

Effects of Teacher Professional Development on the Academic Performance of Primary Grade Pupils

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Abstract

This study examined the effects of teacher professional development on the academic performance of primary grade pupils in selected public elementary schools in the District of Taytay, Schools Division Office of Rizal during School Year 2025–2026. Using descriptive survey research design, the study involved 100 primary grade teachers selected from 281 respondents through Slovincs' formula and stratified sampling. A researcher-made questionnaire-checklist and documentary analysis of pupils' quarterly grades were used to gather data on teachers' perceptions and pupils' academic performance. Findings revealed that respondents were mostly 31–50 years old, female, married, and holders of master's degrees, with majority serving as Teacher I for 10–14 years. Results indicated that teacher professional development had a very high effect on pupils' interest in learning, literacy and numeracy development, engagement and participation, and assessment and remediation. No significant differences were found based on age, sex, and educational attainment, while significant differences emerged in position title, length of service, and trainings attended. Pupils' academic performance was rated satisfactory, and a significant relationship was found between teacher professional development and pupils' academic performance across all indicators. The study concludes that teacher professional development significantly influences pupils' academic performance, particularly when supported by relevant experience and continuous training opportunities. It is recommended that school administrators strengthen professional development programs, provide training support, and implement remedial interventions to enhance pupil learning outcomes. Further studies are encouraged to explore additional variables affecting teacher effectiveness and learner achievement. Moreover, sustained institutional support and capacity-building initiatives are essential to ensure continuous improvement in instructional practices and learner achievement. These findings emphasize the value of continuous professional learning in enhancing teacher effectiveness and learner achievement.

Keywords: Teacher Professional Development, Academic Performance, Primary Grade Pupils, Descriptive Survey, Instructional Effectiveness, Literacy and Numeracy, Educational Management

Introduction

Education is widely recognized as a powerful tool that shapes the future of individuals and societies. It serves as a lifelong process and a fundamental foundation for human development, contributing significantly to personal success and national development. As a key indicator of progress, education aims to produce competent human resources capable of addressing social, economic, and developmental challenges.

Within the educational system, teachers are regarded as central agents of learning who directly influence the quality of instruction and the academic development of learners. They are responsible for facilitating learning, managing classroom instruction, and ensuring that students acquire essential knowledge and skills. In this regard, teachers play a vital role in improving learners' academic performance, engagement, and overall educational outcomes.

In accordance with the Code of Ethics for Professional Teachers (Article IV, Sections 1–3), educators are expected to uphold the dignity of the profession, maintain high standards of teaching, and continuously engage in professional growth through continuing professional education and development activities. Likewise, DepEd Order No. 034, s. 2025 (Expanded Career Progression System) emphasizes a merit- and competency-based promotion framework, where teacher advancement is based on qualifications, competencies, and performance rather than length of service alone. These policies highlight the importance of continuous professional development (CPD) in strengthening teaching quality and educational outcomes.

Teacher professional development refers to structured and ongoing learning opportunities designed to enhance teachers' knowledge, pedagogical skills, and instructional effectiveness. These include seminars, workshops, training programs, graduate studies, mentoring, and collaborative professional learning communities. Effective professional development has been shown to improve teachers' instructional practices, classroom management, and confidence, which in turn positively affect student engagement and learning outcomes.

Empirical studies consistently emphasize the importance of teacher professional development in improving student achievement. International literature reveals that teachers who participate in continuous professional learning are more effective in delivering instruction and supporting diverse learners. For instance, Puspita and Lestari (2025) found that teacher professional competence significantly enhances students' learning interest, as students become more engaged when teachers apply interactive and meaningful instructional strategies. Similarly, Heriel (2025) reported that in-service training improves teachers' pedagogical skills, particularly in literacy and numeracy instruction, resulting in better foundational learning outcomes among pupils. Further supporting this, Letanzio (2023) demonstrated a significant relationship between continuing professional development and learners' academic performance, indicating that improved teacher competencies directly contribute to better student outcomes. Likewise, Osei-Owusu (2022) found that professional development enhances teachers' professional knowledge, which serves as a mediating factor in improving student academic achievement. These studies collectively suggest that teacher learning and growth are strongly linked to learner performance.

