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Article

Key Factors Affecting Academic Performance in Special Education

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Abstract: This study examines the impact of classroom management on the academic performance of students, focusing on Inclusiveness and Supportiveness, the Physical and Sensory Environment, and Behavior Management and Support. Findings indicate that classroom management is generally rated positively, with strong agreement that the environment is inclusive and welcoming, fostering a sense of acceptance for students with special needs. Teachers are praised for creating a positive classroom culture, though there is less agreement on the promotion of peer support and collaboration. The Physical and Sensory Environment is also well-regarded, with accessible, well-organized classrooms that include sensory supports, though improvements in lighting, noise levels, and organization are suggested. Behavior Management and Support received high ratings, with effective use of individualized behavior plans and positive reinforcement strategies. Despite these positive evaluations, the analysis of academic performance in English, Mathematics, and Science showed no statistically significant relationship between classroom management factors and academic outcomes. The p-values exceeded the threshold for significance, suggesting that these classroom management aspects do not directly impact academic performance. Further research is needed to explore other potential factors influencing academic success.

Keywords: Special Education, Academic performance, English, Mathematics, Science performance

Introduction

Special education is a critical component of the educational system, aimed at addressing the unique needs of students with disabilities by providing tailored instruction and resources that promote academic, social, and emotional success. These programs are essential for fostering inclusivity and ensuring equal opportunities for all students, regardless of their individual challenges (Mihut et al., 2021). Beyond academic achievement, special education significantly supports the social and emotional development of students with disabilities, helping them build self-esteem, social skills, and a sense of

belonging, which are crucial for their well-being (Hanley, 2003). Inclusive educational environments where students with and without disabilities learn together promote mutual understanding and respect, leading to a more inclusive society (Mitchell et al., 2018). Effective support for special education, including sufficient resources and trained educators, leads to better academic outcomes, higher graduation rates, and improved well-being for students with disabilities (Reilly, 2014). Individualized instruction bridges learning gaps and promotes personal growth, further enhancing the academic success of students (Mullen & Hunt, 2022).

Special education faces several challenges, including the need for adequate health support, effective implementation of Individualized Education Programs (IEPs), and ensuring that teachers have the necessary expertise. Health services play a crucial role in managing medical conditions that can impact learning, particularly for students who require specialized care during school hours (Mangongon, 2023). The effectiveness of IEPs relies heavily on their quality and customization to meet individual student needs, but teachers often face challenges in the IEP evaluation process due to gaps in knowledge and motivation (Wong & Rashid, 2022). Additionally, teacher expertise and ongoing professional development are essential for delivering quality instruction to students with disabilities, particularly in using strategies like systematic and student-centered instruction (Ruppar et al., 2015). Research has also shown that evidence-based instructional methods such as direct instruction, peer tutoring, and differentiated instruction significantly improve learning outcomes for students with disabilities (Legler, 2017).

The connection between appropriate support and student academic performance in special education settings is well-documented. When students receive tailored instruction, adequate resources, and personalized attention through Individualized Education Programs (IEPs), their academic outcomes improve significantly (Barnard-Brak & Lechtenberger, 2010). Furthermore, schools that foster a supportive and inclusive environment enable students with disabilities to thrive academically and socially, leading to better long-term outcomes (Rea et al., 2002). Smaller class sizes and individualized support allow for more one-on-one interaction between students and teachers, addressing specific learning needs and challenges, which leads to better academic performance (Kurth et al., 2022). A study by Rea and colleagues demonstrated that students in smaller inclusive classes made more significant academic gains, particularly those with special educational needs, than those in separate settings (Rea et al., 2002).

More research is needed to understand provide effective teacher training, ensure adequate resources, create optimal classroom environments, and address the health needs of students with disabilities. Teacher training is another critical area, with research

highlighting the need for targeted professional development to ensure effective collaboration between general and special educators. Ensuring adequate resources and addressing health support needs in special education is also important, as gaps in resources can hinder the educational success of students with disabilities. Future research should focus on developing evidence-based practices to improve IEP quality, investigating effective teacher training programs, and identifying the best ways to allocate resources, as well as examining how classroom environments and health services can better support students with disabilities.

