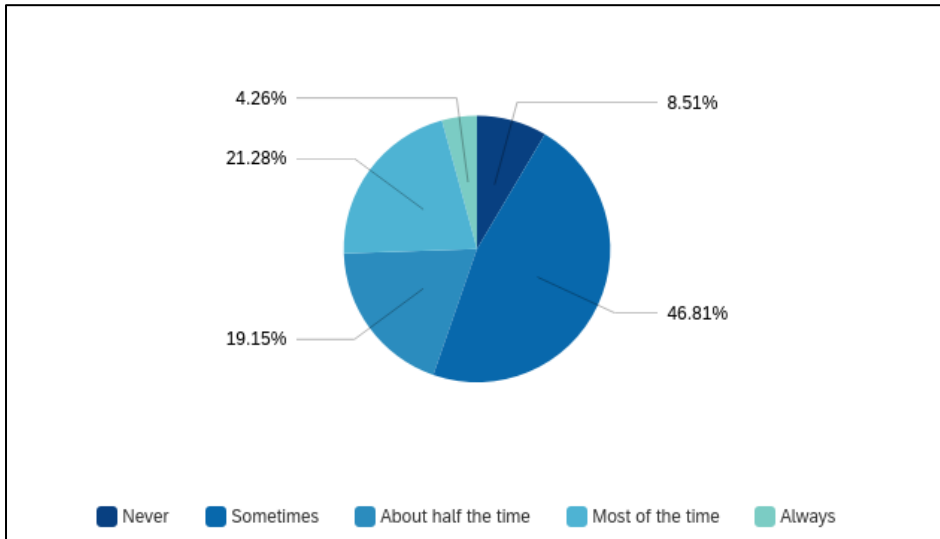
Opportunities for Ownership of Learning Activities



This graph displays the frequency of opportunities for ownership of learning activities.

Figure 18

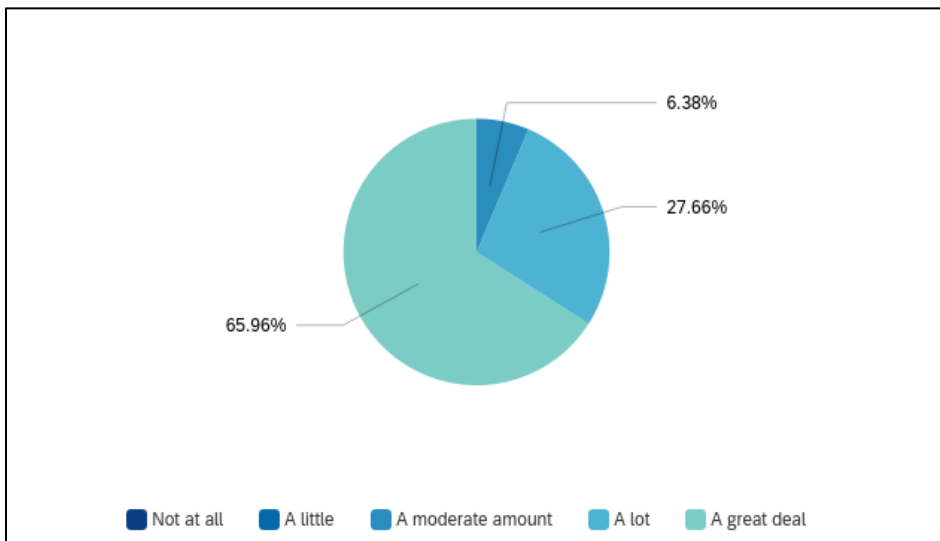
Opportunities to Choose Physical Space



This graph displays the frequency of opportunities for students to choose where they learn within the physical school environment.

Figure 19

Agreement to Learning Supported through Personal Actions

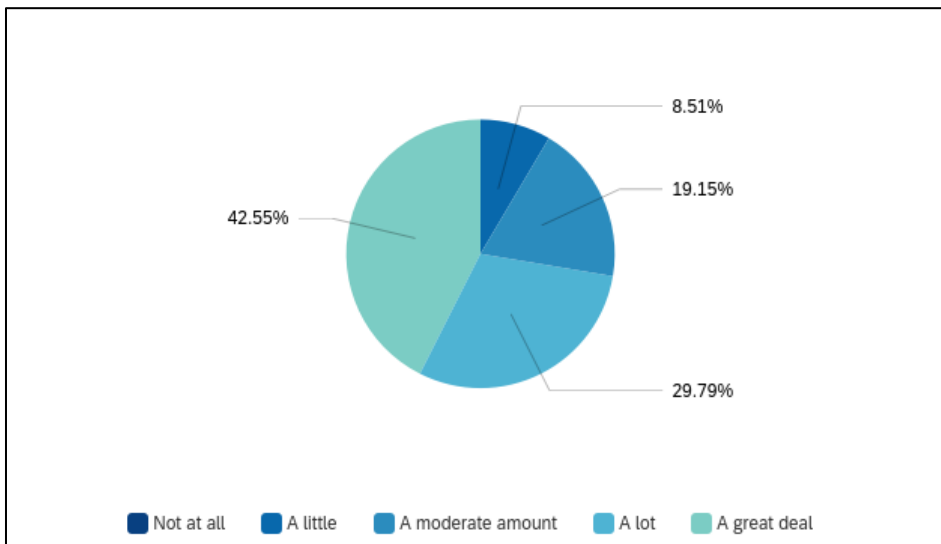


This graph displays how much participants agree with the following statement: I believe students' ability to learn can be supported through actions I take.

