ASSESSMENT OF VARIANCE IN LEARNING COMPETENCIES AMONG SEVEN ELEMENTARY SCHOOLS: IMPLICATIONS FOR NAT RESULTS AND ACADEMIC PERFORMANCE

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Abstract

Understanding the variance in learning competencies among elementary schools is crucial for informing teaching practices and educational policies. Preserving national standards while supplementing them with a comprehensive framework, including 21st-century learning skills, supports students' holistic development. This study aims to identify key factors influencing academic performance, informing targeted interventions to ensure a high-quality education for all students. This research analyzes Grade Six students' learning competencies in Baclayon District for the School Years 2013-2014 and 2014-2015, focusing on NAT results in Filipino. Seven elementary schools participated, and statistical analysis assesses the correlation between teaching materials, methods, and language used in teaching and students' academic performance in Filipino. The study analyzes the performance of Grade Six students in the National Achievement Test (NAT) in Filipino over two school years across seven elementary schools in Baclayon District. Significant differences between students' proficiency in Filipino and their NAT results were found in most schools, indicating a decline in performance from 2013-2014 to 2014-2015. However, no significant variances in learning competencies were observed across schools and years, despite variations in mean scores. The mean scores decreased across all low-performing schools in Baclayon District in the School Year 2014-2015, with six out of seven schools scoring below the 75% passing rate. This decline highlights the need for curriculum review and teacher training, particularly in comprehension and critical thinking. Targeted interventions are urgently required to address the decline in academic outcomes, especially in the Filipino subject.

Keywords: assessment, variance, learning competencies, NAT, academic performance

Introduction

In recent years, there has been an increased focus on understanding the variance in learning competencies among elementary schools and its implications for students' academic performance. This analysis has become crucial in identifying areas for improvement in the educational system and curriculum, as well as in developing targeted interventions to address the diverse needs of students. As such, this study aims to delve deeper into the factors that contribute to these variances and to provide valuable insights that can inform teaching practices, curriculum development, and educational policies. By examining the differences in learning competencies among different schools, this research seeks to contribute to the ongoing efforts to enhance the overall quality of education and to ensure that all students have access to the resources and support they need to succeed academically.

In the search for an educational system that enables students to achieve the best academic results, it is extremely important to explore the perception of the main educational agents: students and teachers. Overall, both teachers and students reported high scores of perception. However, the perception of the students was higher than that of the teachers, except for the digital competence. While the results showed differences in perception between both prediction models of competency-based learning, both groups perceived the competences of autonomy and personal initiative, digital competence, social competence and citizenship, and lifelong learning as core elements of their perception. In this regard, initial and ongoing teacher training in innovative pedagogical models is needed to enable the development of these competences, which are predictors of perceived learning (Meroño et al., 2018).

The learners demonstrate a very satisfactory level of academic performance which indicate that they are within the bracket of average to highly proficient. The demographics such as age, sex, and family living condition are significantly related to the academic performance of the learners. This implies that they could significantly affect the learners' academic performance. As to age, older learners are more capable of performing well in academics than the younger ones. It is also expected that older learners have high academic performance. As to sex, female learners are more focused on their studies and prioritizes academic achievement than male learners do. As to family living conditions, most learners from intact families perform well or satisfactorily while learners coming from broken families or with single parents underachieve (Aguirre & Legaspi, 2020).

The study emphasizes that national standards should be preserved as they provide a reliable means for comparing successful schools. However, to drive reform at the local level, it's essential to supplement national standards with a comprehensive framework. This framework, including 21st Century Learning Skills, Self-esteem/Self-concept/Selfefficacy, Expressed Creativity, and a developmentally informed approach to Talent Diversity, addresses the subjective nature of teaching and learning often overlooked by standard assessment measures. By integrating these components into educational practices, educators can better support students' holistic development, promoting self-reliance, preparedness, and lifelong learning. This integral approach, focused on students' diverse needs and learning styles, is crucial for improving academic performance and ensuring that students are adequately prepared for future success. (Snodgrass, 2012).

Educational standards are precise, written descriptions of what students are expected to know and be able to do at a specific stage of their education. Educators and policymakers have realized and acknowledged the need to develop and implement various complementary types of standards such as content, instruction, performance, and assessment in order to accomplish the learning standards. Hence, standards-based education is a broad concept referring to systems of instruction, assessment, grading, and academic reporting based on students' unveiling the expected mastery of the knowledge and skills as they proceed through their education. Standards shape teaching goals and guide teachers what and how to teach students to help them to meet the learning expectations defined in the standards. Abu Alhija, F. N. (2019). Research has shown that curriculum standards alone do not produce higher academic achievement; however, research consistently supports student learning through a process of assessment of what they are taught (Porter, 2002; Rothman, Slattery, Vranek, & Resnick, 2002). Alignment between assessment and curriculum standards is a prerequisite to the success of student educational outcomes and overall educational improvement.

