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# **Learning Achievement of Students in Double-Shift Classes**

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### Abstract

Aim: This study determined the learning achievement of students at San Pascual National High School, which operates under a double-shift class system, compared to students from five neighboring schools with regular class schedules. The research focused on student performance in literacy and numeracy assessments, alongside general academic performance over three consecutive school years.

**Methodology:** This study employed a quantitative research design using descriptive statistics to analyze literacy, numeracy, and academic performance. A comparative approach is used to examine differences between students in regular and double-shift classes over three school years.

Results: Findings reveal that both students in double shift classes and those in regular classes consistently demonstrated low proficiency levels in literacy and numeracy across the three-year period.

**Conclusion:** The findings highlight significant learning gaps in both regular and double-shift classes, with students consistently scoring at the Emerging level in literacy and Needs Major Support in numeracy.

Keywords: Double-shift Class, Regular Class, Literacy, Numeracy, Learning Achievement

#### INTRODUCTION

Education is universally acknowledged as a cornerstone for societal growth and individual development. However, the distribution of educational resources varies significantly across regions, leading to innovative solutions for educational accessibility. One such solution is the concept of double-shift classes, where a school operates in two separate shifts each day to accommodate a larger student population within limited physical space. This arrangement, while efficient, poses unique challenges and opportunities that can influence student learning outcomes and do not hinder this program that was launched by the global community in the 1980s, called Education for All (EFA) aimed to eradicate illiteracy and promote efficient literacy for all the people of the world. The Philippines was a party to this and has committed to providing education for every Filipino. With this, the Department of Education intensifies its efforts to make education accessible to everyone. DepEd Order No. 27, S. 2006 also known as "Implementation of the Philippine Education for All (EFA) 2015 Plan's Critical Task on Regular Monitoring of Progress" was implemented, particularly the vital and serious task of regularly supervising the attainment of EFA objectives. Despite the challenges that the department faces, the double-shift policy may be the paramount solution for deprived countries to achieve the millennium end of Education for All with limited resources.

In contemporary educational systems, the adoption of alternative scheduling arrangements has become a subject of interest and debate. One such scheduling system, the double shift schedule, involves splitting the school day into two sessions to accommodate a larger student population within limited resources. Cooke (2024) conducted a comprehensive review comparing traditional and block scheduling models in schools. The research revealed inconsistent results regarding the impact of block scheduling on student achievement, particularly in standardized test scores, indicating that block scheduling does not consistently lead to significant learning benefits.

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In support to this, it was also mentioned that the effect of students' class schedules on their biological cycles, such as their sleep-wake cycle, is another aspect that affects their academic success. When conducting schoolwork at night, a person may show signs of sleep-wake cycle irregularities or partial sleep deprivation such as a drop in attentiveness and attention. The sleep-wake cycle can be disturbed, which can result in behavioral and emotional changes such greater irritation and anxiety, daytime dysfunction, and longer weekend sleep periods. (Gao et al., 2019).

Studies have shown that evening types indicated inferior academic performance than morning types when adolescents move to eveningness with a stable morning school period. Even after taking into account the two most important variables linked to academic success, namely IQ and sleep duration. Teenagers who are morning types reportedly had better moods at the start of the school day than teenagers who are evening types. Also, evening people's stated low mood may have an impact on their academic performance. Due to this, evening-type adolescents who shift their mid-point of sleep from the week to the weekend have reported experiencing more social jet lag (Arrona-Palacios et al., 2018).

From a policy standpoint, the implementation of double shifts permits existing buildings and infrastructure to accommodate more students. This may be especially relevant in metropolitan areas, where land is scarce and new building development is costly. Many countries have benefited from double-shift schooling in their efforts to achieve universal primary and secondary education. This policy, nevertheless, could arrive at a cost. Because of the limited school day provided by the multiple shift operation, there are few or no chances for extra-curricular activities.

In Jordan, the double-shift system, in which the same education facility is used for two different sets of school hours—a morning session for Jordanian students and an afternoon session for Syrian refugee students—has allowed the vast majority of refugee children to integrate. The demand placed on the educational system, its facilities, and its faculty members has never been higher thanks to the double-shift system. Because Jordanian students' school hours have been cut and the quality of education has suffered, this has heightened tensions. Students who are Syrian refugees enrolled in Jordan's double-shift systems have experienced firsthand the negative effects of integration models that do not balance structural and social inclusivity. These experiences highlight the necessity of practices, frameworks, resources, and educators who work together to promote unity in the classroom. The double-shift system has increased access to education, but it has also increased possibilities for others by highlighting the disparities between social groups and the privileges of citizens and refugees, (Salem, 2021).