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Figure 20

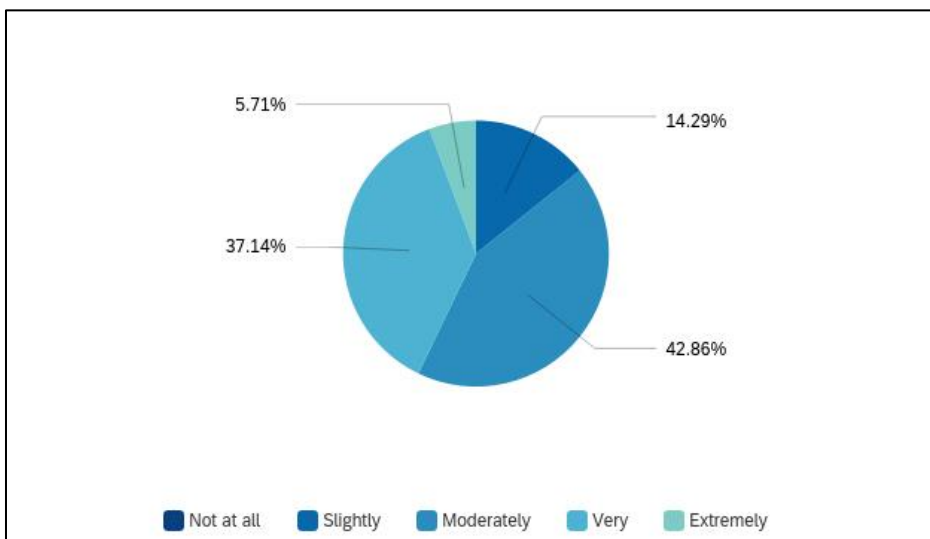
Agreement to Belief in Ability to Teach Anyone



This graph displays participants confidence to teach anyone who enters their space.

Figure 21

Agreement to Gifted Underachievers' Belief in Success

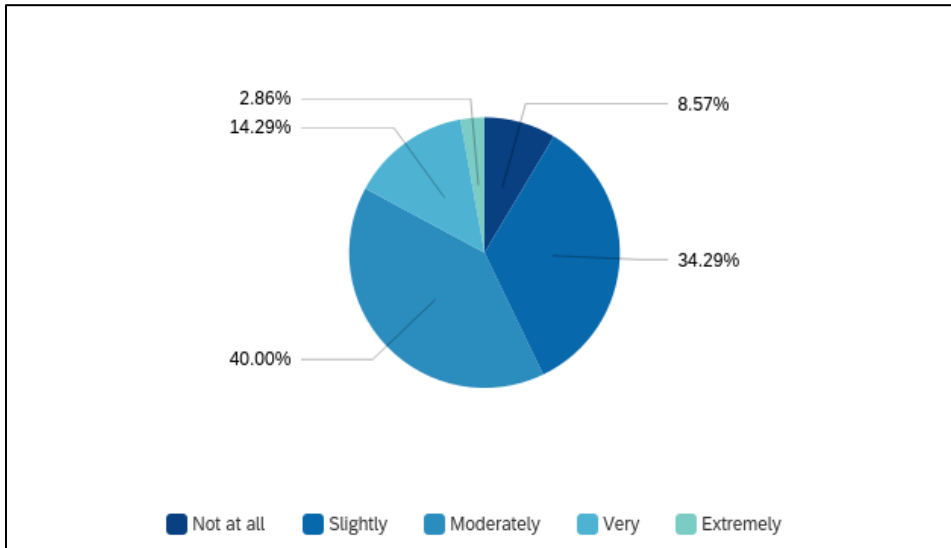


This graph displays respondent ratings of how well gifted underachievers believe they will be successful at a given task.

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Figure 22

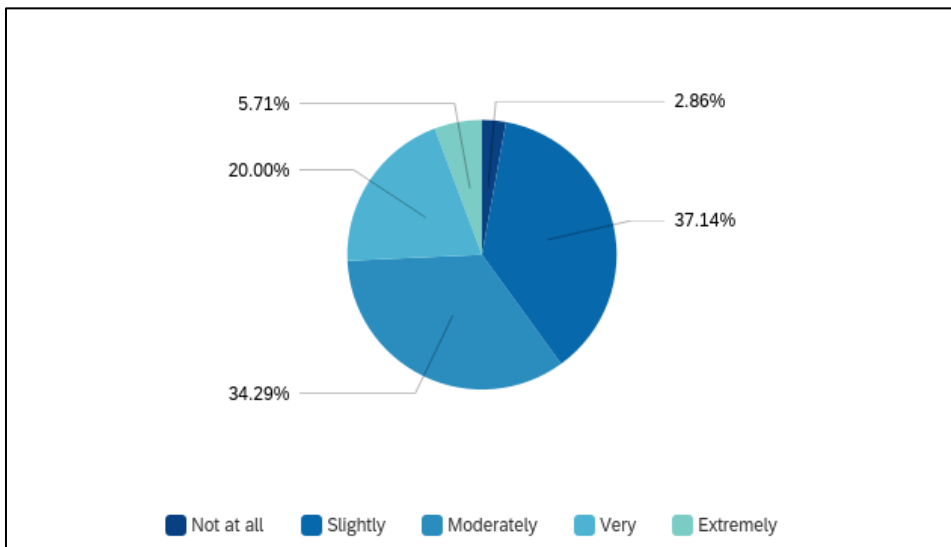
Agreement to Gifted Underachievers' Interest, Focus, and Curiosity



This graph displays respondent ratings of the interest, focus, and curiosity in gifted underachievers.