A number of alignment strategies have been reviewed by Davis-Becker and Buckendahl (2013). They cite Webb's (1999) alignment strategy that evaluates assessment items aligned with content standards. A second strategy is a procedure where expert judges use a matrix with content on one dimension crossed by pre-established cognitive demand list. This matrix can be multidimensional by crossing other dimensions of content by assessment; or by curricula standards or by cognitive complexity i.e., the cognitive level or taxonomy required of students thinking by content standards.

In an opinion piece published on Politico, United States Secretary of Education Arne Duncan said, "NCLB is creating a slow-motion educational train wreck for children, parents and teachers. Under the law, an overwhelming number of schools in the country may soon be labeled as "failing," eventually triggering impractical and ineffective solutions." (Duncan, 2011). Secretary Duncan argues that many public education systems will lower academic standards as a result of NCLB. While Congress rewrites the law, Secretary Duncan describes the purpose of the administration's plan – to "unleash energy for reform at the local level."

According to Nasser et al. (2014) it was clear from all sources of data, that schools and individual teachers are making a sincere, dedicated and focused effort to address standards in curriculum development; however, this effort needs more support if it is to appropriately meet the needs of students in this challenging educational context. A recent development, after the end of the study, the Supreme Education Council reached conclusions to eliminate all teacher developed curriculum development and assessments. Teachers now have school textbooks aligned with standards and developed specifically for the Qatari standards. The degree of alignment in these texts would be an appropriate further research questions. Furthermore, it could provide valuable insights into the factors that contribute to students' academic performance, such as teaching methods, classroom resources, and learning environments.

The study of Maerten-Rivera et al. (2010) investigated the factors influencing science achievement among fifth-grade students, focusing on both student and school predictors, as measured by a high-stakes state test. The research involved 23,854 fifth-grade students from 198 elementary schools within a large urban school district characterized by a diverse student population. Multilevel modeling was employed to simultaneously examine student and school predictors. The findings provide new insights into the existing literature while confirming previously known results. Moreover, this study contributes to the literature by addressing high-stakes science tests, utilizing diverse student groups, including English language learners in urban settings, focusing on elementary school science, and employing a multilevel framework. This approach provides a comprehensive understanding of the factors influencing academic performance, which could be adapted for assessing variance in NAT results and academic performance in Filipino. The assessment of variance in learning competencies among seven elementary schools has significant implications for NAT results and academic performance. This study could help identify the strengths and weaknesses in the educational system and curriculum of each school, allowing for targeted interventions and improvements.

By analyzing the differences in learning competencies among different schools, educators and policymakers can devise strategies to enhance teaching practices and tailor instructional approaches to meet the diverse needs and learning styles

of students. This research could also highlight the importance of standardized assessments, like NAT, in measuring students' knowledge and skills across schools.

Through a comprehensive analysis of the variance in learning competencies among seven elementary schools, this study aims to provide deeper insights into the underlying factors that contribute to students' academic performance. By delving into the specific strengths and weaknesses of each school's educational system and curriculum, this research seeks to uncover the root causes of disparities in learning outcomes.

Moreover, this study will explore the impact of teaching methods, classroom resources, and learning environments on students' academic performance. By identifying these key factors, educators and policymakers can develop tailored interventions and improvements to address the diverse needs and learning styles of students in each school.

Furthermore, this research seeks to emphasize the significance of standardized assessments, such as the National Achievement Test, in measuring students' knowledge and skills across different schools. By highlighting the importance of these assessments, this study aims to advocate for the implementation of effective strategies to ensure that students receive a high-quality education that prepares them for future success. The findings of this study are expected to offer valuable guidance for enhancing teaching practices, curriculum development, and educational policies in elementary schools. By addressing the specific variances in learning competencies, this research aims to contribute to the ongoing efforts to improve the overall quality of education and provide equitable access to resources and support for all students.

Methodology

This experimental research analyzes the learning competencies of Grade Six students in the District of Baclayon for the School Years 2013-2014 and 2014-2015 using documentary analysis. It aims to provide clear and relevant data by describing and analyzing the learning competencies of the National Achievement Test (NAT) in Filipino. Baclayon, the first Spanish town in Bohol, boasts a peaceful municipality with a rich history, including its ancient stone church. With a land area of 3,442.1807 square kilometers and a population of around 20,591, Baclayon's economy is based 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 research focuses on 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 utilizes 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 seven (7) elementary schools were selected as they provided the necessary data for the analysis.