Methodology

This study utilized a descriptive research method to explore the factors influencing the academic performance of students at Ormoc City SPED Integrated School, part of the Ormoc City Division. A structured questionnaire, based on the works of Gargiulo & Bouck (2020), Yell et al. (2013), Vaughn et al. (2020), Ainscow & Sandill (2010), Loreman (2017), and Glanz et al. (2015), was employed to examine key themes such as classroom management that help the school to provide quality education. Data was gathered from anonymous surveys completed by the students' parents, with responses rated on a 5-point Likert scale from "strongly agree" to "strongly disagree." Statistical analysis was conducted using software, with a significance level of 0.05 to determine the relationships between these factors and academic performance. The study adhered to an INPUT-PROCESS-OUTPUT (IPO) framework, which focused on the inputs (key factors), processes (data collection and analysis), and outputs (findings and recommendations). The results served as the basis for creating an intervention plan aimed at promoting a globally competitive learning environment in special education.

Results and Discussion

Table 1. Inclusiveness and Supportiveness

Inclusiveness and Supportiveness	Mean	VD
The classroom environment is welcoming and inclusive for all students.	4.36	SA
Students with special needs feel accepted and valued by their peers.	4.32	SA
The teacher promotes a positive and respectful classroom culture.	4.11	A
All students are encouraged to participate in classroom activities.	3.93	A
Peer support and collaboration are encouraged in the classroom.	3.87	A
Grand Mean	4.12	A

The data presented in Table 1 regarding the extent of inclusiveness and supportiveness in classroom management reflects a generally positive environment for all students, including those with special needs. The highest mean score (4.36, "Strongly Agree") indicates that the classroom environment is perceived as welcoming and inclusive for all students, highlighting the effectiveness of efforts to create an accepting atmosphere. Similarly, students with special needs feeling accepted and valued by their peers received a high mean score of 4.32 ("Strongly Agree"), suggesting that peer interactions are supportive and affirming. The teacher's role in promoting a positive and respectful classroom culture is also rated favorably, with a mean score of 4.11 ("Agree"), reflecting strong teacher leadership in fostering a respectful environment. The encouragement of student participation in classroom activities and peer support and collaboration received slightly lower mean scores of 3.93 and 3.87, respectively, both in the "Agree" range. These scores indicate that while there is encouragement for participation and collaboration, there may be room for further improvement in these areas. Overall, with a grand mean of 4.12 ("Agree"), the data suggests that the classroom environment is generally inclusive and supportive, with strong peer relationships and effective teacher leadership contributing to a positive atmosphere. However, ongoing efforts to enhance student participation and peer collaboration could further strengthen this supportive environment.

Table 2. Physical and Sensory Environment

Physical and Sensory Environment	Mean	VD
The classroom is physically accessible to all students.	3.70	A
The classroom is organized and free from excessive clutter.	3.66	A
The classroom provides a variety of sensory supports (e.g., sensory breaks, fidget tools).	3.61	A
The lighting and noise levels in the classroom are conducive to learning.	3.82	A
The classroom has designated quiet areas for students who need a break.	4.09	A
Grand Mean	3.78	A

The data in Table 2 assesses the physical and sensory environment of the classroom, with the results indicating an overall positive evaluation of the classroom's physical accessibility and sensory accommodations. The highest mean score (4.09, "Agree") pertains to the availability of designated quiet areas for students who need a break, suggesting that the classroom effectively supports students who require moments of calm during the school day. The lighting and noise levels in the classroom also received a favorable mean score of 3.82 ("Agree"), reflecting that the environment is generally conducive to learning. Other aspects of the physical and sensory environment, such as the classroom's physical accessibility, organization, and provision of sensory supports, received slightly lower mean scores, ranging from

3.61 to 3.70, all within the "Agree" range. This indicates that while the classroom is generally accessible, well-organized, and equipped with sensory supports, there may be areas for improvement, particularly in enhancing these aspects to better meet the needs of all students. Overall, with a grand mean of 3.78 ("Agree"), the data suggests that the physical and sensory environment of the classroom is supportive and conducive to learning. However, continuous efforts to optimize accessibility, organization, and sensory support could further enhance the classroom environment for all students.