Figure 23

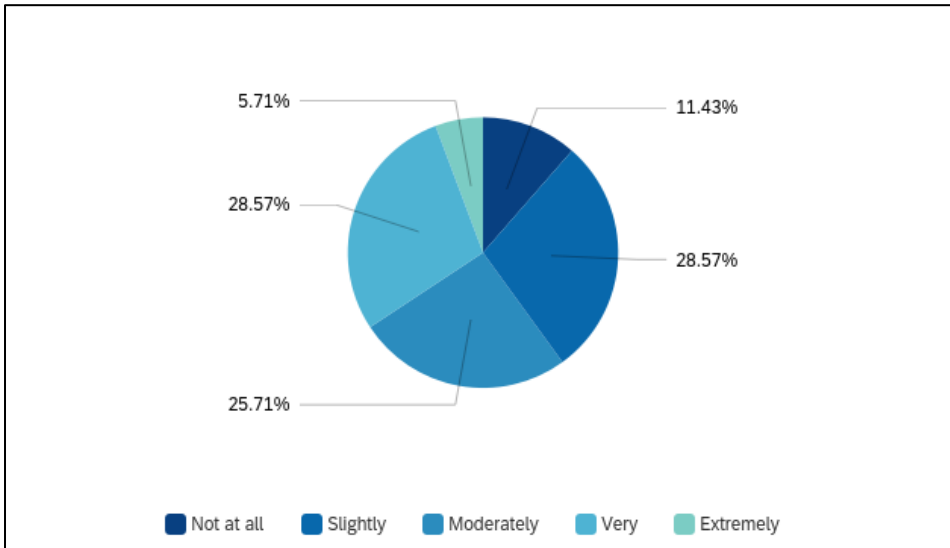
Agreement to Gifted Underachievers' Belief in Ability



This graph displays respondent ratings of how well gifted underachievers believe they can become smarter with increased effort and learning.

Figure 24

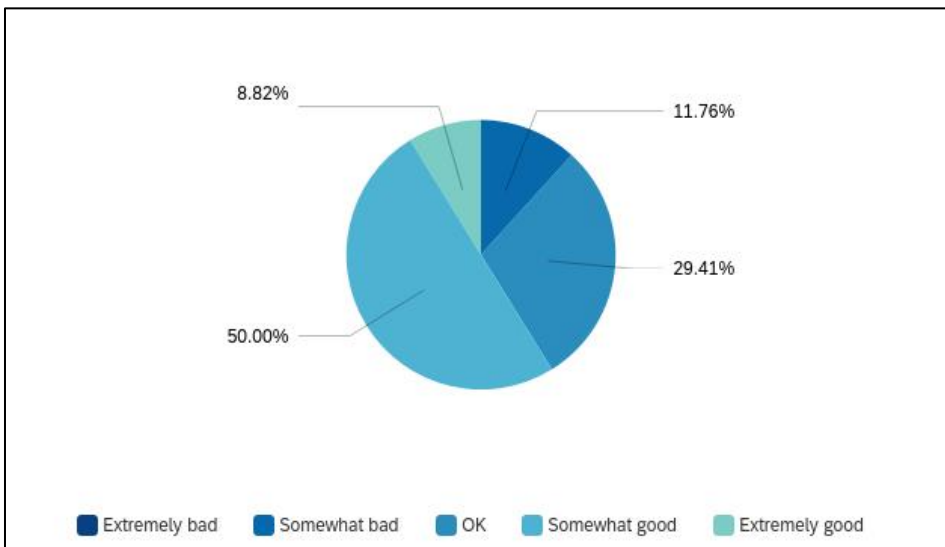
Agreement to Gifted Underachievers' Belief in Fixed Intelligence



This graph displays respondent ratings of how well gifted underachievers believe their intelligence level is fixed and will not change with increased effort.

Figure 25

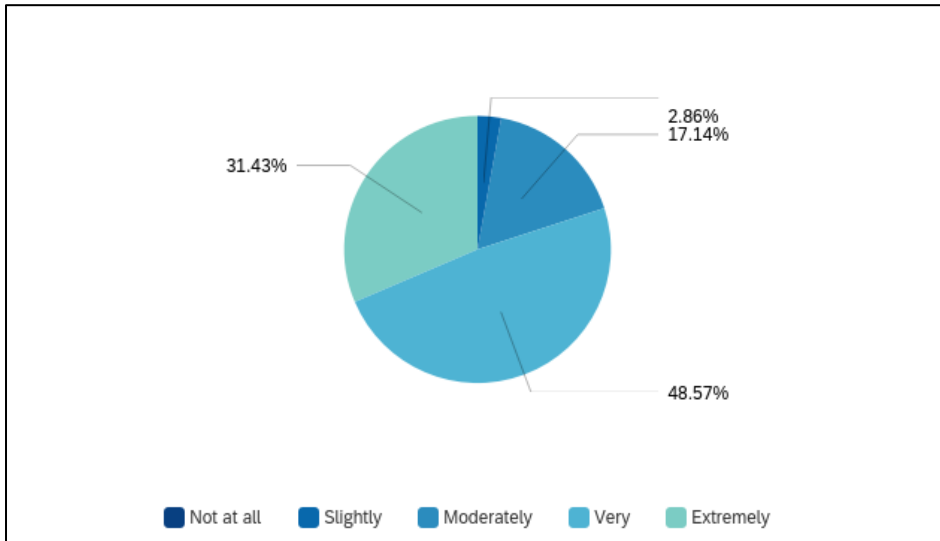
Rating of Gifted Underachievers' Peer Relationships



This graph displays respondent ratings of peer relationships of gifted underachievers.