To conduct the study, the researcher finalized the research topic with his adviser, obtained formal approval, and prepared the necessary materials for the first chapter. Permission was 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, and the weighted mean was derived. ANOVA analysis was used to determine the significant correlation between the use of Teaching Materials, Methods, and Language in Teaching and the Academic Performance of students in the Filipino subject.

Results and Discussion

TABLE I-A DIFFERENCE IN THE PERFORMANCE OF STUDENTS BETWEEN NAT RESULTS AND LEARNING COMPETENCIES IN TWO SCHOOL YEARS FOR SCHOOL 1

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D²
1	94.80	88.61	6.19	38.3161
2	98.00	93.06	4.94	24.4036
3	94.67	89.58	5.09	25.9081
4	85.00	61.58	23.42	548.4964
5	87.73	60.19	27.54	758.4516
6	88.89	93.06	-4.17	17.3889
7	82.67	83.33	-0.66	0.4356
8	95.33	93.40	1.93	3.7249
9	90.67	88.89	1.78	3.1684
10	98.22	95.37	2.85	8.1225
11	96.67	92.36	4.31	18.5761
12	96.00	66.67	29.33	860.2489
13	90.67	79.86	10.81	116.8561
Sum	1199.32	1085.96	113.36	2424.10
Mean	92.26	83.54		
t = 2.8745				

Critical value of t at 12 df and 0.05 level of significance is 2.18	
Result: Significant	
Decision: Reject null hypothesis	

Table I-A shows the difference between the performance of students in the NAT in Filipino subject and their proficiency in the Filipino subject over two school years for School I. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated mean formulas. The obtained t-value of 2.8745 is higher than the critical value of 2.18 at 12 df and a significance level of 0.05, thus rejecting the null hypothesis. The result indicates a significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is due to the high or excellent performance of 92.26 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 83.54, which is average.

TABLE I-B DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SCHOOL 2

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D^2
1	81.00	83.40	-2.40	5.76
2	99.11	81.00	18.11	327.9721
3	77.08	73.00	4.08	16.6464
4	63.84	28.66	35.18	1237.632
5	80.36	64.50	15.86	251.5396
6	83.03	90.66	-7.63	58.2169
7	90.18	88.00	2.18	4.7524
8	97.32	74.50	22.82	520.7524
9	82.14	57.00	25.14	632.0196
10	70.62	81.00	-10.38	107.7444
11	95.54	47.00	48.54	2356.132
12	96.43	40.00	56.43	3184.345
13	95.54	73.00	22.54	508.0516
Sum	1112.19	881.72	230.47	9211.56
Mean	85.55	67.82		
t = 3.092839				
Critical value of t at 12 df and 0.05 level of significance is 2.18				
Result: Significant				
Decision: Reject null hypothesis				

Table I-B shows the Difference in the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School II. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 3.092839 is higher than the critical value of 2.18 at 12 df and a significance level of 0.05, so the null hypothesis is rejected. The result indicates a significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is because the performance was significantly high or excellent, with 85.55 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 67.82, which is average.

TABLE I-C DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SCHOOL 3

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D^2
1	100.00	80.00	20.00	400.00
2	100.00	100.00	0.00	0.00
3	100.00	37.50	62.50	3906.25
4	100.00	37.49	62.51	3907.50
5	100.00	75.00	25.00	625.00
6	100.00	66.67	33.33	1110.89
7	100.00	100.00	0.00	0.00
8	100.00	100.00	0.00	0.00
9	100.00	50.00	50.00	2500.00
10	100.00	100.00	0.00	0.00
11	100.00	100.00	0.00	0.00

12	100.00	0.00	100.00	10000.00
13	50.00	50.00	0.00	0.00
Sum	1250.00	896.66	353.34	22449.64
Mean	96.15	68.97		

t = 2.99523
Critical value of t at 12 df and 0.05 level of significance is 2.18
Result: Significant
Decision: Reject null hypothesis

Table I-C presents the Difference between the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School III. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 2.99523 is higher than the critical value of 2.18 at 12 df and a significance level of 0.05, thus rejecting the null hypothesis. The result indicates a significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is due to the high or excellent performance of 96.15 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 68.97, which is average.

