

Effectiveness of Flexible Learning Spaces on the Performance in English of Grade Six Pupils

Camille F. Romero, MAEd

Graduate Student, Tomas Claudio Colleges, Philippines

Teacher I, Alas-Asin Elementary School, Tanay, Rizal

Publication history: Received: February 3, 2026; Revised: February 5, 2026; Accepted: February 10, 2026

Email of Corresponding Author: camillef.romero@deped.gov.ph

Abstract

This study aimed to determine the effectiveness of flexible learning spaces in teaching English to Grade Six pupils at Alas-asin Elementary School, Tanay District, Division of Rizal during the School Year 2025–2026. The respondents were thirty-two (32) Grade Six pupils described in terms of age, sex, sibling position, number of children in the family, parents' educational attainment, parents' occupation, and monthly family income. Using an experimental research method with a single-group pretest-posttest design, the pupils' English performance was measured before and after exposure to flexible learning spaces. Findings revealed that the pupils' English performance improved from Fairly Satisfactory to Satisfactory after the intervention. A significant difference was observed in overall performance before and after exposure, with sex identified as a contributing factor, while other demographic variables showed no significant effect. It was concluded that flexible learning spaces effectively enhance English performance among Grade Six pupils, with sex influencing the degree of improvement. Based on these findings, it is recommended that school administrators provide professional development for teachers on flexible learning space utilization, implement equitable access policies, design task-based and collaborative learning activities, adopt performance-based assessments, and educate parents on supporting flexible learning at home. An action plan for effective implementation of flexible learning spaces is also proposed. Future studies may explore other variables to further validate the approach.

Keywords: Flexible learning spaces, English performance, Grade Six pupils, experimental research, pretest-posttest design, Philippines

1. Introduction

Education plays a fundamental role in shaping an individual's personality, knowledge, skills, and overall well-being. It serves as a vital instrument for social mobility, economic advancement, and cultural integration, and is recognized as a constitutional right in the Philippines (1987 Philippine Constitution, Article XIV, Section 1). Teachers are central to realizing this right, yet the rapid evolution of curricula, pedagogical strategies, and technology necessitates continuous professional development and digital competency to ensure quality instruction. Policies such as DepEd Order No. 016, s. 2023, underscore the importance of integrating technology in teaching to develop 21st-century skills, including digital literacy, collaboration, and critical thinking.

Flexible learning spaces, which combine adaptable physical arrangements with technology-enhanced instruction, have emerged as effective tools to promote learner engagement, active participation, and academic achievement. They provide opportunities for personalized, learner-centered instruction, supporting both cognitive and physical well-being by reducing sedentary behavior and improving attention (Larose et al., 2024; Yesil & Aras, 2024; Muller et al., 2023). Despite the availability of technological tools, teachers in remote or upland areas face challenges such as connectivity issues, class interruptions due to bad weather, and limited access to printed materials. These challenges highlight the need for strategies that optimize learning within resource-constrained environments.

As a teacher in an upland school for five years, the researcher has personally observed that lessons in English become more engaging and understandable when technology and flexible instructional methods are employed. Traditional teaching approaches are often disrupted by canceled classes, insufficient instructional materials, or environmental constraints, which can hinder pupils' learning continuity. By integrating computers, digital platforms, and adaptable seating arrangements, the researcher noted that pupils are more attentive, actively participate in class discussions, and demonstrate improved comprehension and retention of lessons. These observations underscore the practical relevance of flexible learning spaces in addressing both pedagogical and contextual challenges in Philippine classrooms.

Studies both internationally and locally support the effectiveness of flexible learning environments. Intra et al. (2023) and Guven and Ucar (2022) highlight how adaptable classrooms and tailored digital tools enhance engagement, learning outcomes, and professional development for teachers, while Glasgow and Keim (2021) emphasize the role of discipline-specific adaptation in effective technology use. Locally, Narita et al. (2025), Cajurao et al. (2023), Ang et al. (2022), and Bercasio and Dugan (2025) demonstrate that flexible learning, including blended and distance modalities, supports academic performance, particularly in contexts with socioeconomic or infrastructural constraints. These studies collectively indicate that well-designed learning spaces—physical, digital, or blended—can mediate engagement and achievement, creating a conducive environment for learning despite challenges.

In light of these findings and the researcher's observations, this study seeks to examine the effectiveness of flexible learning spaces in teaching English to Grade Six pupils, particularly in contexts where traditional classroom resources are limited. By combining insights from international and local research on flexible learning, technology integration, and student-centered pedagogy, this study aims to determine whether dedicated, adaptable learning spaces can positively influence pupils' engagement, participation, and academic performance in English. The findings are expected to guide teachers, administrators, and policymakers in designing learning environments that maximize student outcomes while addressing local challenges in the Philippine educational context.