Figure 26

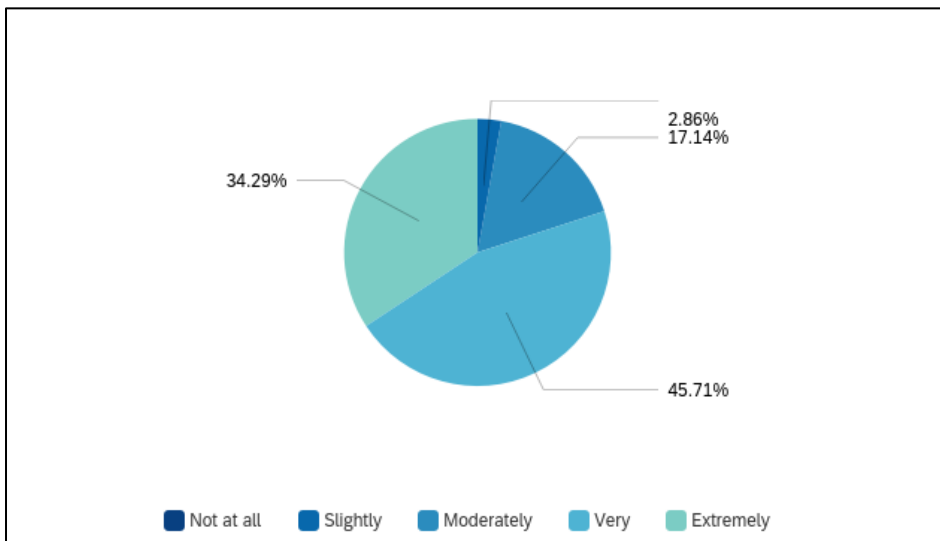
Agreement to Autonomous Learners' Belief in Success



This graph displays respondent ratings of how well autonomous learners believe they will be successful at a given task.

Figure 27

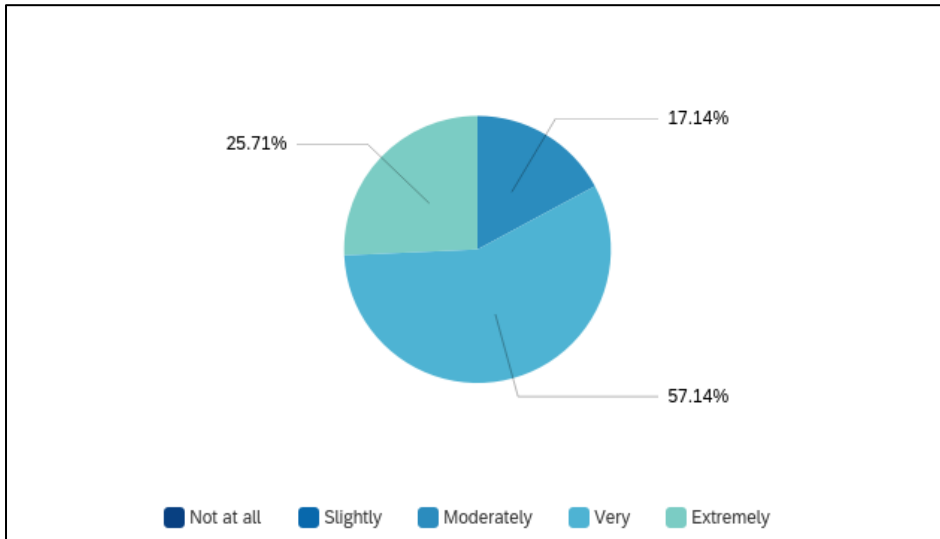
Agreement to Autonomous Learners' Interest, Focus, and Curiosity



This graph displays respondent ratings of the interest, focus, and curiosity in autonomous learners.

Figure 28

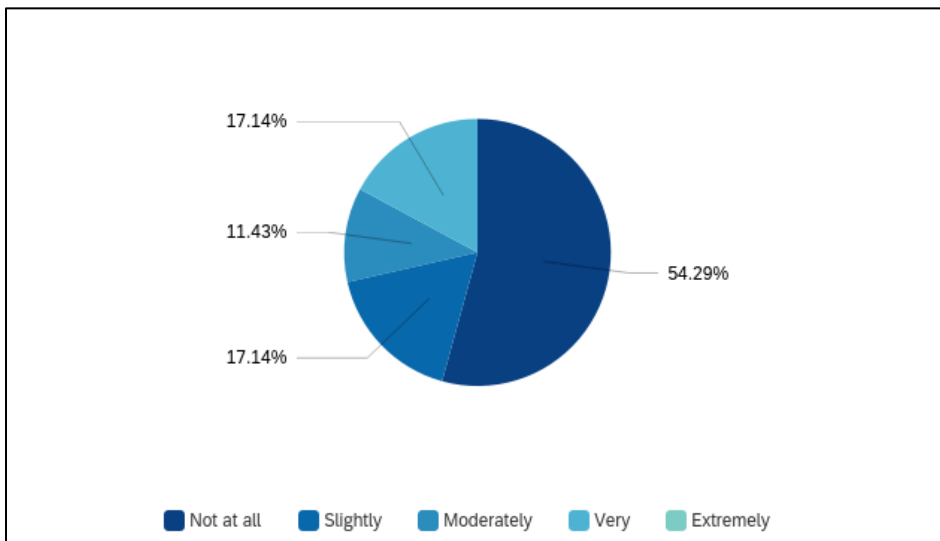
Agreement to Autonomous Learners' Belief in Ability



This graph displays respondent ratings of how well autonomous learners believe they can become smarter with increased effort and learning.

