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NATIONAL ACHIEVEMENT TEST (NAT) RESULTS AND ACADEMIC PERFORMANCE: A COMPARATIVE ANALYSIS OF FILIPINO PROFICIENCY ACROSS TWO ACADEMIC YEARS

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Abstract

This study thoroughly examines the academic performance and NAT outcomes of sixth-grade students across seven elementary schools in Baclayon, Bohol, during 2013-2014 and 2014-2015. It aims to identify correlations between academic performance and NAT results, specifically in the Filipino subject. Using documentary analysis, the research explores students' learning competencies and provides insights into school performance in Baclayon, a historically significant town with a diverse economic landscape and notable tourist attractions. The focus is on NAT results in the Filipino subject for Grade Six students in seven elementary schools, employing a collaborative approach for data collection and analysis. The findings unveiled intriguing insights, indicating that while School I consistently demonstrated high mean scores and mean performance scores across the two academic years, enrollment fluctuations were observed, notably in School V. Further analysis delineated proficiency levels in the Filipino subject, highlighting areas of strength and potential improvement. The correlation analysis between academic performance and NAT results in the Filipino subject yielded nuanced outcomes, elucidating the multifaceted dynamics at play in educational settings. These findings illuminate pathways for enhancing educational strategies and outcomes in Baclayon's elementary schools, contributing to broader discussions on educational reform and improvement. In 2013-2014 and 2014-2015, Schools I, II, and IV had high enrollment, while VII, VI, III, and VII had low enrollment. Despite good performance in Filipino, NAT results didn't align in Baclayon's elementary schools. This hints that the NAT might not reflect Filipino proficiency accurately. High-enrollment schools likely have effective strategies, while low-performing ones may need to boost enrollment and academics.

Key words: *NAT, academic performance, learning competencies, Deped, Filipino*

INTRODUCTION

Academic achievement is a crucial factor in assessing students' abilities, with periodic grades serving as the primary measure for evaluating scholastic performance across various activities. The Department of Education (DepEd) administers the National Achievement Test (NAT) annually to Filipino students. This test, as outlined by Ebio, Jr. (2016), aims to ensure the attainment of quality education by assessing students' proficiency in subjects such as Mathematics, English, Science, Filipino, and other relevant topics.

Academic achievement is pivotal in assessing students' abilities, with periodic grades serving as the primary measure for evaluating scholastic performance across various activities. The Department of Education (DepEd) administers the National Achievement Test (NAT) annually to Filipino students. This test, as outlined by Ebio, Jr. aims to ensure the attainment of quality education by assessing students' proficiency in subjects such as Mathematics, English, Science, Filipino, and other relevant topics. When studying the NAT results and academic performance in Filipino, it is essential to understand how these assessments align with the broader goal of ensuring that students are equipped with the necessary knowledge and skills to succeed academically and in their future endeavors. Evaluating the correlation between NAT results in Filipino and students' academic performance in the subject provides valuable insights into the effectiveness of the education system in teaching and assessing Filipino language proficiency.

Anticipating a student's academic performance is essential for providing timely support to those at risk, ensuring their retention, and enhancing the overall quality of learning materials and experiences, consequently improving the university's ranking and reputation (Mahmoud, 2019). This study aims to develop a predictive model to examine the impact of academic performance on the National Achievement Test (NAT). The hypothesis posits that varying levels of academic performance significantly influence NAT scores. The constructed model will be utilized to identify predictive features within academic subjects that affect NAT scores, assess the influence of different academic subjects on NAT outcomes, pinpoint subjects with a substantial impact on NAT scores, and investigate whether academic performance across quarters correlates with NAT scores.

Regio et al. (2021) developed a predictive model to forecast participant performance and identify the key factors influencing exam results. Utilizing readily available data from the Ministry of Education, they employed the Logistic Regression approach. Their predictive model achieved an accuracy rate of 74% in inferring student performance. Importantly, by opting for a straightforward statistical model over complex Machine Learning techniques, the researchers ensured that school administrators could easily interpret and utilize the results, even without an in-depth understanding of the analytical method employed.

Applying similar predictive modeling techniques could provide valuable insights when studying NAT results and academic performance in Filipino. Analyzing factors influencing student performance in the NAT Filipino exam using Logistic Regression or similar methods would enable educators and policymakers to better understand the determinants of student success in the subject. Furthermore, using a straightforward predictive model would facilitate targeted interventions to improve student performance in Filipino and enhance overall academic achievement.

The study titled "Predicting the Impact of Academic Performance on the National Achievement Test Using Data Mining" utilized data provided by Senior High School (SHS) students from Central Mindanao University. The primary aim was to construct a predictive model to assess the influence of academic performance on the National Achievement Test (NAT). Specific objectives included extracting predictive features of subjects affecting the NAT, evaluating the effects of different academic subjects on NAT scores, identifying subjects with a significant impact on the NAT, and investigating whether academic performance per quarter influences NAT outcomes.