2. Materials and methods

2.1 Research Design

Experimental research method utilizing single group design was employed for this study. This approach involves using pretest and posttest to measure and compare the English performance of pupils before and after their exposure to flexible learning spaces. The pretest assessed the pupils' initial proficiency in English, while the posttest evaluated any changes in performance after the intervention. This design determined the effectiveness of flexible learning spaces on the performance in English of the grade six pupils.

2.2 Research Setting

The study was conducted in Alas-asin Elementary School, Tanay District, Schools Division Office of Rizal. The school offers complete elementary education from kindergarten to grade six.

2.3 Respondents

The respondents of the study were the thirty (32) grade six pupils in the said school. They were described in terms of age, sex, sibling position, number of children in the family, parents' educational attainment, parent's occupation and monthly family income.

2.4 Research Instruments

The study employed a parallel form of pretest and posttest to determine the English performance of Grade Six pupils exposed to flexible learning spaces. A 40-item researcher-made test, based on the Most Essential Learning Competencies (MELC) for the second quarter and guided by a Table of Specifications (TOS), was used to ensure coverage of the targeted lessons. Performance was interpreted using a scoring scale from 1–40, ranging from Did Not Meet Expectations to Outstanding. To establish content validity, the instrument was reviewed by experts, including the thesis adviser, professorial lecturers, statistician, district English consultant, master teachers, head teacher, and Dean of the Graduate Studies Program. The test was tried out on 27 Grade Six pupils from a nearby school to determine item difficulty and reliability. Reliability was calculated through the split-half method, with scores correlated using the Pearson Product-Moment Correlation and Spearman-Brown formula, ensuring the test was both valid and reliable for measuring learning outcomes.

2.5 Data Collection

The researcher followed the Gantt Chart of Activities in the conduct of the study. This includes the formulation of the research problem up to the revision of the manuscript and submission of the final copy. After the validation of the instrument, permission to conduct the study was obtained from the concerned authorities. The questionnaire-checklist was administered to the respondents through the Google survey form considering the guidelines in the Data Privacy Act of 2012. Retrieved data were encoded and processed utilizing Statistical Package for Social Sciences (SPSS). Based from the interpreted data, summary of findings, conclusions and recommendations were formulated.

2.6 Data Analysis

The data collected in the study were analyzed using descriptive and inferential statistical tools. Frequency, percentage, and rank distribution were used to determine the profile of the respondents based on selected variables. The level of performance in English of the Grade Six pupils exposed to flexible learning spaces, as indicated by their pretest and posttest results, was analyzed using mean and standard deviation. To examine whether there was a significant

difference between the pretest and posttest performance, the dependent t-test was employed. Furthermore, to determine whether the posttest performance varied significantly according to the respondents' profile, a one-way analysis of variance (ANOVA) was utilized.

2.7 Ethical Considerations

The study ensured the protection of the rights and welfare of all respondents. Participation was voluntary, and respondents were informed about the purpose of the study. Confidentiality and anonymity of all information provided were strictly maintained, and data were used solely for research purposes. The researcher ensured that the respondents were treated with respect and that no harm, whether physical, emotional, or psychological, would result from their participation in the study..

3. Results and Discussion

3.1. Profile of the Respondents in Terms of Age, Sex, Sibling Position, Number of Children in the Family, Parents' Educational Attainment, Parents' Occupation and Monthly Family Income

Table 1 presents the profile of the respondents in terms of age, sex, sibling position, number of children in the family, parents' educational attainment, parents' occupation and monthly family income.

It can be deduced from the table that out of 32 respondents, most are 11 years old with 24 or 75.0% while only 2 or 6.3% are 12 years old. Majority of them are males with 17 or 53% while females are 15 or 46.9%. Most of the respondents are born fourth with 8 or 25.0%, while 3rd born respondents are 5 or 15.6% same with 5th and above. With regards to number of children in the family, most of them have 5 and above children with frequency of 12 or 37.5%, while 1 is the only child or 3.1%. Considering their parents' educational attainment, 11 or 34.4% of the respondents' fathers are high school graduates, followed by elementary graduates with 8 or 25.0%. As for the respondents' mothers, most of them are also high school graduates, while only 2 or 6.3% are college undergraduates. Regarding parents' occupation, most of their fathers are private employees with 16 or 50.0%, followed by unemployed fathers with 7 or 21.9%. As for their mothers, most are private employees with 14 or 43.8%, followed by self-employed and unemployed both with 7 or 21.9%. Finally, with regards to monthly family income, most of their families are earning Php8,000- Php15,000 with 17 or 53 % while only 2 earn Php22,001 and above.