Figure 29

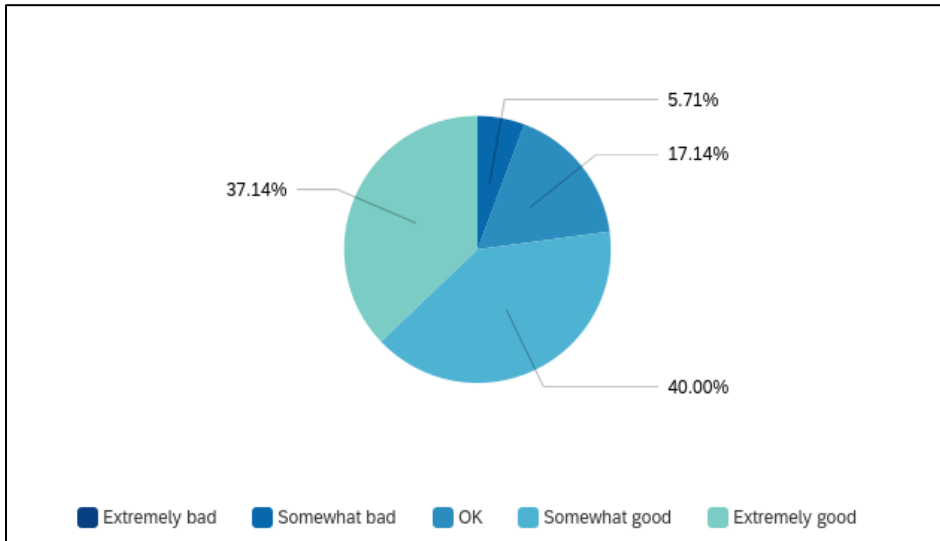
Agreement to Autonomous Learners' Belief in Fixed Intelligence



This graph displays respondent ratings of how well autonomous learners believe their intelligence level is fixed and will not change with increased effort.

Figure 30

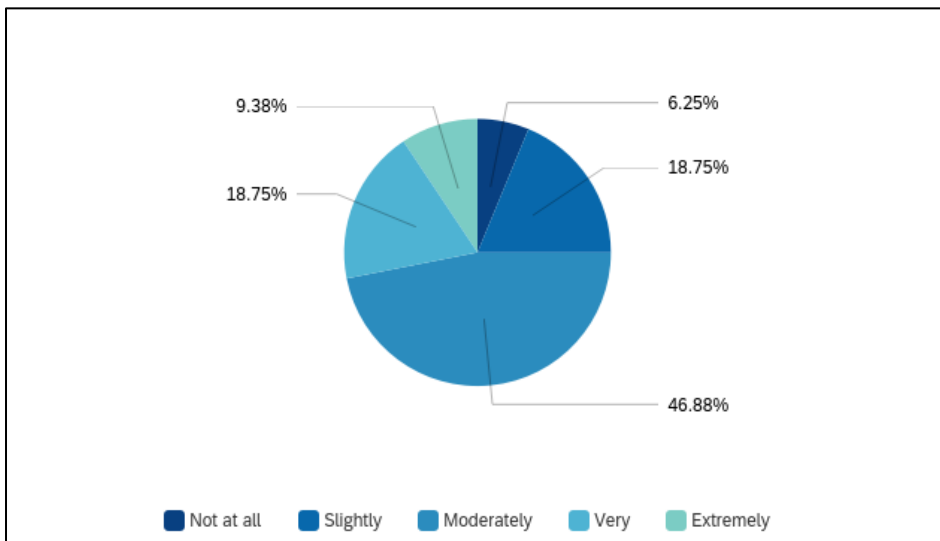
Rating of Autonomous Learners' Peer Relationships



This graph displays respondent ratings of peer relationships of autonomous learners.