Barrot (2018) also discovered a similar issue with the new English curriculum, noting that it does not align well with traditional language teaching and learning principles. Barrot suggests that the new K-12 curriculum should enhance its specificity, internal consistency, and incorporation of crucial 21st-century learning and language teaching principles.

Relucio and Palaoag (2018) conducted a sentiment analysis of student social media posts and discovered an overall negative response to the K-12 curriculum. Their study sheds light on why there is resistance from various stakeholders, including students, parents, and teachers, during its implementation. While the reform's objectives are promising, literature findings suggest that the government and policymakers need to further streamline and review the K-12 curriculum to ensure successful implementation within a reasonable timeframe. The current literature proposes several learning initiatives aimed at enhancing student learning worldwide.

Barrot (2018) and Relucio and Palaoag (2018) shed light on the challenges faced by the K-12 curriculum implementation in the Philippines. Barrot highlights the misalignment of the new English curriculum with traditional language teaching principles, suggesting the need for enhancing specificity, internal consistency, and incorporation of 21st-century learning principles. Similarly, Relucio and Palaoag's (2018) sentiment analysis of student social media posts revealed an overall negative response to the K-12 curriculum, indicating resistance from various stakeholders.

These findings are crucial when studying NAT results and academic performance in Filipino. They underscore the importance of curriculum alignment with learning objectives and student needs. By addressing the concerns raised by Barrot and Relucio and Palaoag, policymakers and educators can create a curriculum that better supports student learning and improves academic performance, including performance in Filipino. Additionally, incorporating feedback from students, parents, and teachers can help streamline the K-12 curriculum and ensure successful implementation, ultimately enhancing student learning outcomes.

Krouska et al. (2019) examined the integration of new technological advancements, such as social networks, into pedagogical processes and learning styles. They conducted a detailed analysis of learning systems based on social networks.

In the context of studying NAT results and academic performance in Filipino, understanding how new technological advancements impact learning processes is essential. By examining the integration of social networks and other technological tools into pedagogy, educators can identify innovative methods to improve student engagement and learning outcomes, including performance in Filipino. Implementing effective technological interventions identified by studies like Krouska et al. may contribute to more effective teaching strategies, ultimately leading to improved academic performance in Filipino and other subjects measured by the NAT.

Troussas et al. (2019) investigated the significance of collaboration and fuzzy-modeled personalization in mobile game-based learning within the educational context. Additionally, they examined the effectiveness of adaptive grain-size delivery of learning materials in helping students attain learning outcomes. Similarly, Krouska et al. evaluated various learning management systems, such as Schoology, Moodle, and ATutor. Their comparative analysis aimed to determine how these systems facilitate the development of e-learning environments with social features. These studies provide valuable insights into the development of learning initiatives during the K-12 transition in the Philippines.

In the context of the Philippines, limited research has focused on the role of new technologies, such as e-learning, in supporting the implementation of the K-12 curriculum. For example, Nuncio et al. (2020) implemented an e-learning outreach program in public schools across the Philippines. Their findings indicated that the program enhanced the skills and knowledge of the participants while also fostering a highly positive attitude towards the e-learning outreach program.

Measuring Educational Performance. In relevant domains, the implementation of policies, strategies, and other initiatives are evaluated using performance evaluation methods. Similarly, in education, the effectiveness of introduced programs is reviewed in the same way.

For example, Tam (2021) suggested an indicator system for assessing academic performance from a quality management standpoint. This proposal aligns with the findings of Johnes and Taylor, suggesting that educational institutions should be evaluated based on (i) the intended outputs, (ii) the required inputs, (iii) quantitative measurements of both inputs and outputs, and (iv) the technical relationship between inputs and outputs. Another method proposed in current literature for measuring educational effectiveness is by calculating the effectiveness score, which represents the difference between actual and predicted graduation rates.

Horn et al. (2019) demonstrated the validity of the method by assessing the measurement properties of effectiveness scores obtained from regression residuals.

Additionally, Srisakda et al. (2016) created an indicator system to measure learners' essential competencies, including communication, critical thinking, problem-solving, life skills application, and technological proficiency.

Horn et al. (2019) demonstrated the validity of their method by assessing the measurement properties of effectiveness scores obtained from regression residuals. This approach could be applied when studying NAT results and academic performance in Filipino. By utilizing regression analysis, researchers could identify the factors that significantly influence students' academic performance in the Filipino subject.

Similarly, Srisakda et al. (2016) developed an indicator system to measure learners' essential competencies, including communication, critical thinking, problem-solving, life skills application, and technological proficiency. This indicator system could be utilized to assess the effectiveness of teaching methods and curriculum in improving students' performance in the Filipino subject as measured by the NAT.

By incorporating these methodologies, researchers can gain a deeper understanding of the factors influencing academic performance in Filipino and develop targeted interventions to enhance students' proficiency in the subject. Additionally, it allows for a comprehensive evaluation of students' overall competencies, which is essential for their success in various academic subjects, including Filipino.

