

# The Effect of Teacher Qualifications on Learners' Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia

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doi: <https://doi.org/10.37745/bjmas.2022.04255>

Published March 07, 2025

**Citation:** Moyo S. & Mwanza D.S. (2025) The Effect of Teacher Qualifications on Learners' Reading Achievement in Multilingual Learning Contexts of Livingstone District in Zambia, *British Journal of Multidisciplinary and Advanced Studies*, 6(2),21-37

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**Abstract:** *The study investigated effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts of Livingstone District. The study used a quantitative approach and adopted an experimental design on three grade 1 teachers who were holding different qualifications in the same school and district. The study variables included phonemic awareness, phonics, fluency, vocabulary and comprehension. The study found that learners taught by the teacher with a Bachelor's in Primary Education and a Primary Teacher's Diploma achieved the highest post test scores (Cohen's  $d = 1.33$ ), followed by those instructed by the teacher with a Primary Teacher's Diploma only (Cohen's  $d = 0.85$ ) while the lowest performance was recorded by the class taught by the teacher with a Bachelor's Degree in English Language and History (Cohen's  $d = 0.84$ ). These results suggest that specialised training in primary education, particularly at the bachelor's level, provides teachers with more superior pedagogical competences necessary for effective literacy instruction in multilingual learning contexts. The study recommended that primary schools should strengthen Continuing Professional Development (CPD) through tailored initiatives. These initiatives could include classroom demonstrations, collaborative workshops, and mentorship opportunities, all aimed at improving teachers' instructional strategies.*

**Key words:** teacher professional qualifications, learners' reading achievement, multilingual classes, Livingstone District

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## INTRODUCTION

The implementation of this bilingual educational approach aligns with Zambia's National Literacy Framework (NLF) of 2013, which provides a comprehensive strategy for literacy instruction. The NLF emphasises the importance of acquiring foundational literacy skills in a familiar language to enhance reading proficiency and overall learning outcomes. Similarly, the 1996 national policy on education, *Educating Our Future*, underscores the significance of

early literacy acquisition in facilitating long-term academic achievement. Reading, as a foundational skill, is central to all areas of learning, making its effective instruction a critical priority in Zambia's educational system.

A study by Suwandi & Wardhani (2023) looked at audio research to improve the quality of reading learning for elementary school students affected by the Mount Sinabung disaster in the Siosar Shelter area, Indonesia. Data were collected through tests, observations, analysis of documents and interviews. Data analysis was carried out quantitatively and qualitatively. The results of the study showed that the quality and process of reading results improved after the action (the average initial condition of 52.23 increased to 81.06). The findings were reinforced by T-test results that showed that there were significant differences in reading competence in pre-action and in the post-action and the results of the second cycle actions.

Shenoy, Lyer & Zahedi (2022) conducted a study to examine how phonics-based instruction with early English literacy outcomes for students in kindergarten. Their sample comprised 627 students attending a private middle cost school in Mumbai, India where the language of instruction was English. Students were tested for early literacy skills in kindergarten using the DIBELSNext benchmarking measures. They compared groups of students who received no phonics (n = 165) to students who received one year of phonics (n = 234) and students who received two years of phonics (n = 228) respectively. Their results suggested that students who received both one and two years of phonics instruction in preschool significantly outperformed those who did not receive any phonics instruction on all the skills assessed.

Nyimbili (2021) study assessed the impact of translanguaging as pedagogical practice on literacy levels among Grade One learners in multilingual classrooms of Lundazi District of Zambia. Quantitative data from the tests was analysed using SPSS version 21 and a Levene's test provided the means and compared them to understand the significance of the results in the study. Qualitative data was analysed thematically. The study findings revealed that the Post experimental test results showed higher average mean scores for the experimental group (M=15.10) than the control group (M=11.71). The Cohen's  $d=0.98$  for the post-test showed the large effect size above .8. The performance of learners in the experimental group was significantly different from the control group [ $t(52.960) = 4.454, p < 0.001$ ]. Thus, the difference in literacy performance can be attributed to the translanguaging practices which were used to teach literacy in the experimental class thereby linking this to teacher competences.