Figure 31

Agreement to Twice-Exceptional Students' Belief in Success

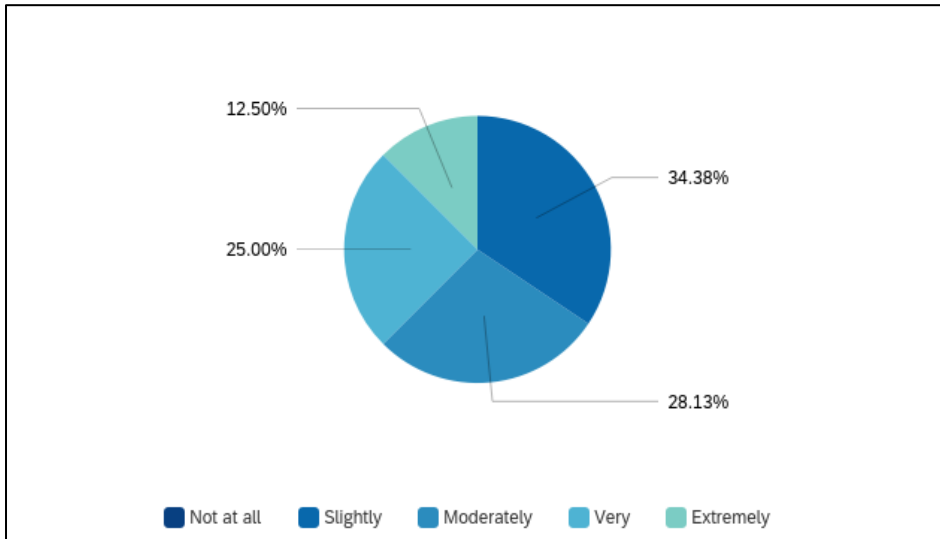


This graph displays respondent ratings of how well twice-exceptional students believe they will be successful at a given task.

ENCOURAGING MOTIVATION THRU INCLUSIVE ENVIRONMENTS

Figure 32

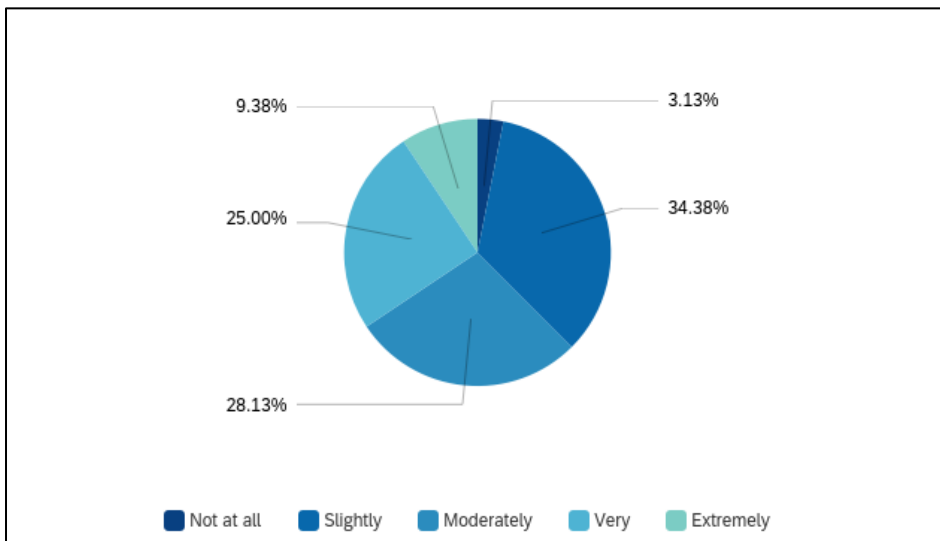
Agreement to Twice-Exceptional Students' Interest, Focus, and Curiosity



This graph displays respondent ratings of the interest, focus, and curiosity in twice-exceptional students.

Figure 33

Agreement to Twice-Exceptional Students' Belief in Ability

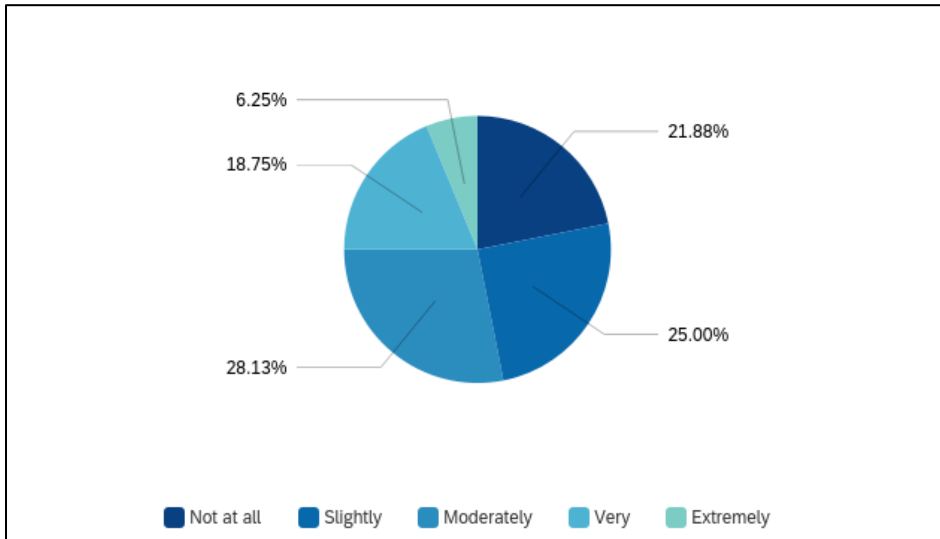


This graph displays respondent ratings of how well twice-exceptional students believe they can become smarter with increased effort and learning.