Meanwhile, in the Philippines, the results of the study conducted by Cacho et al. (2019) showed comparatively better circumstances for students' behaviors and engagements within and outside of schools, a variety of parents' more optimistic than negative opinions, and generally better opportunities related to instructions and the preparation for teachers. It is compelling to note that teachers, parents, and students all recognized the benefits and drawbacks of double sessions. Students and teachers had no trouble to adapt to the new schedule blocks, which included family engagement, leisure time, and cost-effectiveness measures, and at first believed better educational results seem to be the essential benefit of such changes in structure, despite parents seemingly noting more of the drawbacks than the teachers. Furthermore, Educators in public schools often struggle to manage overcrowded classrooms and lack of resources due to high enrollment numbers. It is the responsibility of teachers to cater to the needs of diverse learners, even as the number of students continues to grow. In the Philippines, the problem of insufficient classrooms seems to persist. Still, the 1987 Constitution of the Republic of the Philippines - Article XIV highlights the right of all citizens to quality education at all levels.

In San Pascual National High School, Subjects are taught in two different class schedules which include the Morning Shift and the Afternoon Shift. Certain students find the shift effective some are not due to the time of waking up and going to school and the timeline in doing the activities. And so the teachers saw the differences in the proficiency, academic performance, and of course in the compressed lesson or activities that was given to the students because of limited time given in the double shift classes.

A policy was released in the Philippines. DepEd released DO 54, S. 2008. The Policy on Double Class Shifting and Requires Strict Compliance thereto is being reiterated as a way to deal with the lack of classroom space and bring class sizes down, the policy on double shifting of courses was introduced as early as December 2004. This also supports the shifting of classes on some of the subjects in the school. It is also applicable for all grade levels." Moreover, by lowering the number of competencies and emphasizing the development of core abilities, such as reading, numeracy, and socioemotional skills for learners in kindergarten through grade three, the MATATAG Curriculum is anticipated to clear up the current K-12 Curriculum.







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In order to produce job-ready, active, and responsible citizens, MATATAG stands for "Make the curriculum relevant; Take steps to accelerate the delivery of basic education services and provision facilities; Take good care of learners by promoting learner well-being, inclusiveness learning, and positive learning environment; and give support for teachers to teach better.

With this, the researcher aimed to determine the learning achievements of students in double-shift classes in San Pascual National High School. It also includes the level of academic performance. The researcher conducted the study due to the observation on the double-shift scheduling classes of San Pascual National High School. The experiences and perspectives of both students and teachers were examined, this study provided empirical insights into the consequences of adopting such scheduling practices in educational institutions.

Understanding the implications of the double shift schedule is crucial for educational policymakers, administrators, and stakeholders in making informed decisions regarding school scheduling policies and practices. By elucidating the relationship between scheduling arrangements and educational outcomes, this research endeavors to contribute to the enhancement of educational practices and the promotion of student and teacher welfare.

# **Objectives**

The study determined the learning achievements of students in regular and double-shift classes for the last three academic years in San Pascual North District.

Specifically, the study aims to answer the following:

- 1. What is the level of learning achievement of students in regular and double-shift classes along:
  - a. Literacy
  - b. Numeracy
  - c. Academic Performance
- 2. Are there significant differences in the learning achievement of students in the regular and double-shift classes along the three areas for the last three years?
- What recommendations may be proposed based on the results of the study?

# **Hypothesis**

There are significant differences in the learning achievement of students in the regular and double-shift classes along the three areas for the last three years.

#### **METHODS**

# **Research Design**

This study employed a quantitative comparative design to analyze the learning achievement of students in double-shift and regular classes across three school years.

## **Population and Sampling**

Conducted in a public secondary school, the study includes Grade 9 and Grade 10 students from 2021-2024, with stratified random sampling ensuring proportional representation. This study includes all eligible students through total enumeration, making use of a comprehensive sample that ensures robust findings. In the double-shift program at San Pascual National High School, a total of 960 Grade 9 students and 904 Grade 10 students were included, amounting to 1,864 students. Meanwhile, in the regular class setup across four nearby schools—at San Pascual North District—491 Grade 9 students and 541 Grade 10 students participated, totaling 1,032 students.