Despite the importance of the National Achievement Test (NAT) in assessing the academic performance of Filipino students, there is a lack of comparative analysis across two academic years. Existing studies often focus on analyzing NAT results for a single academic year, thus providing limited insights into trends, improvements, or challenges in Filipino proficiency over time. Therefore, there is a research gap in the comparative analysis of NAT results and academic performance across multiple academic years, which could provide valuable insights for educational policy-making and curriculum development.

This study aims to provide a comprehensive analysis of the academic performance and National Achievement Test (NAT) results of sixth-grade students in seven elementary schools within the District of Baclayon, Bohol, for the school years 2013-2014 and 2014-2015. It also seeks to identify any correlations between academic performance and NAT outcomes, particularly in the Filipino subject. Specifically, the study will determine the probability of student participation in the seven elementary schools, analyze the NAT results in relation to students' learning competencies, compare the academic performance of the schools, evaluate the relationship between academic performance and NAT results in the Filipino subject, and assess the overall academic performance of the schools. This research will provide valuable insights into academic performance trends and NAT outcomes among sixth-grade students in Baclayon, Bohol, and help identify areas for improvement in the educational system.

Methodology

This experimental research utilizes documentary analysis to examine the learning competencies of Grade Six students in the District of Baclayon for the School Years 2013-2014 and 2014-2015. It aims to describe and analyze the learning competencies of the National Achievement Test (NAT) in Filipino to provide clear and relevant data for this study. Baclayon, the first Spanish town in Bohol, was founded in 1595 by Jesuit priests. With a land area of 3,442.1807 square kilometers and a population of around 20,591, Baclayon's economy thrives on agriculture and fishing. It's also a popular

tourist destination, offering attractions like whale watching in Pamilacan Island and exploring natural caves. The town has ten elementary schools, two public high schools, and one private high school.

The subject of this research is the NAT results in the Sixth Grade of elementary schools in the District of Baclayon for the School Years 2013-2014 and 2014-2015. Participating schools include Baclayon Central Elementary School (BCES), Guiwanon Elementary School (GES), Libertad Elementary School (LES), Miguel Oppus Memorial Elementary School (MOMES), Payahan Elementary School (PES), Tanday Elementary School (TES), and Tunga Elementary School (TES). This study uses the NAT results in Filipino for the School Years 2013-2014 and 2014-2015 from seven (7) elementary schools in the district of Baclayon, Bohol. These schools were chosen because they provided the necessary data to analyze the learning competencies of the NAT in Filipino.

To conduct this study, the researcher met with his adviser to finalize the research topic. After obtaining formal approval, the researcher prepared the necessary materials for the first chapter. Permission was also sought from the School Superintendent of the Division of Bohol to access the required data. Additionally, the researcher coordinated with the school principals and relevant teachers in the seven elementary schools of the Baclayon District to gather the necessary data.

For statistical analysis, responses regarding Teaching Materials, Methods, and Language used in Teaching were categorized as Highest (H), High (HH), Low (L), and Lowest (LL), with corresponding weights of 4, 3, 2, 1. The weighted mean was derived from these responses. The Pearson Product Moment Correlation was used to interpret composite weighted means, aiming to determine significant relationships between Teaching Materials, Methods, and Language used in Teaching and the Academic Performance of students in the Filipino subject.

Results and Discussion

TABLE I
ELEMENTARY SCHOOLS OF THE DISTRICT OF BACLAYON, BOHOL
SCHOOL YEAR 2011 – 2016

SCHOOL	BARANGAY	CLUSTER BELONGING
1. School I	Poblacion	6
2. School II	Guiwanon	5
3. School III	Libertad	5
4. School IV	Landican	5
5. School V	Payahan	6
6. School VI	Tanday	5
7. School VII	Tunga	6

Table I presents data on the elementary schools in the District of Baclayon, Bohol, and the clusters they belong to for the School Year 2013-2014 and 2014-2015. School I is located in Barangay Poblacion, which belongs to cluster 6. School II is located in Barangay Guiwanon, also belonging to cluster 5. School III is located in Barangay Libertad, within cluster 5. School IV is located in Barangay Landican, also within cluster 5. School V is located in Barangay Payahan, falling under cluster 6. School VI is situated in Barangay Tanday, within cluster 5, and School VII is located in Barangay Tunga, also within cluster 6.

LEGEND:
Cluster 6: 21 & below examinees
Cluster 5: 22-54 examinees
Cluster 4: 55-59 examinees
Cluster 3: 100-199 examinees
Cluster 2: 200-399 examinees
Cluster 1: 400 & above examinees

These cluster allocations provide important contextual information when analyzing NAT results and academic performance in Filipino. Understanding the cluster to which each school belongs can help identify trends and patterns in academic performance across different areas within the District of Baclayon, Bohol. Additionally, it allows for comparison and evaluation of performance within and between clusters, aiding in the formulation of targeted interventions to improve academic outcomes.