ENCOURAGING MOTIVATION THRU INCLUSIVE ENVIRONMENTS

Figure 34

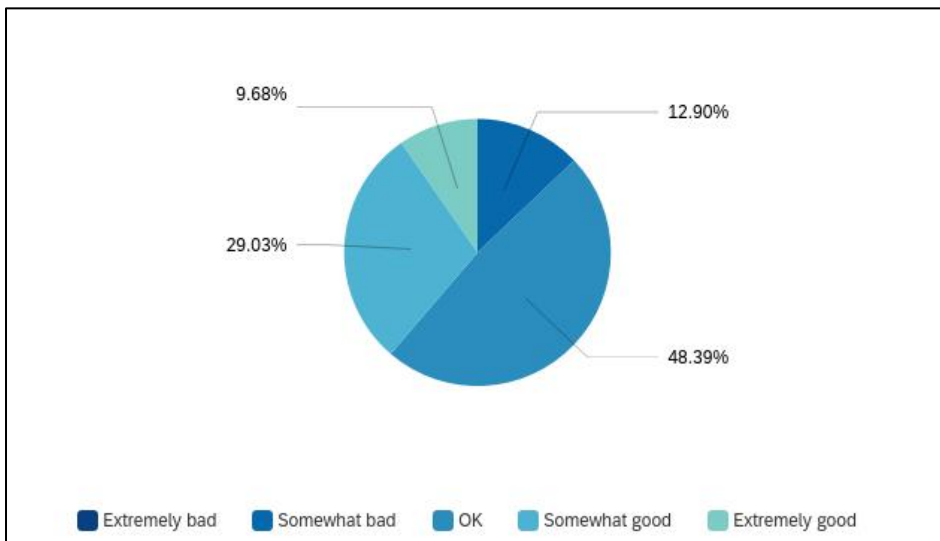
Agreement to Twice-Exceptional Students' Belief in Fixed Intelligence



This graph displays respondent ratings of how well twice-exceptional students believe their intelligence level is fixed and will not change with increased effort.

Figure 35

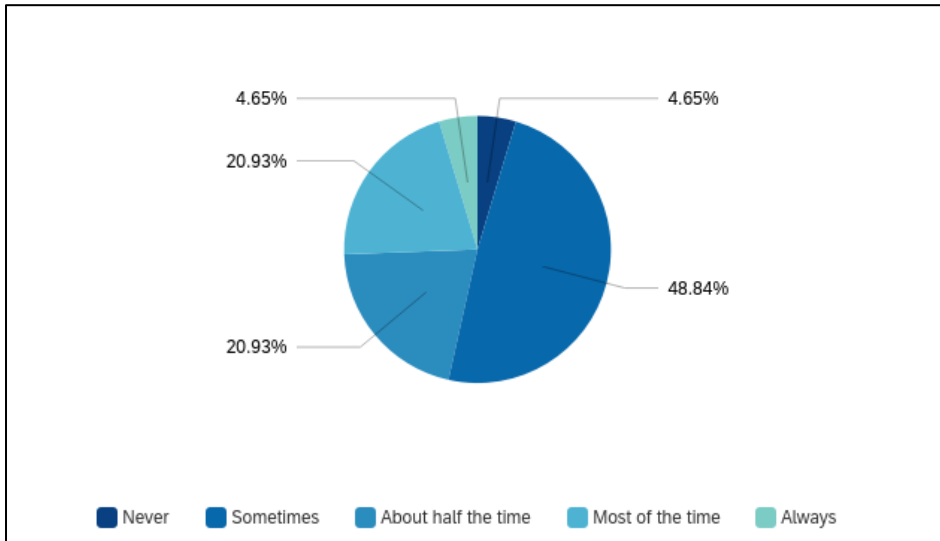
Rating of Twice-Exceptional Students' Peer Relationships



This graph displays respondent ratings of peer relationships of twice-exceptional students.

Figure 36

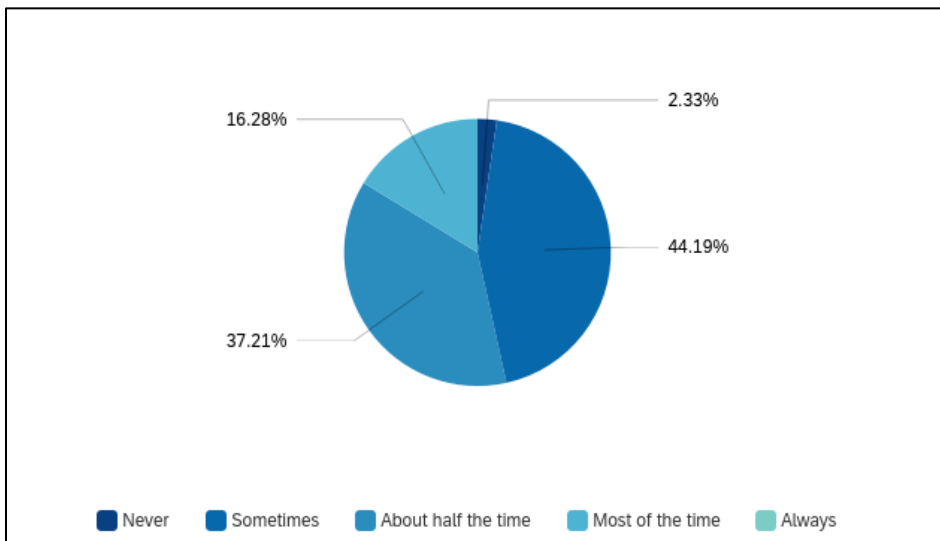
Frequency Students Choose Where to Work



This graph displays respondent ratings of frequency students are allowed to choose where they do their work.