# Instrument

In this study, the researcher obtained the results of the national assessments, specifically the Classroom Reading Literacy Assessment (CRLA) for literacy, the Albay Numeracy Assessment Tool (ALNAT) for numeracy, and the General Weighted Average (GWA) records to measure academic performance from a secondary source. These secondary data were gathered from the participating schools and covered a span of three consecutive academic years.

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Data is collected from National Assessments in Literacy and Numeracy, as well as academic performance records (GWA). The researcher collected secondary data from San Pascual National High School, which implements the double-shift program, and four nearby schools operating under a regular class schedule. The data consisted of official records from the last three consecutive school years, specifically the results of the Classroom Reading Literacy Assessment (CRLA) for literacy, the Albay Numeracy Assessment Tool (ALNAT) for numeracy, and the General Weighted Average (GWA) to measure academic performance. These documents were obtained with permission from the respective school administrators and were used to determine and compare the levels of student learning achievement between the double-shift and regular class systems.

#### **Treatment of Data**

The quantitative data, which included the results of the Classroom Reading Literacy Assessment (CRLA), the Albay Numeracy Assessment Tool (ALNAT), and students' General Weighted Average (GWA) from the past three years, were analyzed using both descriptive and inferential statistics. Descriptive statistics, such as measures of central tendency (mean) and variability (standard deviation), were computed to summarize students' performance in literacy, numeracy, and academic achievement. Inferential statistical tests, including t-tests and Analysis of Variance (ANOVA), were employed to determine whether significant differences existed in learning achievements between students in double-shift and regular classes, as well as across grade levels and shifts. For analysis, descriptive statistics determine mean performance, while two-factor ANOVA assesses significant differences. A two-factor ANOVA is used to examine differences in numeracy achievement. Significance levels are categorized as  $p \le 0.001$  (Verv Highly Significant),  $p \le 0.05$  (Significant), and p > 0.05 (Not Significant).

#### **Ethical Considerations**

The researcher ensured that all research protocols involving ethics in research were complied with for the protection of all teachers and students and schools involved in the conduct of the study. Ethical considerations include obtaining informed consent and ensuring data confidentiality. The study aims to identify performance differences between double-shift and regular classes to inform educational improvements.

#### **RESULTS and DISCUSSION**

The findings of this study highlight the learning achievement of students in regular and double-shift classes along literacy, numeracy and academic performance, the differences in the learning achievement of students in the regular and double-shift classes along the three areas for the last three years as well as how students and teachers cope with the requirements of double-shift classes.

#### **Level of Learning Achievements** 1.

Literacy. The findings revealed that the literacy achievement of Grade 9 and 10 students in both regular and double-shift classes remained within the "Emerging" level across three consecutive school years. While double-shift students consistently recorded slightly higher mean scores than their regular class counterparts, both groups failed to reach the "Established" literacy benchmark. In conclusion, students from both learning setups demonstrated only moderate literacy skills, suggesting a need for further improvement. It is recommended that schools implement the ALNEP and intensify reading intervention programs. Strengthening literacy-focused activities and providing additional instructional support are essential to help students progress from the "Emerging" to the "Established" level of literacy.



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# Table 1 Level of Learning Achievement of Students in Literacy

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Cabaal Vasu	C - 1 - 1 1 -	Regu	ılar Class	Double-shift Class		
School Year	Grade Level ■	Mean	Interpretation	Mean	Interpretation	
2021-2022	Grade 9	20.62	Emerging	21.97	Emerging	
	Grade 10	17.58	Emerging	19.57	Emerging	
2022-2023	Grade 9	23.63	Emerging	25.04	Emerging	
	Grade 10	23.57	Emerging	24.51	Emerging	
2023-2024	Grade 9	23.43	Emerging	24.59	Emerging	
	Grade 10	20.62	Emerging	21.09	Emerging	

Legend: Literacy -Deficit (0-7), Coping (8-12), Emerging (13-24), Established (25-30)

Numeracy. The findings revealed that both Grade 9 and Grade 10 students in regular and doubleshift classes consistently fell within the "Needs Major Support" category in numeracy, with mean scores ranging from 16.89 to 25.32 across three school years. Despite slight variations, neither group reached the "Anchoring" level, indicating that students in both settings struggled significantly in mastering fundamental numeracy skills. In conclusion, the numeracy proficiency of students remained critically low, underscoring the urgent need for strategic interventions. It is recommended that schools implement intensive remedial programs, such as focused numeracy development sessions and adaptive learning interventions, to strengthen students' foundational mathematical competencies and elevate their performance to at least the "Emerging" or "Developing" levels.