TABLE II
PROBABILITY OF PARTICIPANTS IN SEVEN ELEMENTARY SCHOOLS OF THE DISTRICT OF BACLAYON FOR THE SCHOOL YEARS 2013-2014 AND 2014-2015

SCHOOL	ENROLMENT		MEAN SCORE		MEAN PERFORMANCE SCORE IN FILIPINO	
	2013-2014	2014-2015	2013-2014	2014-2015	2013-2014	2014-2015
1. School I	78	80	36.81	35.04	92.03	87.60
2. School II	54	53	34.16	28.75	85.40	71.36

3. School III	11	8	39.00	29.88	97.50	74.69
4. School IV	44	47	34.83	31.78	86.34	79.46
5. School V	23	16	32.55	31.87	81.86	79.67
6. School VI	9	12	36.11	31.55	90.28	78.86
7. School VII	5	6	32.83	31.00	82.08	77.50

Table II presents enrollment figures, mean scores, and mean performance scores of seven schools in the Baclayon District for the School Years 2013-2014 and 2014-2015. In terms of enrollment, School I had the highest number of students, with 78 students in 2013-2014 and 80 students in 2014-2015, followed by School II with 54 students in 2013-2014 and 53 students in 2014-2015. School IV ranked third with 44 students in 2013-2014 and 47 students in 2014-2015. However, there was a decrease in enrollment in School V, which had 23 students in 2013-2014 and 16 students in 2014-2015. Regarding mean scores for the School Year 2013-2014, School III had the highest mean score (39.00), followed by School I (36.81) and School VI (36.11). For the School Year 2014-2015, School I led again with a mean score of 35.04, followed by School V (31.87) and School IV (31.78).

In terms of mean performance scores based on the results of the National Achievement Test (NAT) for the School Year 2013-2014, School III had the highest score (97.50), followed by School I (92.03) and School VI (90.28). In 2014-2015, School I also led with a mean performance score of 87.60, followed by School V (79.67) and School IV (79.46). The results indicate that while School I consistently had the highest mean scores and mean performance scores over the two school years, there was a noticeable decrease in enrollment in some schools, such as School V. This may warrant further investigation into the factors affecting enrollment in these schools and their impact on academic performance.

TABLE III-A
NAT RESULTS OF SIXTH GRADE STUDENTS IN RELATION TO LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2013-2014

LEARNING COMPETENCIES	P-1	P-2	P-3	P-4	P-5	P-6	P-7	Ave.
1. Utilizes pronouns, adjectives, verbs, adverbs, conjunctions, prepositions, and affixes in sentences.	94.80	81.00	100.00	90.93	87.73	95.56	88.33	91.19
2. Uses the appropriate sentence for the situation (type of sentence according to usage).	98.00	99.11	100.00	82.56	95.45	94.44	100.00	95.65
3. Uses the appropriate sentence for the situation (type of sentence according to usage).	94.67	77.08	100.00	94.19	47.73	100.00	100.00	87.67
4. Identifies the meaning of words (synonyms and antonyms).	85.00	63.84	100.00	86.63	50.00	61.11	100.00	78.08
5. Identifies the main idea and important details in the reading material.	87.73	80.36	100.00	79.09	79.09	97.73	40.00	80.57
6. Identifies the theme, cause, and effect in the story.	88.89	83.03	100.00	81.40	92.42	70.37	100.00	88.02
7. Describes the characteristics of the character based on actions or speech.	82.67	90.18	100.00	84.88	90.91	100.00	50.00	85.52
8. Sequences events in the story.	95.33	97.32	100.00	93.02	88.64	88.89	0.00	80.46
9. Provides an opinion on the possible outcome of events based on the character's actions.	90.67	82.14	100.00	67.44	50.00	88.89	100.00	82.73
10. Analyzes details that explain the main idea.	98.22	70.62	100.00	96.12	98.48	100.00	100.00	94.78
11. Utilizes graphic aids to understand the text.	96.67	95.54	100.00	98.84	100.00	100.00	100.00	98.72
12. Uses quotation marks and commas in the direct speech of the character.	96.00	96.43	100.00	90.70	95.45	88.89	100.00	95.35
13. Fills in the school-formulation such as ID and library card correctly.	90.67	95.54	50.00	68.60	84.09	88.89	100.00	82.54
14. Transcribes the information conveyed by graphic aids in writing.	92.26	85.55	96.15	85.72	81.54	90.37	82.95	87.79
Mean	7	6	12	7	9	7	10	6
F below Mean	6	7	1	6	4	4	3	7
F above 75% passing	13	11	12	11	10	11	10	13
F below 75% passing	0	2	1	2	3	2	3	0

Table III-A presents the results of the National Achievement Test (NAT) of students based on their Proficiency in the Filipino subject for the School Year 2013-2014. The table indicates that the proficiency with the highest average score is Proficiency 11, with an average score of 98.72, followed by Proficiency 2, with an average score of 95.65. Proficiency 12 ranks third, scoring an average of 95.35. On the other hand, Proficiency 4 has the lowest average score, scoring 78.08. Proficiency 5 ranks second-lowest, with an average score of 80.57, while Proficiency 13 ranks third-lowest, scoring an average of 80.46. These proficiencies cover various aspects of learning, including identifying the main idea and important details in the text, understanding cause and effect in the story, and transcribing information from graphic aids to text.