Local studies further reinforce these findings. Miñoza et al. (2025) found that teachers play a critical role in addressing learners' difficulties in literacy and numeracy, emphasizing the need for continuous training to improve instructional strategies. Similarly, Tulo and Lee (2022) identified limited participation in CPD activities among teacher educators, suggesting gaps in access and engagement in professional learning opportunities. Camral and Sumayo (2023) also reported that while teachers demonstrate pedagogical competence, their engagement in CPD activities varies, particularly in action research and advanced training programs. Moreover, Biasong (2023) revealed that demographic factors such as sex, civil status, and educational attainment have minimal influence on teachers' professional development, while age showed some significance. On the other hand, Reambonanza and Tan (2022) found that teachers' participation in professional development activities is significantly related to their teaching performance, with competencies emerging as a strong predictor of instructional effectiveness. These local studies highlight both the benefits of professional development and the inconsistencies in teacher participation and implementation.

Despite the growing body of literature emphasizing the importance of teacher professional development, most studies focus either on teacher competencies or student performance in isolation. There is limited empirical evidence directly examining how teachers' participation in professional development activities translates into the academic performance of primary grade pupils, particularly within localized contexts such as public elementary schools in the District of Taytay, Rizal. Furthermore, existing studies often focus on general academic outcomes without disaggregating the specific dimensions of learner performance, such as interest in learning, literacy and numeracy development, engagement and participation, and assessment and remediation. There is also limited research examining how teachers' demographic and professional characteristics influence their perception of the effects of professional development on pupil achievement.

This gap highlights the need for localized, context-specific research that directly examines the relationship between teacher professional development and primary pupils' academic performance. Addressing this gap is essential to provide evidence-based insights that can guide the design and implementation of more effective professional development programs. Ultimately, this study aims to contribute to improving instructional practices and enhancing learner achievement in public elementary schools.

Material and methods

2.1 Research Design

The study employed the descriptive method of research utilizing a questionnaire-checklist in gathering the needed data.

2.2 Locale of the Study

The study was conducted in selected public elementary schools in the District of Taytay, Schools Division Office of Rizal. These schools include Bagong Pag-Asa Elementary School, Dolores Elementary School, Kapalaran Elementary School, Muzon Elementary School, Rosario Ocampo Elementary School, San Francisco Elementary School, and San Juan Elementary School. These schools offer complete elementary education from kindergarten level up to grade six level.

2.3 Respondents of the Study

The respondents of the study consisted of primary grade teachers from the selected public elementary schools in the District of Taytay. This consist of 100 out of 281 teachers

2.4 Sample and Sampling Procedure

The sample size was determined using Slovincs' formula and were chosen using stratified sampling technique. They were described in terms of age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended.

2.5 Research Instrument

The study utilized a researcher-made questionnaire-checklist to gather the needed data. Part I of the instrument collected the respondents' personal profile, including age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended. Part II focused on the effects of teacher professional development on the academic performance of primary grade pupils in terms of interest in learning, literacy and numeracy development, engagement and participation, and assessment and remediation, with each indicator consisting of ten items for a total of 40 items. Responses were rated using a five-point Likert scale ranging from 1 (Never/Least Effect) to 5 (Always/Very High Effect). In addition, pupils' academic performance was determined through their first and second quarter average grades, interpreted using a grading scale from "Did Not Meet Expectations" to "Outstanding." The instrument underwent content validation by experts in research and education, including the thesis adviser, statistician, professorial lecturers, school principal, master teacher, and the dean of the Graduate Studies Program, whose feedback and recommendations were incorporated to ensure clarity, validity, and reliability of the questionnaire.

2.6 Data Gathering Procedure

The researcher followed the sequence of activities outlined in the Gantt Chart of Activities, starting with the submission of proposed titles, the title defense, and the preparation of Chapters 1 to 3. Upon completing the initial drafts of these chapters, a thorough review of related literature and studies was conducted to reinforce the theoretical and conceptual framework of the research. Following the colloquium, comments, suggestions, and necessary revisions were incorporated before moving on to the next phases of the study. Subsequently, the researcher prepared the questionnaire-checklist. Once the instrument was validated, permission to conduct the study was secured from the appropriate authorities. The questionnaire-checklist was then administered to the respondents using both Google Forms for some schools and hard copies for other schools, with adherence to the guidelines of the Data Privacy Act. Upon retrieval of the responses, the data were encoded and processed using the Statistical Package for Social Sciences (SPSS). Analysis and interpretation were carried out in accordance with the sub-problems of the study. A summary of findings, conclusions, and recommendations was then formulated. Following the oral defense, revisions were made to the manuscript in consideration of the suggestions and comments from the Oral Examination Committee. The finalized manuscript underwent an anti-plagiarism check at the statistical center. Once completed, hardbound copies were submitted to the Office of the Graduate Studies Program and other concerned offices.