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# Table 2 Level of Learning Achievement of Students in Numeracy

Google

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School Year	Grade Level 🗕	Regi	ular Class	Double-shift Class		
School real	Grade Level	Mean	Interpretation	Mean	Interpretation	
2021-2022	Grade 9	19.62	Needs Major Support	21.35	Needs Major Support	
	Grade 10	16.89	Needs Major Support	18.02	Needs Major Support	
2022-2023	Grade 9	22.75	Needs Major Support	23.08	Needs Major Support	
	Grade 10	25.32	Needs Major Support	20.62	Needs Major Support	
2023-2024	Grade 9	19.40	Needs Major Support	23.41	Needs Major Support	
	Grade 10	20.45	Needs Major Support	22.08	Needs Major Support	

Numeracy- Needs Major Support (38 and below), Anchoring (39-40), Emerging (40-41), Developing (42-45), Transforming (45-50)

Academic Performance. The findings showed that the academic performance of both Grade 9 and Grade 10 students in regular and double-shift classes generally ranged from "Satisfactory" to "Very Satisfactory" over the three school years. Grade 9 students consistently achieved a "Very Satisfactory" rating in both class types, while Grade 10 students fluctuated between "Satisfactory" and "Very Satisfactory," with slightly lower mean scores in the double-shift classes. In conclusion, both regular and double-shift students maintained acceptable levels of academic performance, though Grade 10 students in the double-shift system slightly lagged behind. It is recommended to enhance academic support, particularly for Grade 10 students in double-shift classes, by reinforcing instructional strategies, strengthening academic monitoring, and integrating supplementary learning sessions to maintain or exceed the "Very Satisfactory" level.

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# Table 3

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School Year	Grade Level		Regular Class	Do	Double-shift Class		
School real	Grade Level	Mean	an Interpretation		Interpretation		
2021-2022	Grade 9	85.50	Very Satisfactory	85.34	Very Satisfactory		
	Grade 10	86.40	Very Satisfactory	84.52	Satisfactory		
2022-2023	Grade 9	85.38	Very Satisfactory	85.96	Very Satisfactory		
	Grade 10	86.44	Very Satisfactory	85.01	Very Satisfactory		
2023-2024	Grade 9	86.10	Very Satisfactory	86.45	Very Satisfactory		
	Grade 10	84.60	Satisfactory	84.76	Satisfactory		

**Level of Learning Achievement of Students in Academic Performance** 

Academic Performance-Did Not Meet Expectations (Below 75), Fairly Satisfactory (75-79), Satisfactory (80-84), Very Satisfactory (85-89), Outstanding (90-100)

### 2. Differences in the learning achievement of students in the regular and double-shift classes

The study found a very highly significant difference in literacy achievement between regular and double-shift classes, with regular class students performing better (F = 18.939, p = .000). Literacy scores also differed significantly across the three years (F = 42.480, p = .000). However, the interaction between class type and year was not significant (F = 0.064, p = .938), meaning the gap between regular and double-shift classes remained consistent. It is concluded that the double-shift setup negatively impacted students' literacy achievement due to reduced learning time and limited engagement. It is recommended to implement the Accelerated Learning Program for Numeracy and Literacy (ALNEP) to improve the literacy levels of students in double-shift classes. Schools may also provide targeted reading interventions, enhance teacher strategies using evidence-based approaches like Hattie's Visible Learning, and consider system-level reforms to support learners under doubleshift arrangements.