TABLE III-B
NAT RESULTS OF SIXTH GRADE STUDENTS IN RELATION TO LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2014-2015

LEARNING COMPETENCIES	P-1	P-2	P-3	P-4	P-5	P-6	P-7	Ave.
1. Utilizes pronouns, adjectives, verbs, adverbs, conjunctions, prepositions, and affixes in sentences.	88.61	83.40	80.00	78.26	78.66	80.00	86.67	82.23
2. Uses the appropriate sentence for the situation (type of sentence according to usage).	93.06	81.00	100.00	70.65	100.00	100.00	66.67	87.34
3. Uses the appropriate sentence for the situation (type of sentence according to usage).	89.58	73.00	37.50	70.65	100.00	100.00	50.00	74.39
4. Identifies the meaning of words (synonyms and antonyms).	61.58	28.66	37.49	66.66	100.00	54.55	77.78	60.96
5. Identifies the main idea and important details in the reading material.	60.19	64.50	75.00	51.08	46.66	75.00	75.00	63.92
6. Identifies the theme, cause, and effect in the story.	93.06	90.66	66.67	97.82	100.00	100.00	100.00	92.60
7. Describes the characteristics of the character based on actions or speech.	83.33	88.00	100.00	94.56	100.00	50.00	50.00	80.84
8. Sequences events in the story.	93.40	74.50	100.00	66.30	56.66	70.45	75.00	76.62
9. Provides an opinion on the possible outcome of events based on the character's actions.	88.89	57.00	50.00	91.30	50.00	100.00	50.00	69.60
10. Analyzes details that explain the main idea.	95.37	81.00	100.00	100.00	100.00	100.00	100.00	96.62
11. Utilizes graphic aids to understand the text.	92.36	47.00	100.00	79.34	100.00	100.00	100.00	88.39
12. Uses quotation marks and commas in the direct speech of the character.	66.67	40.00	0.00	84.78	95.45	9.09	0	42.28
13. Fills in the school-formulation such as ID and library card correctly.	79.86	73.00	50.00	52.17	84.09	50	83.33	67.49
14. Transcribes the information conveyed by graphic aids in writing.	88.61	83.40	80.00	78.26	78.66	80.00	86.67	82.23
Mean	83.54	67.82	68.97	77.20	85.50	76.08	70.34	75.64
F above Mean	8	8	7	7	8	6	8	7
F below Mean	5	5	6	6	5	7	5	6
F above 75% passing	10	5	7	7	10	8	8	7
F below 75% passing	3	8	6	6	3	5	5	6

Table III-B presents the results of the National Achievement Test (NAT) of students based on their Proficiency in the Filipino subject for the School Year 2014-2015. The table shows that Proficiency 10 had the highest average score, with an average of 96.62, followed by Proficiency 6, which scored an average of 92.60. Proficiency 11 ranked third, with an average score of 88.39. On the other hand, Proficiency 12 had the lowest average score, scoring 42.28.
The table also includes the identification of the main idea and important details in the text, where Proficiency 4 had an average score of 60.96, ranking third lowest. In the same table, the highest frequency mean is observed with an average of 7, while the frequency below the mean has an average of 6.

TABLE IV-A
ACADEMIC PERFORMANCE OF SEVEN ELEMENTARY SCHOOLS OF THE DISTRICT OF BACLAYON

SCHOOL	SY 2013-2014	SY 2014-2015
1. School I	79.82	79.67
2. School II	81.04	80.89
3. School III	81.27	81.25
4. School IV	80.03	81.70
5. School V	78.33	79
6. School VI	81.67	80.73
7. School VII	80.25	82.60
Mean	80.34	80.83
F above Mean	3	4
F below Mean	4	3

Table IV-A presents the academic performance of seven elementary schools in the Baclayon District for the School Years 2013-2014 and 2014-2015. In the School Year 2013-2014, School VI ranked first with an academic performance of 81.66, followed by School III with 81.27, and School II with 81.03. In the School Year 2014-2015, School VII led with an academic performance of 82.6, followed by School III with 81.25, and School IV with 81.7.
In the same table, there were 3 schools above the mean frequency for the School Year 2013-2014 and 4 schools above the mean frequency for the School Year 2014-2015. Conversely, there were 4 schools below the mean frequency for the School Year 2013-2014 and 3 schools below the mean frequency for the School Year 2014-2015.