2.7 Data Analysis Techniques

For the statistical treatment of data, several statistical tools were employed to analyze and interpret the gathered information. Frequency, percentage, and rank distribution were used to describe the profile of the respondents in terms of age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended. The weighted mean was utilized to determine the extent of the effects of teacher professional development on the academic performance of primary grade pupils in terms of interest in learning, literacy and numeracy development, engagement and participation, and assessment and remediation. To test whether significant differences exist in the perceived effects of teacher professional development when grouped according to respondents' profile variables, a one-way analysis of variance (ANOVA) was applied. Meanwhile, the level of academic performance of primary grade pupils, based on their first and second quarter average grades, was analyzed using mean, frequency, and percentage distribution. Finally, Pearson correlation analysis was used to determine the significant relationship between the perceived effects of teacher professional development and the academic performance of primary grade pupils.

2.8 Ethical Considerations

This study strictly adhered to ethical standards in the conduct of research. Prior to data collection, permission was sought from the school authorities and concerned officials to ensure proper coordination and approval. The respondents were informed about the purpose of the study, and their participation was entirely voluntary. Informed consent was obtained, assuring them that they could withdraw from the study at any time without any consequences. Confidentiality and anonymity of the respondents were strictly maintained by not disclosing their identities and ensuring that all collected data were used solely for academic purposes. Additionally, the researcher ensured that no harm, discomfort, or bias would affect the participants throughout the process. All information gathered was treated with utmost respect and integrity, and results were presented honestly and objectively.

Results and Discussion

3.1 Profile of the Respondents in Terms of the Selected Variables

As shown in the table, in terms of age, 37 % are 31-40 years old, 36 % are 41-50 years old and the rest are 21-30 years old and 51 years old and above with 15.0% and 12.0 % respectively. In terms of sex, 96.0 % are females while 4.0 % are males. In terms of civil status, most of them are married with 67.0 %, 28.0% are single while the rest are widow/widower and separated/annulled at 4.0 and 1.0, respectively. In terms of educational attainment, 40.0 % have finished their masters' degree and 39.0 % are Bachelor's degree holder. As to their position title, majority holds Teacher I position at 51.0 %. With regards to their length of service, 25.0 % have been in the service for 10-14 years while 9.0 % have been in the service

for 25 years and above. With regards to their in-service trainings attended, 30.0 % have attended in the division level, 23.0 % in the national level, 13.0 % in the district and regional level and the rest have attended in the school level at 9.0 %

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

Age	F	%	R
51 years old and above	12	12.0	4
41 – 50 years old	36	36.0	2
31 – 40 years old	37	37.0	1
21 – 30 years old	15	15.0	3
Total	100	100.0	
Sex	F	%	R
Male	4	4.0	2
Female	96	96.0	1
Total	100	100.0	
Civil Status	F	%	R
Single	28	28.0	2
Married	67	67.0	1
Separated / Annulled	1	1.0	4
Widow / Widower	4	4.0	3
Total	100	100.0	
Educational Attainment	F	%	R
Doctorate Degree	4	4.0	5
MA with Doctorate units	5	5.0	4
Master's Degree	40	40.0	1
With MA units	12	12.0	3
Bachelor's Degree	39	39.0	2
Total	100	100.0	
Position Title	F	%	R
Master Teacher III	2	2.0	5.5
Master Teacher I	16	16.0	3
Teacher VI	1	1.0	7.5
Teacher V	1	1.0	7.5
Teacher IV	2	2.0	5.5
Teacher III	24	24.0	2
Teacher II	3	3.0	4
Teacher I	51	51.0	1
Total	100	100.0	
Length of Service	F	%	R
25 years and above	9	9.0	6
20 – 24 years	14	14.0	4
15 – 19 years	21	21.0	2
10 – 14 years	25	25.0	1
5 – 9 years	19	19.0	3
Below 5 years	12	12.0	5
Total	100	100.0	
In-Service Trainings Attended			
International Level	12	12.0	5
National Level	23	23.0	2
Regional Level	13	13.0	3.5
Division Level	30	30.0	1
District Level	13	13.0	3.5
School Level	9	9.0	6
Total	100	100.0	

3.2 Extent of the Effects of Teacher Professional Development on the Academic Performance of Primary Grade Pupils as Perceived by Themselves with Respect to Interest in Learning, Literacy and Numeracy Development, Engagement and Participation, and Assessment and Remediation