Nambao & Mwanza (2023) conducted a study to establish the teachers' views on teaching oral reading fluency in grade 5. A phenomenological research design was used in this study because the research question called for interaction with the participants in their environment. The study found that teachers held a view that Oral Reading Fluency (ORF) is a skill that can only be taught in lower primary grades (1-4) and not in upper primary grades (5-6). Teachers have the content knowledge of ORF but lack the pedagogical knowledge to teach fluency to Grade 5 learners. Teachers acknowledge the importance of ORF but deny its power on struggling learners in Grade 5 classrooms. Therefore, non-teaching of oral reading fluency in

Grade 5 might be an explanation to why learners still face challenges comprehending what they read in the Zambian primary schools.

Other studies like Moats (2023) emphasised on the critical role of teacher expertise in early reading development. The study argues that teachers with higher specialized qualifications are better equipped to implement evidence based practices, which in turn lead to more effective phonemic awareness instruction. In addition, McNally (2022) emphasised the importance of teacher qualifications in delivering systematic phonics instruction. The study stated that phonics is a key component for teaching literacy in lower primary schools and this is a key competence which a teacher should possess. This should be coupled with the fact that teachers need training on inclusive language practices and language support strategies Njekwa and Nyimbili (2025) if teachers are to be relevant in the multilingual classes.

Meanwhile, Wilden, Porscho, and Schurig (2020) demonstrated that a qualified teacher with a higher qualification in the lower primary was better placed to teach vocabulary and fluency in the primary schools than a seasoned unqualified teacher. Further, Porter (2023) argued that teachers with greater expertise in early reading are better positioned to foster fluency in learners, which is critical for reading development. Also, Yasin (2021) said that the performance of pupils having teachers with high teacher qualifications was higher than the performance of pupils taught by teachers with low and moderate teacher qualifications (61%,  $S = 21.48$ ). Further, MOE (2013) recorded that qualified teachers in the relevant sector should be employed as teachers to enable them to teach the five principles of literacy in the Zambian curriculum. These arguments were not based on learners and teachers in Livingstone town.

A study by Nametkulova (2023) assessed the Technological Pedagogical Content Knowledge (TPACK) levels and teaching self-efficacy of 217 primary school teachers in Kazakhstan. Utilizing descriptive and correlational analysis, the findings revealed a statistically significant positive correlation ( $r = 0.76$ ,  $p < 0.05$ ) between teachers' professional qualifications and their TPACK levels. Teachers with postgraduate qualifications demonstrated greater proficiency in integrating technology into pedagogy, which also enhanced their teaching confidence and self-efficacy. To this, Kirsch et al. (2020) stated that targeted professional development enhances teachers' instructional strategies and, by extension, learner outcomes. To the contrary, Lubumbe (2024) found the despite some secondary school teachers being qualified, they did not impart the necessary reading comprehension skills in totality. In support, Mkandawire (2022) indicated that the low performance in reading comprehension included lack of knowledge by some teachers on the procedure for teaching reading comprehension and therefore, taught poorly.

The Expert theory by Ericsson (1993) especially the first two principles on Deliberate Practice and Domain-Specificity. The study findings and discussion highlight the importance of appreciating efforts in skill mastery by the teachers because this is what makes them produce better products unlike the untrained teachers. Theoretically, David (1980) argued that an expert should be distinguished from a novice because an expert acquires experience and

contextual knowledge to contribute to teaching expertise while a person who is not trained cannot contribute relevant knowledge to the profession.

The literature consistently underscores the pivotal role of teacher competence in shaping educational outcomes. Research has shown that teacher competence significantly influences learner achievement, particularly in foundational skills such as reading. For instance, Nye, Konstantopoulos, and Hedges (2004) found that teacher competence accounts for over 20% of the variance in student achievement. Similarly, studies conducted in Sweden (Johansson, Myrberg, & Rosén, 2015) and Germany (Kiemer et al., 2020) demonstrated a strong correlation between teacher competence and learners' reading achievement. These studies highlight the importance of teacher content knowledge, a deep understanding of the subject matter and pedagogical knowledge, the application of effective teaching strategies in fostering learner success.