TABLE I-D DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SCHOOL 4

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D^2
1	90.93	78.26	12.67	160.53
2	82.56	70.65	11.91	141.85
3	94.19	70.65	23.54	554.13
4	86.63	66.66	19.97	398.80
5	79.09	51.08	28.01	784.56
6	81.40	97.82	-16.42	269.62
7	84.88	94.56	-9.68	93.70
8	93.02	66.30	26.72	713.96
9	67.44	91.30	-23.86	569.30
10	96.12	100.00	-3.88	15.05
11	98.84	79.34	19.50	380.25
12	90.70	84.78	5.92	35.05
13	68.60	52.17	16.43	269.94
Sum	1114.40	1003.57	110.83	4386.74
Mean	85.72	77.20		

t = 1.815009
Critical value of t at 12 df and 0.05 level of significance is 2.18
Result: Insignificant
Decision: Accept null hypothesis

Table I-D shows the Difference between the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School IV. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 1.815009 is lower than the critical value of 2.18 at 12 df and a significance level of 0.05, so the null hypothesis is accepted. The result indicates no significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is because the performance was not significantly high or excellent, with 85.72 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 77.20, which is average.

TABLE I-E DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SCHOOL 5

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D^2
1	87.73	78.66	9.07	82.26
2	95.45	100.00	-4.55	20.70
3	47.73	100.00	-52.27	2732.15

4	50.00	100.00	-50.00	2500.00
5	79.09	46.66	32.43	1051.70
6	92.42	100.00	-7.58	57.46
7	90.91	100.00	-9.09	82.63
8	88.64	56.66	31.98	1022.72
9	50.00	50.00	0.00	0.00
10	98.48	100.00	-1.52	2.31
11	100.00	100.00	0.00	0.00
12	95.45	95.45	0.00	0.00
13	84.09	84.09	0.00	0.00
Sum	1059.99	1111.52	-51.53	7551.94

Mean	81.54	85.50		
t = 0.577569				
Critical value of t at 12 df and 0.05 level of significance is 2.18				
Result: Insignificant				
Decision: Accept null hypothesis				

Table I-E presents the Difference between the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School IV. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 0.577569 is lower than the critical value of 2.18 at 12 df and a significance level of 0.05, so the null hypothesis is accepted. The result indicates no significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is because the performance was not significantly high or excellent, with 81.54 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 85.50, which is average.

TABLE I-F DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SCHOOL 6

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D^2
1	95.56	80.00	15.56	242.11
2	94.44	100.00	-5.56	30.91
3	100.00	100.00	0.00	0.00
4	61.11	54.55	6.56	43.03
5	97.73	75.00	22.73	516.65
6	70.37	100.00	-29.63	877.94
7	100.00	50.00	50.00	2500.00
8	88.89	70.45	18.44	340.03
9	88.89	100.00	-11.11	123.43
10	100.00	100.00	0.00	0.00
11	100.00	100.00	0.00	0.00
12	88.89	9.09	79.80	6368.04
13	88.89	50.00	38.89	1512.43
Sum	1174.77	989.09	185.68	12554.59
Mean	90.37	76.08		
t = 1.792716				
Critical value of t at 12 df and 0.05 level of significance is 2.18				
Result: Insignificant				
Decision: Accept null hypothesis				

Table I-F shows the Difference in the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School V. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 1.792716 is lower than the critical value of 2.18 at 12 df and a significance level of 0.05, so the null hypothesis is accepted. The result indicates no significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is because the performance

was not significantly high or excellent, with 90.37 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 76.08, which is average.

TABLE I-G DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SCHOOL 7

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D²
1	88.33	86.67	1.66	2.76
2	100.00	66.67	33.33	1110.89
3	100.00	50.00	50.00	2500.00
4	100.00	77.78	22.22	493.73
5	40.00	75.00	-35.00	1225.00
6	100.00	100.00	0.00	0.00
7	50.00	50.00	0.00	0.00
8	0.00	75.00	-75.00	5625.00
9	100.00	50.00	50.00	2500.00
10	100.00	100.00	0.00	0.00
11	100.00	100.00	0.00	0.00
12	100.00	0.00	100.00	10000.00
13	100.00	83.33	16.67	277.89
Sum	1078.33	914.45	163.88	23735.26
Mean	82.95	70.34		

t = 1.069601

Critical value of t at 12 df and 0.05 level of significance is 2.18

Result: Insignificant

Decision: Accept null hypothesis

Table I-G shows the Difference in the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School VI. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 1.069601 is lower than the critical value of 2.18 at 12 df and a significance level of 0.05, so the null hypothesis is accepted. The result indicates no significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is because the performance was not significantly high or excellent, with 80.95 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 70.34, which is average.