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# Differences in the Numeracy Achievement of Students in the Regular and Double Shift Classes for three **Consecutive School Years for Grade 9**

Google

Website: https://etcor.org

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Class (Regular and Double Shift)	1407.863	1	1407.863	49.568	.000	Very Highly Significant
Year	1210.375	2	605.188	21.308	.000	Very Highly Significant
class * year	651.155	2	325.577	11.463	.000	Very Highly Significant
Error Total	40473.497 725878.000	1425 1430	28.402			

Legend: p  $\leq$  0.001 very highly significant, p  $\leq$  0.01 highly significant, p  $\leq$  0.05 significant, p >0.05 not significant

# Differences in the Literacy Achievement of Students in the Grade 9 Regular and Double Shift Classes for Three Consecutive School Years

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Class (Regular and Double Shift)	548.207	1	548.207	18.939	.000	Very Highly Significant
Year	2459.256	2	1229.628	42.480	.000	Very Highly Significant
class * year	3.707	2	1.853	.064	.938	Not Highly Significant
Error Total	41247.780 822138.000	1425 1430	28.946			-

Legend: p  $\leq$  0.001 very highly significant, p  $\leq$  0.01 highly significant, p  $\leq$  0.05 significant, p  $\geq$  0.05 not significant

The findings revealed that Grade 10 students in regular classes performed significantly better in numeracy compared to those in double-shift classes (F = 5.241, p = .022). Student achievement in numeracy also varied significantly across the three school years (F = 124.791, p = .000), and the interaction between class type and year was very highly significant (F = 47.278, p = .000), showing that the gap between the two groups changed over time. It is concluded that students in double-shift classes consistently demonstrated lower numeracy achievement than their peers in regular classes due to factors such as shortened instructional time. To address this, it is recommended that doubleshift schools implement ALNEP programs focused on numeracy, conduct remedial and enrichment classes, and train teachers on effective numeracy instruction to close the performance gap.

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# Differences in the Numeracy Achievement of Students in the Regular and Double Shift Classes for three **Consecutive School Years for Grade 10**

Google

Website: https://etcor.org

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Class (Regular vs. Double Shift)	160.128	1	160.128	5.241	.022	Significant
year	7625.127	2	3812.563	124.791	.000	Very Highly Significant
class * year	2888.849	2	1444.425	47.278	.000	Very Highly Significant
Error Total	45032.974 669129.000	1474 1479	30.552			

Legend:  $p \le 0.001$  very highly significant,  $p \le 0.01$  highly significant,  $p \le 0.05$  significant, p > 0.05 not significant

# Differences in the Literacy Achievement of Grade 10 Students in the Regular and Double Shift Classes for Three Consecutive School Years

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Interpretation
class	436.518	1	436.518	16.693	.000	Very Highly Significant
year	7016.683	2	3508.342	134.165	.000	Very Highly Significant
class * year Error Total	137.284 38544.158 711942.000	2 1474 1479	68.642 26.149	2.625	.073	Not Significant

Legend:  $p \le 0.001$  very highly significant,  $p \le 0.01$  highly significant,  $p \le 0.05$  significant, p > 0.05 not significant

### **Conclusions and Recommendations**

In conclusion, the findings highlight significant learning gaps in both regular and double-shift classes, with students consistently scoring at the Emerging level in literacy and Needs Major Support in numeracy. While slight improvements were observed over time, the persistent gaps suggest a clear need for structured intervention. The analysis shows that the type of class (regular vs. double-shift) has less impact on academic performance than other







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factors such as teaching methods, time management, and intervention programs. Despite some challenges in doubleshift settings, such as limited instructional time and difficulties in student retention, the results emphasize that with the right strategies—such as the Accelerated Literacy and Numeracy Enhancement Program (ALNEP), targeted interventions, and continuous teacher development—student outcomes can be significantly improved. The key takeaway is that addressing these learning gaps requires a comprehensive approach that combines effective instructional methods, optimized class schedules, and personalized support for students. Recommendations were proposed to address the low literacy and numeracy performance in both regular and double-shift classes while ensuring the effective delivery of instruction in a double-shift setup. Implementation of the Accelerated Literacy and Numeracy Enhancement Program (ALNEP) - Schools should adopt ALNEP as a structured intervention to address learning gaps in literacy and numeracy. This program should include targeted instruction, scaffolded learning activities, and data-driven remediation strategies to support struggling students. Additionally, intensive reading and numeracy sessions, peer-assisted learning, and technology-based interventions should be incorporated to enhance student engagement and skill mastery.

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