TABLE IV-B
ACADEMIC PERFORMANCE OF SEVEN ELEMENTARY SCHOOLS OF THE DISTRICT OF BACLAYON FOR THE SCHOOL YEAR 2013-2014

School I		School II		School III		School IV		School V		School VI		School VII	
Students	AP	Students	AP	Students	AP	Students	AP	Students	AP	Students	AP	Students	AP
1	71	1	76	1	80	1	89	1	75	1	81	1	82
2	70	2	80	2	79	2	79	2	73	2	82	2	79
3	87	3	80	3	84	3	87	3	86	3	82	3	79
4	76	4	81	4	76	4	75	4	76	4	81	4	81
5	81	5	75	5	85	5	87	5	76	5	81		
6	79	6	83	6	82	6	81	6	78	6	83		
7	74	7	81	7	84	7	80	7	76				
8	76	8	86	8	83	8	75	8	80				
9	88	9	81	9	80	9	78	9	75				
10	90	10	88	10	76	10	78	10	77				
11	90	11	85	11	85	11	76	11	79				
12	83	12	81			12	76	12	77				
13	84	13	81			13	78	13	79				
14	85	14	89			14	85	14	78				
15	78	15	88			15	77	15	81				
16	82	16	81			16	75	16					
17	86	17	79			17	76	17					
18	79	18	79			18	87	18					
19	82	19	87			19	84	19					
20	80	20	83			20	82	20					
21	80	21	80			21	83	21					
22	83	22	79			22	85						
23	76	23	79			23	80						
24	75	24	80			24	84						
25	91	25	77			25	89						
26	83	26	82			26	81						
27	89	27	83			27	76						
28	76	28	85			28	74						
29	84	29	84			29	77						
30	80	30	75			30	79						

31	80	31	76			31	79						
32	79	32	84			32	79						
33	78	33	81			33	78						
34	78	34	81			34	77						
35	76	35	87			35	75						
36	81	36	80										
37	80	37	76										
38	85	38	79										
39	83	39	75										
40	78	40	77										
41	79	41	79										
42	81	42	77										
43	84	43	80										
44	81	44	83										
45	80	45	87										
46	76	46											
47	80	47											
48	81	48											
49	78	49											
50	75	50											
51	76	51											
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57	76												
58	75												
59	84												
60	75												
61	76												
62	81												
63	75												
64	78												
65	86												
66	75												
67	82												
Mean	79.82	Mean	81.04	Mean	81.27	Mean	80.03	Mean	78.33	Mean	81.67	Mean	80.25
F above mean	34		19		6		12		9		3		2
F below mean	43		32		5		23		12		3		2

Table IV-B presents the academic performance of seven elementary schools in the Baclayon District for the School Year 2013-2014. School VI leads with a mean score of 81.67, followed by School III with a mean score of 81.27, and School I with a mean score of 81.04. The table also shows the frequency above the mean, with School I ranking first, followed by School II, School IV, School V, School III, School VI, and School VII, respectively. Furthermore, the table displays the frequency below the mean, with School I ranking first, followed by School II, School IV, School V, School III, School VI, and School VII, respectively.

TABLE IV-C
ACADEMIC PERFORMANCE OF SEVEN ELEMENTARY SCHOOLS OF THE DISTRICT OF BACLAYON FOR THE SCHOOL YEAR 2014-2015

School I		School II		School III		School IV		School V		School VI		School VII	
Students	AP	Students	AP	Students	AP	Students	AP	Students	AP	Students	AP	Students	AP
1	70	1	88	1	81	1	78	1	89	1	78	1	82
2	75	2	80	2	78	2	75	2	81	2	80	2	80
3	76	3	88	3	85	3	83	3	78	3	83	3	78
4	70	4	85	4	79	4	86	4	75	4	78	4	88

5	75	5	83	5	80	5	82	5	76	5	83	5	85
6	75	6	77	6	83	6	89	6	80	6	81		
7	75	7	80	7	79	7	82	7	75	7	84		
8	77	8	75	8	85	8	83	8	80	8	80		
9	83	9	80			9	77	9	79	9	81		
10	77	10	84			10	80	10	75	10	80		
11	83	11	76			11	80	11	84	11	80		
12	81	12	77			12	83	12	81	12			
13	78	13	78			13	86	13	72	13			
14	85	14	78			14	87	14	81	14			
15	75	15	76			15	78	15					
16	84	16	79			16	86	16					
17	85	17	78			17	76	17					
18	77	18	76			18	84	18					
19	81	19	77			19	83	19					
20	83	20	87			20	89	20					
21	80	21	83			21	85	21					
22	80	22	79			22	77	22					
23	89	23	78			23	77	23					
24	79	24	85			24	80	24					
25	85	25	87			25	77	25					
26	81	26	78			26	86	26					
27	82	27	83			27	78	27					
28	78	28	86			28	77	28					
29	77	29	85			29	78	29					
30	79	30	78			30	84	30					
31	77	31	89			31	85	31					
32	83	32	85			32	82	32					
33	82	33	78			33	83	33					
34	78	34	82			34	86	34					
35	75	35	83			35	77	35					
36	87	36	79			36	83	36					
37	78	37	78			37	81	37					
38	81	38	76										
39	78	39											
40	79	40											
41	85	41											
42	78	42											
43	76	43											
44	75	44											
45	75	45											
46	78	46											
47	75	47											
48	75	48											
49	75	49											
50	76	50											
51	75												
52	75												
53	77												
54	81												
55	75												
56	79												
57	77												
58	87												
59	87												
60	88												
61	79												
62	86												
63	84												
64	78												
65	82												