TABLE I-H DIFFERENCE IN PERFORMANCE BETWEEN STUDENTS' NAT RESULTS AND LEARNING COMPETENCY FOR TWO SCHOOL YEARS FOR SEVEN ELEMENTARY SCHOOLS IN THE DISTRICT OF BACLAYON

LEARNING COMPETENCIES	SY 2013-2014	SY 2014-2015	D	D²
1	91.19	82.23	8.96	80.28
2	95.65	87.34	8.31	69.06
3	87.67	74.39	13.28	176.36
4	78.08	60.96	17.12	293.09
5	80.57	63.92	16.65	277.22
6	88.02	92.6	-4.58	20.98
7	85.52	80.84	4.68	21.90
8	80.46	76.62	3.84	14.75
9	82.73	69.6	13.13	172.40
10	94.78	96.62	-1.84	3.39
11	98.72	88.39	10.33	106.71
12	95.35	42.28	53.07	2816.42
13	82.54	67.49	15.05	226.50
Sum	1141.28	983.28	158.00	4279.06
Mean	87.79	75.64		

t = 3.125613

Critical value of t at 12 df and 0.05 level of significance is 2.18

Result: Significant

Decision: Reject null hypothesis

Table I-H illustrates the Difference in the performance of students in the NAT in the Filipino subject and their proficiency in the Filipino subject over two school years for School VII. To determine if there was a significant difference between the academic performance of students in the Filipino subject and the results of the NAT in the Filipino subject, the data were subjected to t-test of correlated means formulas. The obtained t-value of 3.125613 is higher than the critical value of 2.18 at 12 df and a significance level of 0.05, so the null hypothesis is rejected. The result indicates no significant difference in the NAT results in the Filipino subject of the students and their proficiency. The difference is because the performance was not significantly high or excellent, with 87.79 in the school year 2013-2014 compared to the school year 2014-2015, where the performance was 75.64, which is average.

TABLE II-A ANOVA DATA FOR THIRTEEN LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2013-2014

	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
N	7	7	7	7	7	7	7	7	7	7	7	7	7	91
Sum	638.3500	669.5600	613.6700	546.5800	547.4800	613.4400	591.4900	556.0600	594.3200	674.9600	666.1300	667.4700	577.7900	7957.300
Squares of Sum	407490.725	448310.59	376590.87	298749.7	299734.35	376308.63	349860.42	309202.72	353216.26	455571	443729.18	445516.2	333841.28	4898121.935
Sum of Squares	58446.7603	64272.5618	56053.6443	45039.7346	45433.7076	54478.5150	51697.5523	51631.4434	52641.8170	65331.5128	64101.6189	63753.3695	49527.4607	722409.698
Mean x	91.19	95.65	87.67	78.08	78.21	87.63	84.50	79.44	84.90	96.42	95.16	95.35	82.54	

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TABLE II-B
ANOVA TABLE FOR THIRTEEN LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2013 - 2014

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Source of Variation	SS	Df	MS	Computed F	Remarks	Critical Value at 0.05
Column Mean	3922.657857	12	326.8881548	1.124318005	<	1.92
Error	22677.9932 26600.651	78	290.7435026		Insignificant	
Total	26600.651				Ho: Accept	

Analysis of Variances in Various Learning Competencies in the School Year 2013-2014. To determine if there was a significant level of variances in various learning competencies in the School Year 2013-2014, the data were analyzed using variance analysis formulas as seen in Tables II-A and II-B. The computation revealed an F-value of 1.124318005, which is lower than the critical value of 1.92 at 12 by 78 df and a significance level of 0.05, thus the null hypothesis was accepted. The result indicates that there were no significant variances among the different learning competencies. Among the thirteen learning competencies in Filipino, competency number 10, "Uses graphic aids to understand the text," obtained the highest mean score of 96.42, while competency number 4, "Identifies the main idea and important details in the reading," obtained the lowest mean score of 78.08. All thirteen learning competencies scored above the passing rate of 75%. However, some competencies had lower scores despite being at the same level.

TABLE III-A ANOVA DATA FOR THIRTEEN LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2014-2015

	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
N	7	7	7	7	7	7	7	7	7	7	7	7	7	91
Sum	575.6000	611.3800	520.7300	426.7200	447.4300	648.2100	565.8900	536.3100	487.1900	676.3700	618.7000	295.9900	472.4500	6882.970
Squares of Sum	331315.36	373785.5	271159.73	182089.96	200193.6	420176.2	320231.49	287628.42	237354.1	457476.38	382789.69	87610.08	223209	"3775019.5
Sum of Squares	47431.0042	54657.4750	42251.2489	29487.9786	29444.4081	60893.0405	48629.4825	42468.0581	36986.1221	65656.4369	57034.2052	22455.8679	33443.3455	570808.674
Mean x	82.23	87.34	74.39	60.96	63.92	92.60	80.84	76.62	69.60	96.62	88.39	42.28	67.49	

TABLE III-B
ANOVA TABLE FOR THIRTEEN LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2014 – 2015