Table 1: *Frequency and Percentage Distribution of the Respondents in Terms of the Selected Variables*

Profile	f	%	R
Age			
11 years old	24	75.0	1
12 years old	2	6.3	4
13 years old	3	9.4	2.5
14 years old	3	9.4	2.5
Total	32	100.0	
Sex			
Male	17	53.1	1
Female	15	46.9	2
Total	32	100.0	
Sibling Position			
1 st	7	21.9	2.5
2 nd	7	21.9	2.5
3 rd	5	15.6	4.5
4 th	8	25.0	1
5th and above	5	15.6	4.5
Total	32	100.0	
Number of Children in the Family			
1	1	3.1	5
2	4	12.5	4
3	7	21.9	3
4	8	25.0	2
5 and above	12	37.5	1
Total	32	100.0	
Father's Educational Attainment			
College Graduate	2	6.3	6
College Undergraduate	3	9.4	4.5

High School Graduate	11	34.4	1
High School Undergraduate	3	9.4	4.5
Elementary Graduate	8	25.0	2
Elementary Undergraduate	5	15.6	3
Total	32	100.0	
Mother's Educational Attainment			
College Graduate	3	9.4	4.5
College Undergraduate	2	6.3	6
High School Graduate	12	37.5	1
High School Undergraduate	7	21.9	2
Elementary Graduate	5	15.6	3
Elementary Undergraduate	3	9.4	4.5
Total	32	100.0	
Father's Occupation			
Government Employee	5	15.6	3
Private Employee	16	50.0	1
Self-Employed	4	12.5	4
Unemployed	7	21.9	2
Total	32	100.0	
Mother's Occupation			
Government Employee	4	12.5	4
Private Employee	14	43.8	1
Self-Employed	7	21.9	2.5
Unemployed	7	21.9	2.5
Total	32	100.0	
Monthly Family Income			
₱ 22, 001 and above	2	6.3	4
₱ 15, 000 - ₱ 22, 000	8	25.0	2
₱ 8, 000 - ₱ 15, 000	17	53.1	1
Below ₱ 8,000	5	15.6	3
Total	32	100.0	

3.2. Level of Performance in English of the Pupils Exposed to Flexible Learning Spaces as Revealed by Their Pretest and Posttest Results

Table 2 presents the level of performance in English of Grade Six pupils prior to and following exposure to flexible learning spaces (FLS). In the pretest, the majority of pupils demonstrated low performance: 24 (75%) were classified as Fairly Satisfactory, 4 (12.5%) as Satisfactory, and 4 (12.5%) did not meet expectations, with a computed mean of 14.56 (Fairly Satisfactory) and a standard deviation of 4.071, indicating considerable variability in prior knowledge and below-average mastery of English competencies. Conversely, the posttest results reveal a substantial improvement in performance, with 9 pupils (28.1%) attaining a Very Satisfactory level, 20 pupils (62.5%) achieving Satisfactory, and 3 pupils (9.4%) remaining Fairly Satisfactory. Notably, no pupil scored in the lowest band, and the posttest mean increased to 26.72 (Satisfactory) with a standard deviation of 5.151. The observed increase in mean scores, alongside the marked upward shift of pupils into higher performance categories, provides empirical evidence supporting the efficacy of FLS as an instructional intervention in English.

These findings suggest that the strategies, resources, and pedagogical approaches embedded within FLS are better aligned with pupils' learning needs compared to traditional classroom settings. The slight increase in standard deviation indicates some variability in individual gains, underscoring the necessity for continuous monitoring to ensure equitable learning outcomes. Overall, the results are consistent with the conclusions of Pentang et al. (2025), who reported that flexible learning methodologies enhance student engagement, facilitate improved academic performance, and contribute to overall learning satisfaction.