As gleaned from the table, the composite weighted mean obtained is 4.51 verbally interpreted as Always (Very High Effect). First in rank is Interest in Learning with a weighted mean of 4.53. Meanwhile tied at rank 2 are Literacy and Numeracy Development and Engagement and Participation with a weighted mean of 4.51. Meanwhile, Assessment and Remediation ranked last with a weighted mean of 4.50. All aspects have a verbal interpretation of Always (Very High Effect). It could be deduced from the results that teacher professional development has very high effect on the academic performance of primary grade pupils across the four aspects. This means that respondents consistently perceive professional development as highly effective in enhancing pupil academic performance. Professional development has the greatest impact on motivating pupils and fostering their curiosity and engagement in classroom activities. Their trainings equip them to strengthen foundational skills, encourage active involvement, and create a stimulating learning environment. Furthermore, professional development enhances teachers' ability to diagnose learning gaps, provide targeted support, and monitor pupil progress effectively. Findings imply that teacher professional development consistently contributes to improving multiple dimensions of pupil performance, equipping teachers with the skills, strategies, and confidence needed to foster learning, engagement, and academic growth. This is parallel with the citations of Taylor (2023) that teachers must continuously engage in professional learning to enhance their knowledge and instructional skills. Continuous professional development enables educators to remain effective in addressing diverse learning needs of students.

Table 2

Extent of the Effects of Teacher Professional Development on the Academic Performance of Primary Grade Pupils as Perceived by Themselves with Respect to Interest in Learning, Literacy and Numeracy Development, Engagement and Participation, and Assessment and Remediation

Aspects	W $\bar{X}$	Verbal Interpretation	Rank
Interest in Learning	4.53	Always (Very High Effect)	1
Literacy and Numeracy Development	4.51	Always (Very High Effect)	2.5
Engagement and Participation	4.51	Always (Very High Effect)	2.5
Assessment and Remediation	4.50	Always (Very High Effect)	4
Composite W$\bar{X}$	4.51	Always (Very High Effect)	

3.3 Significant Difference on the Extent of Effects of Teacher Professional Development on the Academic Performance of Primary Grade Pupils as Perceived by Themselves with Respect to the Different Aspects in Terms of their Profile

Table 3 shows that there is no significant difference in the extent of the effects of teacher professional development on the academic performance of primary grade pupils as perceived by teachers when grouped according to age, sex, and educational attainment, as most p-values are greater than 0.05; however, significant differences were found in terms of position title, length of service, and in-service trainings attended across all indicators, as well as in specific areas such as engagement and participation in terms of age and literacy and numeracy development in terms of educational attainment, since their p-values are less than 0.05. This implies that teachers generally share similar perceptions regardless of basic demographic characteristics, but those with different professional roles, longer teaching experience, and greater exposure to training tend to vary significantly in how they perceive the impact of professional development on pupils' academic performance. Overall, the findings suggest that professional experience and training play a more influential role than personal characteristics in shaping teachers' perceptions, indicating the importance of continuous professional development programs in enhancing teachers' understanding of their impact on pupils' learning outcomes.

Table 3

Significant Difference on the Extent of Effects of Teacher Professional Development on the Academic Performance of Primary Grade Pupils as Perceived by Themselves with Respect to the Different Aspects in Terms of their Profile

Aspects/Profile	F-value	p-value	Ho	Verbal Interpretation
Age				
Interest in Learning	2.222	0.090	Accepted	Not Significant
Literacy and Numeracy Development	2.339	0.078	Accepted	Not Significant
Engagement and Participation	3.651	0.015	Rejected	Significant

Assessment and Remediation	1.167	0.326	Accepted	Not Significant
Sex				
Interest in Learning	1.167	0.326	Accepted	Not Significant
Literacy and Numeracy Development	1.044	0.309	Accepted	Not Significant
Engagement and Participation	0.984	0.324	Accepted	Not Significant
Assessment and Remediation	1.081	0.301	Accepted	Not Significant
Educational Attainment				
Interest in Learning	2.037	0.114	Accepted	Not Significant
Literacy and Numeracy Development	2.939	0.037	Rejected	Significant
Engagement and Participation	1.321	0.272	Accepted	Not Significant
Assessment and Remediation	1.117	0.346	Accepted	Not Significant
Position Title				
Interest in Learning	7.967	0.000	Rejected	Significant
Literacy and Numeracy Development	7.758	0.000	Rejected	Significant
Engagement and Participation	6.799	0.000	Rejected	Significant
Assessment and Remediation	7.526	0.000	Rejected	Significant
length of service				
Interest in Learning	2.936	0.017	Rejected	Significant
Literacy and Numeracy Development	4.657	0.001	Rejected	Significant
Engagement and Participation	3.603	0.005	Rejected	Significant
Assessment and Remediation	3.310	0.009	Rejected	Significant
In-Service Trainings Attended				
Interest in Learning	8.398	0.000	Rejected	Significant
Literacy and Numeracy Development	10.736	0.000	Rejected	Significant
Engagement and Participation	9.225	0.000	Rejected	Significant
Assessment and Remediation	10.756	0.000	Rejected	Significant