66	86												
67	81												
68	87												
69	77												
70	87												
71	88												
72	88												
73	73												
74	75												
75	82												
76	80												
Mean	79.67	Mean	80.89	Mean	81.25	Mean	81.7	Mean	79	Mean	80.73	Mean	82.6
F above mean	34		19		3		21		7		5		02
F below mean	42		19		5		16		7		6		3

Table IV-C presents data related to the academic performance of seven elementary schools in the Baclayon District for the School Year 2014-2015. School VII leads in academic performance with a mean score of 82.6, followed by School IV with a mean score of 81.70, and School III with a mean score of 81.20. The table also shows the frequency above the mean, with School I ranking first, followed by School IV, School II, School V, School VI, School III, and School VII, respectively. Meanwhile, in terms of frequency below the mean, School II ranks first, followed by School II, School IV, School V, School VI, School III, and School VII, respectively.

TABLE V
RELATIONSHIP BETWEEN ACADEMIC PERFORMANCE IN FILIPINO SUBJECT AND NAT RESULTS IN FILIPINO SUBJECT SCHOOL YEAR 2013-2014

SCHOOL	ACADEMIC PERFORMANCE	LEARNING COMPETENCIES	x2	y2	Xy
School I	79.82	92.25	6371.232	8510.063	7363.395
School II	81.03	85.47	6565.861	7305.121	6925.634
School III	81.27	96.15	6604.813	9244.823	7814.111
School IV	80.02	85.72	6403.200	7347.918	6859.314
School V	78.33	81.53	6135.589	6647.141	6386.245
School VI	81.66	90.36	6668.356	8164.930	7378.798
School VII	80.72	82.94	6515.718	6879.044	6694.917
Sum	562.85	614.42	45264.77	54099.04	49422.41
Mean	80.41	87.77			
N	7	7			
r = 0.520628					
Critical value of r at 5 df and 0.05 level of significance is 0.754; and t = 1.36					
Result: Insignificant					
Decision: Accept null hypothesis					

Table V shows the relationship between academic performance in the Filipino subject and the results of the NAT in the Filipino subject for the school year 2013-2014. The obtained correlation of 0.520628 is lower than the critical value of 0.74 at 5 degrees of freedom and at a significance level of 0.05, where the null hypothesis is accepted. This indicates that the high NAT results in the Filipino subject have no significant relationship with the average academic performance of students in the Filipino subject.

TABLE VI
RELATIONSHIP BETWEEN ACADEMIC PERFORMANCE IN FILIPINO SUBJECT AND NAT RESULTS IN FILIPINO SUBJECT SCHOOL YEAR 2014-2015

SCHOOL	ACADEMIC PERFORMANCE	LEARNING COMPETENCIES	x2	y2	Xy
School I	79.67	83.53	6347.309	6977.261	6654.835
School II	80.89	67.82	6543.192	4599.552	5485.96

School III	81.25	68.97	6601.563	4756.861	5603.813
School IV	81.7	77.2	6674.890	5959.840	6307.24
School V	79	85.5	6241.000	7310.250	6754.5
School VI	80.72	76.07	6515.718	5786.645	6140.37
School VII	82.6	70.34	6822.760	4947.716	5810.084
Sum	565.83	529.43	45746.43	40338.12	42756.8
Mean	80.83	75.63			
N	7	7			
r = (-) 0.75634					
Critical value of r at 5 df and 0.05 level of significance is 0.754					
Result: Significant					
Decision: Reject null hypothesis					
Further testing the significant r using t-test, t = -2.58524					
Result: Significant					
Decision: Reject null hypothesis					

Table VI presents the relationship between academic performance in the Filipino subject and the results of the NAT in the Filipino subject for the school year 2014-2015. The obtained correlation of -0.75634 is higher than the critical value of 0.754 at 5 degrees of freedom and at a significance level of 0.05, where the null hypothesis is rejected. This indicates that the low NAT results in the Filipino subject have no significant relationship with the average academic performance of students in the Filipino subject.

Conclusion

In the school years 2013-2014 and 2014-2015, Schools I, II, and IV recorded high enrollment numbers, while Schools VII, VI, III, and VII recorded low enrollment. The high academic performance of students in Filipino subject is not related to the outcome of the National Achievement Test (NAT) of elementary students in the Baclayon District. The outcome of the National Achievement Test (NAT) of students is not related to their academic performance in the Filipino subject in elementary schools in the Baclayon District. The outcome of the NAT of students in the low-performing schools in the Baclayon District is not related to the academic performance of the students.

The enrollment trends in Schools I, II, and IV suggest that these schools may have effective strategies for attracting students, while Schools VII, VI, III, and VII may need to explore methods to increase enrollment. The lack of correlation between high academic performance in Filipino subject and the outcome of the National Achievement Test (NAT) indicates that the NAT may not accurately reflect students' proficiency in this subject in the Baclayon District. This suggests that while students may perform well in the NAT, their performance in specific subjects, such as Filipino, may not align with their overall test scores. The lack of correlation between NAT outcomes and academic performance in low-performing schools highlights the need for a deeper understanding of the factors influencing student achievement in these schools.