Table 3. Behavior Management and Support

Behavior Management and Support	Mean	VD
The teacher uses positive behavior management strategies effectively.	4.57	SA
The classroom has clear and consistent rules and expectations.	4.03	A
Students receive appropriate support to manage their behavior.	3.77	A
The teacher implements individualized behavior plans when needed.	4.18	A
There is a system in place for recognizing and reinforcing positive behavior.	4.27	SA
Grand Mean	4.16	A

The data in Table 3 reflects a strong overall assessment of behavior management and support within the classroom. The highest mean score (4.57, "Strongly Agree") is associated with the teacher's effective use of positive behavior management strategies, indicating a high level of confidence in the teacher's ability to manage classroom behavior constructively. Additionally, the presence of a system for recognizing and reinforcing positive behavior is also rated highly, with a mean score of 4.27 ("Strongly Agree"), suggesting that positive reinforcement is a well-established practice in the classroom. Other aspects of behavior management, such as the implementation of individualized behavior plans and the clarity and consistency of classroom rules and expectations, received mean scores of 4.18 and 4.03, respectively, both within the "Agree" range. These scores indicate that the classroom environment is generally well-managed, with appropriate structures in place to support positive behavior and address individual student needs. However, the area of providing appropriate support for students to manage their behavior received a slightly lower mean score of 3.77 ("Agree"). While still positive, this suggests that there may be room for improvement in ensuring that all students receive the necessary support to manage their behavior effectively. Overall, with a grand mean of 4.16 ("Agree"), the data suggests that behavior management and support in the classroom are robust, with effective strategies and systems in place. Continued focus on providing individualized support could further strengthen the classroom's approach to behavior management.

Table 4. Learners Academic Performance

Subject	Grade	VD
English	82.78	Satisfactory
Mathematics	85.85	Very Satisfactory
Science	85.88	Very Satisfactory

The data in the table outlines the academic performance of learners across three subjects: English, Mathematics, and Science. The grades indicate varying levels of achievement, with English receiving a grade of 82.78, which is classified as "Satisfactory." This suggests that while students are meeting basic expectations in English, there may be room for improvement. In contrast, both Mathematics and Science received higher grades, 85.85 and 85.88 respectively, both classified as "Very Satisfactory." These scores indicate that learners are performing well in these subjects, exceeding basic expectations and demonstrating a stronger grasp of the material.

Table 5. Significant Relationship Between the Extent of Clarity and Specificity of Goals to English Performance

Constructs	r-value	t-value	P value	Remarks	Decision
Inclusiveness and Supportiveness	7.2434	1.764	0.086	Not Significant	Do not reject
Physical and Sensory Environment	3.8501	0.795	0.432	Not significant	Do not reject
Behavior Management and Support	-12.7180	-1.604	-1.604	Not significant	Do not reject

The data in Table 5 examines the relationship between various influential factors Inclusiveness and Supportiveness, Physical and Sensory Environment, and Behavior Management and Support and students' academic performance in English. The analysis reveals that none of these factors showed a statistically significant relationship with English performance. The construct of Inclusiveness and Supportiveness had an r-value of 7.2434 and a t-value of 1.764, with a p-value of 0.086. Although this p-value is relatively close to the typical significance threshold of 0.05, it is still not low enough to be considered statistically significant, leading to the decision to not reject the null hypothesis. This suggests that, based on the data, the level of inclusiveness and supportiveness in the classroom does not have a significant impact on English academic performance. Similarly, the Physical and Sensory Environment showed an r-value of 3.8501 and a t-value of 0.795, with a p-value of 0.432. This indicates a weak correlation that is not statistically significant, and thus, the null hypothesis is not rejected, implying that the physical and sensory aspects of the classroom environment do not significantly influence English performance. The construct of Behavior Management and

Support had a negative r-value of -12.7180 and a t-value of -1.604, with a p-value of -1.604. Despite the strong negative r-value, the relationship is not statistically significant, as indicated by the p-value, which again leads to the decision to not reject the null hypothesis. This suggests that behavior management and support practices in the classroom do not have a significant direct impact on students' performance in English. Overall, the data indicates that while these factors are important components of classroom management and environment, they do not have a statistically significant relationship with English academic performance in this context. Other variables not captured in this analysis may be more influential in determining students' success in English.