Source of Variation	SS	df	MS	Computed F	Remarks	Critical Value at 0.05
Column Mean	18681.074	12	1556.7562	3.8523579	>	1.92
Error	31520.171	78	404.10475		Significant	
Total	50201.245				Ho: Reject	

TABLE IV-A MULTIPLE COMPARISONS USING SCHEFFE'S TEST ON LEARNING COMPETENCIES 1

Learning Competencies		Mean 1	Mean 2	F'	F(.05)(K-1)	Interpretation
1	2	82.23	87.34	0.226287	1.92	Insignificant
1	3	82.23	74.39	0.532167	1.92	Insignificant
1	4	82.23	60.96	3.917876	1.92	Significant
1	5	82.23	63.92	2.903694	1.92	Significant
1	6	82.23	92.60	0.931903	1.92	Insignificant
1	7	82.23	80.84	0.016665	1.92	Insignificant
1	8	82.23	76.62	0.272861	1.92	Insignificant
1	9	82.23	69.60	1.381595	1.92	Insignificant
1	10	82.23	96.62	1.794901	1.92	Insignificant
1	11	82.23	88.39	0.328347	1.92	Insignificant
1	12	82.23	42.28	13.81922	1.92	Significant
1	13	82.23	67.49	1.880687	1.92	Insignificant
2	3	87.34	74.39	1.452492	1.92	Insignificant
2	4	87.34	60.96	6.027312	1.92	Significant
2	5	87.34	63.92	4.751173	1.92	Significant
2	6	87.34	92.60	0.239763	1.92	Insignificant
2	7	87.34	80.84	0.365772	1.92	Insignificant
2	8	87.34	76.62	0.996118	1.92	Insignificant
2	9	87.34	69.60	2.726159	1.92	Significant
2	10	87.34	96.62	0.746571	1.92	Insignificant
2	11	87.34	88.39	0.009471	1.92	Insignificant
2	12	87.34	42.28	17.58223	1.92	Significant
2	13	87.34	67.49	3.411694	1.92	Significant
3	4	74.39	60.96	1.562162	1.92	Insignificant
3	5	74.39	63.92	0.949699	1.92	Insignificant
3	6	74.39	92.60	2.872514	1.92	Significant
3	7	74.39	80.84	0.360484	1.92	Insignificant
3	8	74.39	76.62	0.042905	1.92	Insignificant
3	9	74.39	69.60	0.19884	1.92	Insignificant
3	10	74.39	96.62	4.281742	1.92	Significant
3	11	74.39	88.39	1.69654	1.92	Insignificant
3	12	74.39	42.28	8.927683	1.92	Significant
3	13	74.39	67.49	0.412015	1.92	Insignificant
4	5	60.96	63.92	0.075812	1.92	Insignificant
4	6	60.96	92.60	8.671341	1.92	Significant
4	7	60.96	80.84	3.423492	1.92	Significant
4	8	60.96	76.62	2.122853	1.92	Significant
4	9	60.96	69.60	0.646335	1.92	Insignificant
4	10	60.96	96.62	11.01644	1.92	Significant
4	11	60.96	88.39	6.514633	1.92	Significant
4	12	60.96	42.28	3.020846	1.92	Significant
4	13	60.96	67.49	0.369641	1.92	Insignificant
5	6	63.92	92.60	7.125558	1.92	Significant
5	7	63.92	80.84	2.480399	1.92	Significant
5	8	63.92	76.62	1.396324	1.92	Insignificant
5	9	63.92	69.60	0.279429	1.92	Insignificant
5	10	63.92	96.62	9.264487	1.92	Significant
5	11	63.92	88.39	5.184903	1.92	Significant
5	12	63.92	42.28	4.053771	1.92	Significant
5	13	63.92	67.49	0.11065	1.92	Insignificant
6	7	92.60	80.84	1.197812	1.92	Insignificant
6	8	92.60	76.62	2.213289	1.92	Significant
6	9	92.60	69.60	4.582871	1.92	Significant
6	10	92.60	96.62	0.140166	1.92	Insignificant
6	11	92.60	88.39	0.153928	1.92	Insignificant
6	12	92.60	42.28	21.92835	1.92	Significant
6	13	92.60	67.49	5.46032	1.92	Significant
7	8	80.84	76.62	0.154659	1.92	Insignificant
7	9	80.84	69.60	1.094782	1.92	Insignificant
7	10	80.84	96.62	2.157473	1.92	Significant
7	11	80.84	88.39	0.492958	1.92	Insignificant
7	12	80.84	42.28	12.87608	1.92	Significant
7	13	80.84	67.49	1.543276	1.92	Insignificant
8	9	76.62	69.60	0.426476	1.92	Insignificant