Recommendations

Implementing these recommendations can help schools in the Baclayon District improve student enrollment, academic performance, and overall student achievement in the National Achievement Test (NAT).

1. Review and Improve Enrollment Strategies: Schools VII, VI, III, and VII should review and improve their enrollment strategies to attract more students. This could involve targeted marketing, community outreach programs, or offering additional services to make the schools more appealing to parents and students.
2. Enhance Teaching Methods in Filipino Subject: Schools should focus on enhancing teaching methods in the Filipino subject to ensure that students' high academic performance in this subject aligns with their overall performance in the National Achievement Test (NAT). This may involve curriculum review, teacher training, and the implementation of effective teaching strategies that specifically target Filipino language proficiency.
3. Implement Comprehensive Academic Support in Low-Performing Schools: Low-performing schools should implement comprehensive academic support programs to address the factors influencing student achievement. This could involve additional resources, targeted interventions, and support systems to help students improve their academic performance across all subjects, including the NAT.
4. Conduct Further Research and Analysis: Schools should conduct further research and analysis to better understand the factors influencing student achievement, particularly in low-performing schools. This could involve gathering additional data, conducting surveys, and engaging with students, parents, and teachers to identify specific areas for improvement and develop targeted interventions.
5. Strengthen School-Community Partnerships: Schools should strengthen partnerships with the community to support student learning and achievement. This could involve collaborating with local organizations, businesses, and community leaders to provide additional resources, support services, and learning opportunities for students both inside and outside the classroom.

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Reference List

[1]. Barrot, J. (2018). Exploring the implementation of communicative language teaching in the Philippines: A tertiary teachers' perspective. Advanced Science Letters, 24(4), 2284–2287.
[2]. Casildo, N. J. G. (2022). Modelling the Effect of Academic Performance on National Achievement Test (NAT). *Proceedings of the 14th International Conference on Computer Supported Education (CSEDU 2022)*. https://doi.org/10.5220/0011106300003182
[3]. Ebio, Jr., F. M. (2016, February). Determinants of The National Achievement Test Results of The Secondary Schools In The Province of Biliran, Philippines. IJESRT. Retrieved January 14, 2022, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10. 1.1.742.543&rep=rep1&type=pdf
[4]. Horn, A. S., Horner, O. G., & Lee, G. (2019). Measuring the effectiveness of two-year colleges: A comparison of raw and value-added performance indicators. Studies in Higher Education, 44(1), 151–169.
[5]. Johnes, J., & Taylor, J. (1990). Performance indicators in higher education. SRHE & Open University Press.
[6]. Krouska, A., Troussas, C., & Virvou, M. (2019). SN-Learning: An exploratory study beyond e-learning and evaluation of its applications using EV-SNL framework. Journal of Computer Assisted Learning, 35(2), 168–177.
[7]. Mahmoud, L. (2019, August 2). Prediction of Student's performance by modelling small dataset size - International Journal of Educational Technology in Higher Education. International Journal of Educational Technology in Higher Education. Retrieved January 24, 2022, from https://educationaltechnologyjournal. springeropen.com/articles/10.1186/s41239-019-0160- 3#citeas
[8]. Nuncio, R. V., Arcinas, M. M., Lucas, R. I. G., Alontaga, J. V. Q., Neri, S. G. T., & Carpena, J. M. (2020). An E-learning outreach program for public schools: Findings and lessons learned based on a pilot program in Makati city and Cabuyao city, Laguna, Philippines. Evaluation and Program Planning, 82, Article ID 101846.
[9]. Regio,, M. S., Musse, S. R., Manssour, I. H., & Rodrigues, D. (2021). Data Mining on the Prediction of Student's Performance at the High School National Examination. n Proceedings of the 13th International Conference on Computer Supported Education (CSEDU 2021), 1, 92- 99. 10.5220/0010408000920099
[10]. Relucio, F. S., & Palaoag, T. D. (2018). Sentiment analysis on educational posts from social media. In Proceedings of the 9th International Conference on E-Education, E-Business, E-Management and E-Learning (pp. 99–102). San Diego, CA, USA.
[11]. Srisakda, B., Sujiva, S., & Pasiphol, S. (2016). Development of indicators of learner's key competencies based on the basic education core curriculum. Procedia-Social and Behavioral Sciences, 217, 239–248.
[12]. Tam, M. (2001). Measuring quality and performance in higher education. Quality in Higher Education, 7(1), 47–54.
[13]. Troussas, C., Krouska, A., & Virvou, M. (2019). Injecting intelligence into learning management systems: The case of adaptive grain-size instruction. In Proceedings of the 2019 10th International Conference on Information, Intelligence, Systems and Applications (IISA) (pp. 1–6). IEEE.