Table 6. Significant Relationship Between the extent of Quality of Instructional strategies to Mathematics

Constructs	r-value	t-value	P value	Remarks	Decision
Inclusiveness and Supportiveness	3.4443	1.412	0.166	Not Significant	Do not reject
Physical and Sensory Environment	3.5073	1.219	0.230	Not significant	Do not reject
Behavior Management and Support	-4.3881	-0.932	0.357	Not significant	Do not reject

The data in Table 6 evaluates the relationship between various influential factors Inclusiveness and Supportiveness, Physical and Sensory Environment, and Behavior Management and Support and students' academic performance in Mathematics. The analysis reveals that none of these factors exhibit a statistically significant relationship with Mathematics performance. For Inclusiveness and Supportiveness, the r-value is 3.4443, with a t-value of 1.412 and a p-value of 0.166. Although the t-value suggests a mild correlation, the p-value is above the significance threshold of 0.05, indicating that this relationship is not statistically significant. As a result, the null hypothesis is not rejected, meaning that Inclusiveness and Supportiveness do not have a significant impact on Mathematics performance in this context. Similarly, the Physical and Sensory Environment shows an r-value of 3.5073, with a t-value of 1.219 and a p-value of 0.230. This p-value, also above the 0.05 threshold, suggests that any correlation between the physical and sensory environment and Mathematics performance is not statistically significant, leading to the decision to not reject the null hypothesis. Behavior Management and Support has a negative r-value of -4.3881 and a t-value of -0.932, with a p-value of 0.357. Despite the negative correlation indicated by the r-value, the p-value confirms that this relationship is not statistically significant. Consequently, the null hypothesis is not rejected for this factor either. In summary, the data suggests that Inclusiveness and Supportiveness, Physical and Sensory

Environment, and Behavior Management and Support do not have significant relationships with students' performance in Mathematics. This indicates that these factors may not directly influence Mathematics outcomes, and other variables may play a more crucial role in determining students' success in this subject.

Table 7. Significant Relationship Between the Extent of Influential Factors of the academic performance to Science Performance

Constructs	r-value	t-value	P value	Remarks	Decision
Inclusiveness and Supportiveness	0.0815	0.028	0.908	Not significant	Do not reject
Physical and Sensory Environment	-6.0460	-1.337	0.189	Not significant	Do not reject
Behavior Management and Support	-2.1381	-0.922	0.651	Not significant	Do not reject

The data in Table 7 explores the relationship between various influential factors Inclusiveness and Supportiveness, Physical and Sensory Environment, and Behavior Management and Support and students' academic performance in science. The analysis indicates that none of these factors have a statistically significant relationship with science performance. The construct of Inclusiveness and Supportiveness has an r-value of 0.0815, with a t-value of 0.028 and a p-value of 0.908. These values indicate a negligible correlation that is far from being statistically significant, leading to the decision to not reject the null hypothesis. This suggests that inclusiveness and supportiveness in the classroom do not significantly influence Science performance. The Physical and Sensory Environment shows a negative r-value of -6.0460, with a t-value of -1.337 and a p-value of 0.189. Although the negative r-value suggests a potential inverse relationship, the p-value indicates that this relationship is not statistically significant.

Discussion

The assessment of classroom management as an influential factor in academic performance highlights generally positive outcomes across various domains. In terms of Inclusiveness and Supportiveness, the classroom environment is rated as welcoming and inclusive, indicating a strong agreement that students with special needs feel accepted and valued. The teacher promotes a positive culture, although there is slightly less agreement on the encouragement of peer support and collaboration. The Physical and Sensory Environment of the classroom is also rated positively. The classroom is considered physically accessible and well-organized, and sensory supports are available, though there is room for improvement in providing a more conducive

environment regarding lighting, noise levels, and organization. Lastly, in the area of Behavior Management and Support, the classroom is rated particularly high. Teachers effectively use positive behavior management strategies and implement individualized behavior plans when necessary. There is also a system in place for recognizing and reinforcing positive behavior, contributing to a well-managed classroom environment that supports student learning. The analysis of the relationship between classroom management factors and learners' academic performance in English, Mathematics, and Science reveals that none of the examined factors showed a statistically significant relationship with academic outcomes in any of the subjects. The p-values for all constructs across the three subjects were above the significance threshold, leading to the decision not to reject the null hypothesis in each case. This suggests that, based on the data, these aspects of classroom management, although important, do not have a measurable direct impact on the academic performance of students in English, Mathematics, or Science within the context of this study.

Conclusion

The findings suggest that while classroom management practices, including inclusiveness and supportiveness, the physical and sensory environment, and behavior management and support, are generally rated positively, they do not appear to have a significant direct impact on students' academic. Despite strong agreement on the effectiveness of these classroom management strategies, particularly in fostering a welcoming and well-organized environment and using positive behavior management techniques, the analysis indicates that these factors do not significantly correlate with or predict academic outcomes in the subjects studied. This suggest that while effective classroom management is crucial, other factors may play a more significant role in influencing student achievement.

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