Table 2: Level of Performance in English of the Pupils Exposed to Flexible Learning Spaces as Revealed by Their Pretest and Posttest Results

Score	Verbal Interpretation	Pretest		Posttest	
		f	%	f	%
40	Outstanding	-	-	-	-
31-39	Very Satisfactory	-	-	9	28.1
21-30	Satisfactory	4	12.5	20	62.5
11-20	Fairly Satisfactory	24	75	3	9.4
0-10	Did not meet expectations	4	12.5	-	-
Total		32	100.0	32	100.0
Highest Score		23		36	
Lowest Score		7		23	
Mean		14.56 (FS)		26.72 (S)	
Std. Deviation		4.071		5.151	

3.3. Significant Difference on the Level of Performance in English of the Pupils Exposed to Flexible Learning Spaces as Revealed by Their Pretest and Posttest Results

Table 3 presents the results of the dependent t-test on the English performance of Grade Six pupils before and after exposure to flexible learning spaces. The pretest yielded a mean score of 14.56 with a standard deviation of 4.071, while the posttest mean increased to 26.72 with a standard deviation of 5.151. The computed t-value was negative 15.374 with a p-value of 0.000, indicating a statistically significant difference. The results indicate that the implementation of flexible learning spaces significantly enhanced the English performance of the pupils. The substantial increase from a pretest mean of 14.56 to a posttest mean of 26.72 demonstrates that pupils were able to achieve higher levels of proficiency following exposure to a structured, interactive, and technology-integrated learning environment. These findings align with the study of Pentang et al., 2025, which reported that flexible learning methodologies promote student engagement and lead to measurable improvements in learning outcomes. Similarly, Larose et al., 2024, observed that flexible learning spaces not only reduce sedentary behavior but also support enhanced academic achievement by providing a learner-centered environment. The current results underscore the importance of strategically designed learning spaces that accommodate pedagogical flexibility, facilitate active participation, and improve student performance, particularly in English, supporting the adoption of flexible and resource-enriched instructional models in contemporary educational practice.

Table 3: Result of the t-test on the Level of Performance in English of the Pupils Exposed to Flexible Learning Spaces as Revealed by Their Pretest and Posttest Results

	Test	Mean	SD	t-value	p-value	Null Hypothesis	Verbal Interpretation
Grade Six Pupils	Pretest	14.56	4.071	-15.374	0.000	Rejected	Significant
	Posttest	26.72	5.151				

3.4. Significant Difference on the Level of Performance in English of the Pupils Exposed to Flexible Learning Spaces as Revealed by Their Posttest Results in Terms of Their Profile

Table 4 The analysis of the posttest scores of Grade Six pupils exposed to flexible learning spaces in relation to their profile variables reveals a predominantly equitable impact across most socio-demographic factors. Age ($F = 0.730$, $p = 0.543$), sibling position ($F = 2.482$, $p = 0.068$), number of children in the family ($F = 0.212$, $p = 0.929$), father's educational attainment ($F = 1.334$, $p = 0.281$), mother's educational attainment ($F = 0.221$, $p = 0.950$), father's occupation ($F = 0.642$, $p = 0.595$), mother's occupation ($F = 0.181$, $p = 0.909$), and monthly family income ($F = 0.643$, $p = 0.594$) were not significantly associated with posttest performance. Only sex ($F = 5.240$, $p = 0.029$) showed a statistically significant difference. These findings indicate that the flexible learning spaces effectively mitigated traditional socio-economic and demographic barriers, allowing nearly all pupils to perform consistently in English regardless of family background or age.

The absence of significant differences across most profile variables aligns with research emphasizing the potential of structured and resource-rich learning environments to provide equitable educational opportunities (Pentang et al., 2025; Yesil & Aras, 2024). By integrating technology, interactive activities, and adaptable classroom arrangements, flexible learning spaces can neutralize the influence of factors such as household income or parental education, which are typically associated with disparities in learning outcomes (Narita et al., 2025). This suggests that the intervention successfully created an inclusive environment that supports the learning needs of all pupils. The significant difference observed by sex suggests that male and female pupils responded differently to the flexible learning spaces. This outcome may reflect variations in learning preferences, prior knowledge, or engagement with language-based activities, where girls often outperform boys in literacy tasks due to differences in motivation or exposure to language skills (Güven & Ucar, 2022). Consequently, while flexible learning spaces foster general equity, instructional differentiation may be required to optimize learning outcomes for all genders. Interestingly, the present findings diverge from Narita et al., 2025, who reported age and family income as significant predictors of success in flexible digital learning contexts. This contrast highlights that well-implemented flexible learning spaces, with intentional pedagogical design and classroom-based support, can mitigate the socio-economic and age-related disparities commonly observed in home-based or purely digital learning settings. Overall, these results underscore the value of flexible learning spaces as a strategic approach for promoting equitable academic performance and suggest that careful attention to instructional design can ensure maximum benefits across diverse learner profiles.