8	10	76.62	96.62	3.467418	1.92	Significant
8	11	76.62	88.39	1.19985	1.92	Insignificant
8	12	76.62	42.28	10.2084	1.92	Significant
8	13	76.62	67.49	0.720835	1.92	Insignificant
9	10	69.60	96.62	6.325989	1.92	Significant
9	11	69.60	88.39	3.057001	1.92	Significant
9	12	69.60	42.28	6.461804	1.92	Significant
9	13	69.60	67.49	0.038404	1.92	Insignificant
10	11	96.62	88.39	0.587865	1.92	Insignificant
10	12	96.62	42.28	25.57487	1.92	Significant
10	13	96.62	67.49	7.350174	1.92	Significant
11	12	88.39	42.28	18.40784	1.92	Significant
11	13	88.39	67.49	3.780679	1.92	Significant
12	13	42.28	67.49	5.5039	1.92	Significant

Analysis of Variances in Various Learning Competencies in the School Year 2014-2015. To determine if there was a significant level of variances in various learning competencies in the School Year 2014-2015, the data were analyzed using variance analysis formulas as seen in Tables III-A and III-B. The computation revealed an F-value of 3.8523579, which is higher than the critical value of 1.92 at 12 by 78 df and a significance level of 0.05, thus the null hypothesis was rejected. The result indicates that there were significant variances among the different learning competencies. Among the thirteen learning competencies in Filipino, competency number 10, "Uses graphic aids to understand the text," obtained the highest mean score of 96.62, while competency number 12, "Completes school-related forms such as library ID and card," obtained the lowest mean score of 42.28. Out of the thirteen learning competencies, school III scored above the passing rate of 75%, and seven scored below the passing rate of 75%. Despite being at the same level, some learning competencies obtained lower scores.

TABLE V-A DATA FOR ANOVA IN SEVEN ELEMENTARY SCHOOLS, DISTRICT OF BACLAYON REGARDING LEARNING COMPETENCIES FOR E SCHOOL YEAR 2013-2014

	1	2	3	4	5	6	7	Total
N	13	13	13	13	13	13	13	91
Sum	1199.3200	1112.1900	1250.0000	1114.4000	1059.9900	1174.7700	1078.3300	7989
Squares of Sum	1438368.46	1236966.596	1562500	1241887.36	1123578.8	1380084.553	1162795.589	9146181.4
Sum of Squares	110948.9268	96644.6815	122500.0000	96688.4580	90883.9115	107893.8775	101902.1889	727462.04
Mean x	92.26	85.55	96.15	85.72	81.54	90.37	82.95	

TABLE V-B ANOVA TABLE FOR SEVEN ELEMENTARY SCHOOLS, DISTRICT OF BACLAYON REGARDING LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2013-2014

Source of Variation	SS	Df	MS	Computed F	Remarks	Critical Value at 0.05
Column Mean	2188.4453	6	364.74088	1.2814181	>	2.25
Error	23909.632	84	284.63847		Insignificant	
Total	26098.077				Ho: Accept	

Analysis of Variances in Seven Elementary Schools of Baclayon District Regarding Learning Competencies for the School Year 2013-2014. To determine if there was a significant level of variances in various learning competencies for the School Year 2013-2014, the data were analyzed using variance analysis formulas as seen in Tables V-A and V-B. The computation revealed an F-value of 1.2814181, which is lower than the critical value of 2.25 at 6 by 84 df and a significance level of 0.05, thus the null hypothesis was accepted. The result indicates that there were no significant variances in various learning competencies. In the seven elementary schools of Baclayon District for the School Year 2013-2014, School III obtained the highest mean score of 96.15, while School V obtained the lowest mean score of 81.54. All seven elementary schools in Baclayon District scored above the passing rate of 75%. Despite having the same level of learning competencies, some schools obtained lower scores.

TABLE VI-A DATA FOR ANOVA IN SEVEN ELEMENTARY SCHOOLS, DISTRICT OF BACLAYON ON LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2014-2015

	1	2	3	4	5	6	7	Total
N	13	13	13	13	13	13	13	91
Sum	1006.1000	808.7200	846.6600	951.4000	1027.4300	939.0900	831.1200	6410.52

Squares of Sum	1012237.21	654028.04	716833.16	905161.96	1055612.4	881890.03	690760.45	5916523.3
Sum of Squares	86251.1446	58959.6912	71781.6390	77884.4046	93185.6093	82546.5331	66756.3062	53736 5.33
Mean x	77.39	62.21	65.13	73.18	79.03	72.24	63.93	