Figure 37

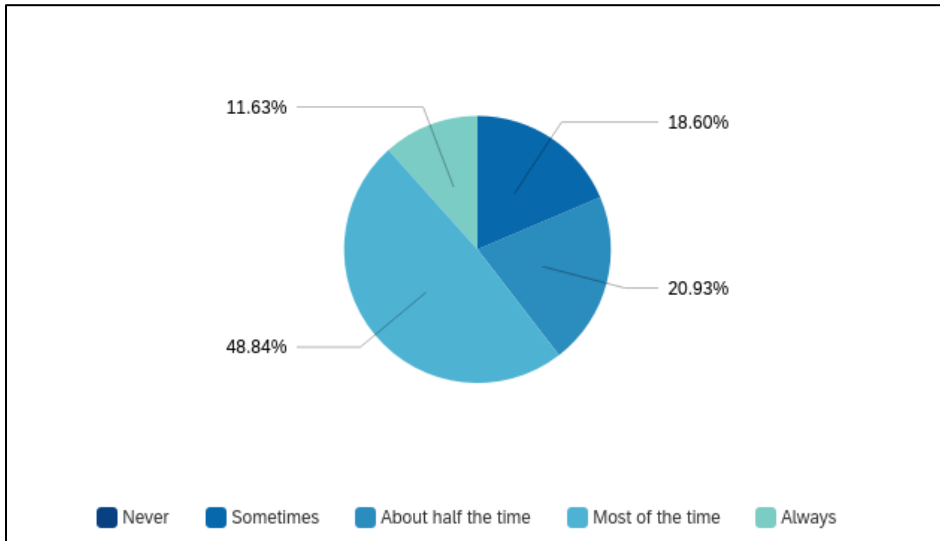
Frequency Students Choose How to Work



This graph displays respondent rating of frequency gifted and talented students are allowed to choose how they do their work.

Figure 38

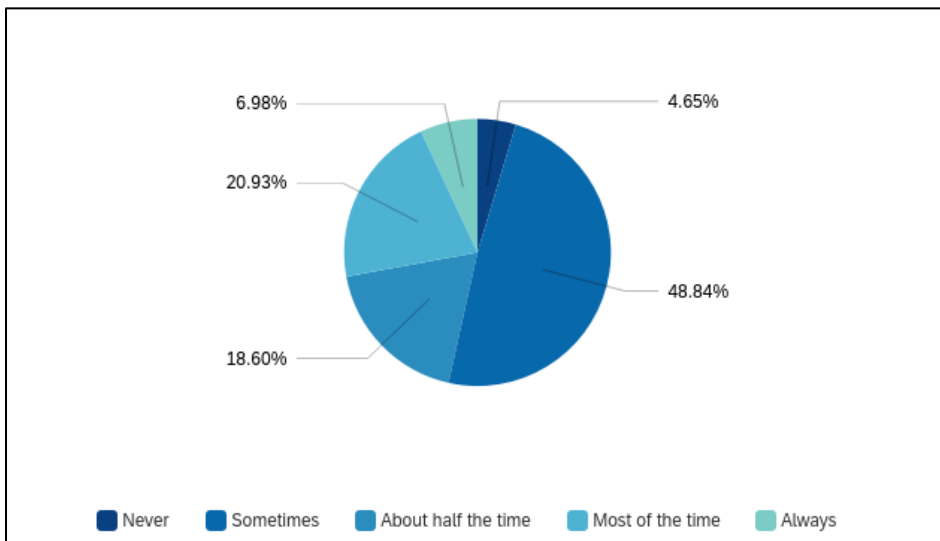
Frequency Students' Achievements are Recognized



This graph displays respondent ratings of how often gifted and talented students are recognized for their achievements.

Figure 39

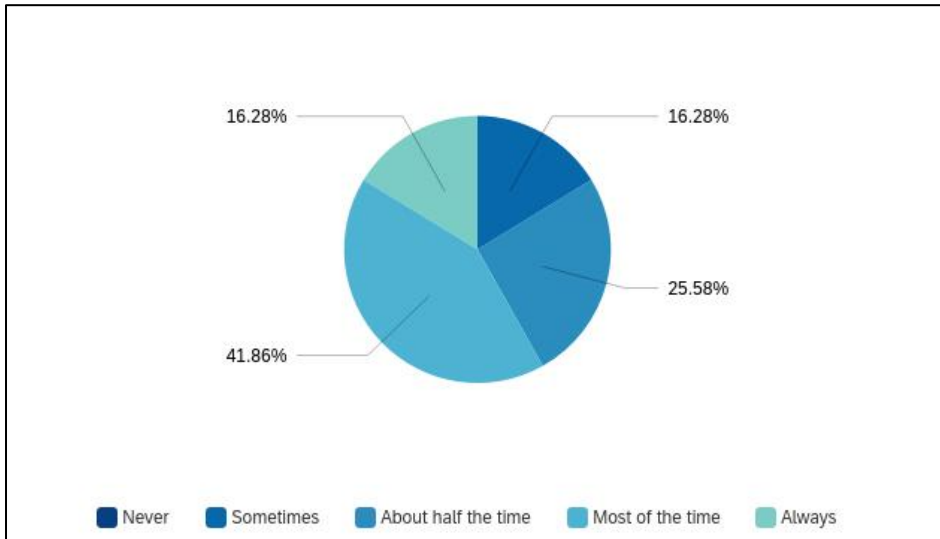
Frequency Gifted Students Work Together



This graph displays respondent ratings of how often gifted and talented students are put into groups with each other in a class or activity.

Figure 40

Frequency Students are Given Constructive Feedback



This graph displays respondent ratings of how often gifted and talented students are given constructive feedback.