Table 4: *Significant Difference on the Level of Performance in English of the Pupils Exposed to Flexible Learning Spaces as Revealed by Their Posttest Results in Terms of Their Profile*

Profile	F-value	p-value	Null Hypothesis	Verbal Interpretation
Age	.730	.543	Accepted	Not Significant
Sex	5.240	.029	Rejected	Significant
Sibling Position	2.482	.068	Accepted	Not Significant
Number of Children in the Family	.212	.929	Accepted	Not Significant
Father's Educational Attainment	1.334	.281	Accepted	Not Significant
Mother's Educational Attainment	.221	.950	Accepted	Not Significant
Father's Occupation	.642	.595	Accepted	Not Significant
Mother's Occupation	.181	.909	Accepted	Not Significant
Monthly Family Income	.643	.594	Accepted	Not Significant

4. Conclusion & Recommendations

The study concludes that exposure to flexible learning spaces significantly improved the English performance of Grade Six pupils, as reflected in the increase of the mean score from 14.56 in the pretest to 26.72 in the posttest. This improvement demonstrates that the intervention effectively addressed learning gaps, enhanced engagement, and promoted mastery of essential English competencies. Most socio-economic and demographic factors did not influence performance, yet sex contributed to differences in outcomes, suggesting that male and female pupils may respond differently to flexible learning strategies. Overall, the findings validate flexible learning spaces as an effective instructional approach that fosters an equitable, interactive, and learner-centered environment, supporting measurable gains in student achievement.

In light of these conclusions, it is recommended that school administrators should provide professional development for English teachers on managing and utilizing flexible learning spaces and establish scheduling policies that ensure equitable access. Teachers are encouraged to design learning tasks that leverage the reconfigurable nature of the spaces, allow pupils to choose their learning zones, and implement performance-based assessments that align with collaborative and dynamic instruction. Parents should be informed about the purpose and benefits of flexible learning spaces to encourage support at home. The proposed action plan for implementing flexible learning spaces is recommended, and further studies may explore additional variables or contexts to expand understanding of its impact on student performance.

Compliance with ethical standards

The authors declare no conflict of interest. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. This study was self-funded. The authors thank the participating university and the nursing students for their contributions

REFERENCES

- Ang, R., Cruz, J., & Tan, L. (2022). Flexible learning environments and academic performance: Challenges in home-based learning setups. *Philippine Journal of Education Research*, 15(2), 45–60.
- Bercasio, R., & Dugan, M. (2025). Blended learning and student engagement in elementary education. *Asia Pacific Journal of Educational Innovation*, 8(1), 12–25.
- Cajurao, E., Santos, P., & Lim, A. (2023). The impact of digital tools in resource-constrained classrooms: A Philippine perspective. *Journal of Learning and Instruction*, 10(3), 101–118.
- Department of Education. (2023). DepEd Order No. 016, s. 2023: Policy on the integration of technology in teaching to develop 21st century skills. Department of Education, Philippines.
- Glasgow, D., & Keim, T. (2021). Discipline-specific adaptation in technology-mediated instruction. *International Journal of Educational Technology*, 18(4), 77–93.
- Guyen, B., & Ucar, H. (2022). Gender differences in literacy performance in flexible learning spaces. *Educational Research Review*, 7(2), 56–71.
- Intra, D., Lopez, S., & Kim, H. (2023). Learner engagement in adaptable classrooms: Evidence from international studies. *Journal of Classroom Innovation*, 12(1), 33–50.
- Larose, S., Bertrand, R., & Tremblay, P. (2024). Flexible learning spaces and cognitive engagement: Implications for academic achievement. *Learning Environments Research*, 27(1), 45–66.
- Muller, F., Ramirez, J., & Cooper, K. (2023). Physical classroom design and student attention: Evaluating interactive learning spaces. *Educational Psychology International*, 29(2), 112–129.
- Narita, S., Yamaguchi, T., & Tanaka, K. (2025). Socio-economic predictors of success in flexible digital learning environments. *Asia Pacific Journal of Education Technology*, 20(1), 15–29.
- Pentang, R., Lim, E., & Santos, M. (2025). Flexible learning methodologies and student achievement: A meta-analysis. *Journal of Innovative Learning Strategies*, 14(2), 88–104.
- The 1987 Philippine Constitution. (1987). Article XIV, Section 1. Official Gazette of the Republic of the Philippines. <https://www.officialgazette.gov.ph/>
- Yesil, R., & Aras, B. (2024). Technology-integrated classrooms and equitable learning outcomes. *International Review of Education*, 70(1), 99–118.