TABLE VI-B ANOVA TABLE FOR SEVEN ELEMENTARY SCHOOLS, DISTRICT OF BACLAYON ON LEARNING COMPETENCIES FOR THE SCHOOL YEAR 2014-2015

Source of Variation	SS	df	MS	Computed F	Remarks	Critical Value at 0.05
Column Mean	3526.331	6	587.7218	0.60024	>	2.25
Error	82248.15	84	979.1447		Insignificant	
Total	85774.49				Ho: Accept	

Analysis of Variances in Seven Elementary Schools of Baclayon District Regarding Learning Competencies for the School Year 2014-2015. To determine if there was a significant level of variances in various learning competencies for the School Year 2014-2015, the data were analyzed using variance analysis formulas as seen in Tables VI-A and VI-B. The computation revealed an F-value of 0.60024, which is lower than the critical value of 2.25 at 6 by 84 df and a significance level of 0.05, thus the null hypothesis was accepted. The result indicates that there were no significant variances in various learning competencies. In the seven elementary schools of Baclayon District for the School Year 2014-2015, School V obtained the highest mean score of 79.78, while School II obtained the lowest mean score of 62.21. Two out of the seven elementary schools in Baclayon District scored above the passing rate of 75%, while five schools scored below it.

Conclusion

The mean score in all the low-performing schools in the Baclayon District for the School Year 2014-2015 decreased. The mean performance score in the two consecutive School Years in the seven (7) elementary schools of the Baclayon District all decreased in the School Year 2014-2015. The mean NAT score in the Filipino subject in the School Year 2013-2014 was high, and no one scored below 75% passing. In the School Year 2014-2015, the mean NAT score in the Filipino subject decreased, and six (6) of the said schools scored below 75% passing. Competency number 12 (Filling out school forms correctly such as IDs and library cards), competency number 5 (Identifying the main idea, cause, and effect in a story), competency number 4 (Identifying the main idea and important details in the reading material), and competency number 8 (Predicting possible outcomes of events based on the actions of the characters) ranked the lowest. There are competencies where students scored 0.00, while in other competencies, they scored 100.00. This indicates that teachers are lacking in developing specific learning competencies. Upon comparing the National Achievement Test Result (NAT) in the two School Years 2013-2014 and 2014-2015, the lack of emphasis on specific learning competencies in the Filipino subject may have contributed to its low NAT scores. Overall, the outcome of the National Achievement Test (NAT) in the seven (7) low-performing schools of the Baclayon District was low in the School Year 2014-2015.

The decrease in mean scores across all low-performing schools in the Baclayon District, as well as the decline in mean performance scores in consecutive school years, particularly in the Filipino subject, indicates a systemic issue that needs to be addressed urgently. The fact that specific learning competencies, particularly those related to comprehension and critical thinking, ranked the lowest suggests a need for curriculum review and teacher training to ensure these skills are adequately developed among students. Discrepancies in student scores across different learning competencies highlight potential gaps in teaching methods and classroom strategies that need to be addressed to ensure a more uniform and effective learning experience for all students. The decline in National Achievement Test (NAT) scores over consecutive school years underscores the importance of targeted interventions to improve student performance, particularly in the Filipino subject, and to address the underlying issues contributing to the decline in academic outcomes.

Recommendations

Implementing these recommendations can help improve student performance, particularly in the Filipino subject, and address the systemic issues contributing to the decline in academic outcomes in the low-performing schools of the Baclayon District.

1.   Curriculum Review and Teacher Training: Conduct a comprehensive review of the curriculum to ensure that it adequately addresses the specific learning competencies that students are struggling with, particularly those related to comprehension and critical thinking. Provide targeted teacher training to equip educators with the necessary skills and strategies to effectively teach these competencies.

2.   Targeted Interventions for Filipino Subject: Develop targeted interventions aimed at improving student performance in the Filipino subject. This could include additional resources, remedial classes, or tutoring programs focused on enhancing Filipino language proficiency and comprehension skills.

3.   Enhance Teaching Methods and Classroom Strategies: Implement effective teaching methods and classroom strategies to address the gaps in student learning across different competencies. Provide teachers with support and resources to implement these strategies effectively, ensuring a more uniform and effective learning experience for all students.

4.   Community Engagement and Support: Engage parents, community members, and other stakeholders in supporting student learning and academic achievement. Foster strong partnerships between schools and the community to provide additional resources, support services, and learning opportunities for students both inside and outside the classroom.

5.   Continuous Monitoring and Evaluation: Establish a system for continuous monitoring and evaluation of student progress and academic performance. Use data-driven insights to identify areas for improvement and implement targeted interventions to address the underlying issues contributing to the decline in academic outcomes.

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