3.4 Level of Academic Performance of Primary Grade Pupils as Revealed by Their Average Grades in the First and Second Quarters

It can be gleaned from the table that most primary grade pupils obtained satisfactory academic performance, with average grades ranging from 80–84 in both the first and second quarters. The overall mean score of 83.07 further indicates a satisfactory level of performance among the pupils. This suggests that learners demonstrate an adequate understanding and mastery of the competencies taught in class. The findings also imply that effective teaching practices, supported by teacher professional development, may have contributed to pupils' satisfactory academic achievement. However, while pupils are generally meeting the expected academic standards, the results also indicate room for improvement. This suggests the need for continued enhancement of instructional strategies, the provision of enrichment activities for high-performing learners, and the implementation of targeted remediation for those who are struggling. Strengthening teaching practices and learning support systems may further improve pupils' mastery of competencies and help increase the number of learners achieving very satisfactory or outstanding performance levels.

Table 4

Level of Academic Performance of Primary Grade Pupils as Revealed by Their Average Grades in the First and Second Quarter

Grades	Verbal Interpretation	f	%
90 and above	Outstanding	-	-
85 – 89	Very Satisfactory	30	30
80 – 84	Satisfactory	67	67
75 – 79	Fairly Satisfactory	3	3
below 75	Did not meet expectations	-	-
Total		100	100.0
Highest Score		89	
Lowest Score		79	
Mean		83.07 - Satisfactory	
Standard Deviation		1.92	

3.5 Significant Relationship Between the Extent of Effects of Teacher Professional Development and the Level of Academic Performance of Primary Grade Pupils

The table shows that all obtained p-values are below 0.05 across the cited aspects, leading to the rejection of the null hypothesis, which states that there is no significant relationship between the extent of effects of teacher professional development and the academic performance of primary grade pupils. As reflected in Table 10, significant positive relationships were found between teacher professional development and all indicators, namely interest in learning ($r = .574$, $p = .000$), literacy and numeracy development ($r = .539$, $p = .000$), engagement and participation ($r = .505$, $p = .000$), and assessment and remediation ($r = .504$, $p = .000$). These results indicate that higher levels of teacher professional development are associated with better academic performance of primary grade pupils across all measured dimensions. This implies that as teachers enhance their professional competencies through continuous learning, training, and development activities, they become more effective in fostering pupils' interest, strengthening foundational skills, promoting active classroom participation, and providing appropriate assessment and remediation strategies. Overall, the findings highlight the essential role of teacher professional development in improving and sustaining pupils' academic achievement in primary education.

Table 5

Significant Relationship Between the Extent of Effects of Teacher Professional Development and the Level of Academic Performance of Primary Grade Pupils

Aspects	r-values	p-values	Ho	Verbal Interpretation
Interest in Learning	.574	.000	Rejected	Significant
Literacy and Numeracy Development	.539	.000	Rejected	Significant
Engagement and Participation	.505	.000	Rejected	Significant
Assessment and Remediation	.504	.000	Rejected	Significant

Conclusion & Recommendations

Based on the findings of the study, it is concluded that teachers' age, sex, and educational attainment do not significantly influence their perceptions on the extent of effects of teacher professional development on the academic performance of primary grade pupils in terms of interest in learning, literacy and numeracy development, engagement and participation, and assessment and remediation. However, position title, length of service, and in-service trainings attended were found to have significant influence, indicating that professional experience and exposure to continuous training play a more important role in shaping teachers' perceptions. In addition, age and educational attainment were found to have limited contributory effects in specific areas such as engagement and participation, and literacy and numeracy development, suggesting that some demographic and professional factors may still have selective influence.

Furthermore, it is concluded that there is a significant relationship between teacher professional development and the academic performance of primary grade pupils across all indicators, namely interest in learning, literacy and numeracy development, engagement and participation, and assessment and remediation. This implies that stronger engagement in professional development is associated with improved learner outcomes. Based on these conclusions, it is recommended that school administrators strengthen the implementation of regular seminars, workshops, and in-service training programs to enhance teachers' instructional competencies. Teachers should also be provided with training support and encouraged to pursue continuous professional growth, while remedial and enrichment programs should be implemented to further improve pupils' academic performance.

Compliance with ethical standards

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