In Zambia, Mwewa (2012) established a positive association between teachers' pedagogical content knowledge in mathematics and student achievement, further emphasizing the critical role of teacher competence in driving learning outcomes. Mulenga and Sampa (2019) found that Zambian teachers with robust pedagogical knowledge were more effective in engaging learners in reading activities, particularly in multilingual settings. These teachers employed differentiated instruction and culturally relevant materials to address the diverse linguistic needs of their students. Despite these efforts, it was found that a research gap remained regarding the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts. Therefore, the purpose of this paper was to investigate the effect of teacher professional qualifications on learners' reading achievement in multilingual learning contexts in the primary schools of Livingstone town in Zambia.

The study research question was: What are the effects of teacher professional qualifications on learners' reading achievement in multilingual learning contexts in the primary schools of Livingstone town in Zambia?

## **Methodology**

The study used a quantitative approach and used an experimental design to examine the effects of teacher professional qualifications on learners' reading achievement in multilingual learning contexts in the primary schools of Livingstone town in Zambia. The study sample was three teachers teaching the same grade but with different qualifications and 120 pupils.

### **Sampling.**

The study employed purposive sampling to ensure that the extraneous variables like teacher factor, school environment, administrative support and teaching and learning materials are taken care of. The study targeted schools which had three streams of grade 1 in the primary and these classes should be handled by different teachers of the same gender and different linguistic background. Furthermore, the teachers' qualifications were a critical factor in the selection process. The first teacher was required to hold both a diploma and a primary degree;

the second teacher needed to possess only a primary diploma; and the third teacher had to have a primary diploma and a degree in any field. After thorough consideration, only one school met these specific criteria. Consequently, this school was selected using the maximum variation sampling technique (Nyimbili & Nyimbili, 2024).

**Table 1: The characteristics of the sampled teachers are described below:**

Teacher Identity	Sex	Initial Qualification
X	F	Primary Teachers Diploma & Bachelor's Degree in Primary Education
Y	F	Primary Diploma only
Z	F	Primary Teachers Diploma & Bachelor Degree in Secondary School Teaching (English and History)

**Table 2: The description of the three classes is as given below:**

Class Identity	Assigned Teacher	Number of Sampled Learners
A	X	40
B	Y	40
C	Z	40
<b>TOTAL</b>	<b>3</b>	<b>120</b>

The sample population for the study consisted of 123 respondents: 120 pupils and 3 teachers. Grade 1A was taught by Teacher X, whose highest qualification was a Bachelor in Primary Education. Teacher Y, responsible for Grade 1B, held a Diploma in Primary Education, while Grade 1C was handled by Teacher Z, whose highest qualification was a Bachelor in secondary Education -English Language and History. All three classes and their respective teachers were included in the study to ensure a comprehensive approach to data collection. This sampling method allowed for a more holistic understanding of literacy education practices and outcomes for Grade 1 learners, facilitating the generalisation of the findings to similar educational settings. This, in turn, provided valuable insights into the factors influencing early literacy achievement in multilingual learning contexts.

### Research instrument

To assess the initial literacy competence of learners, a standardised literacy test was used because these are the tests which are set by the ministry and are administered to all learners in a region at the same time. A pre-test was administered across all three classes in January 2024. This pre-test was essential for establishing the baseline literacy skills of the learners in the sampled classes. It evaluated five key literacy competencies: *phonemic awareness*, *phonics*, *fluency*, *vocabulary*, and *comprehension*.

Following the pre-test, the sampled learners underwent literacy instruction as part of the treatment. A post-test was then conducted in November 2024 to evaluate the impact of this



instruction. The post test was designed to assess the same literacy competences as the pre-test to ensure comparability of results. To analyse the data, the paired samples t-test also known as the dependent t-test was employed. This statistical test is used to compare measurements from the same group at two different points in time, such as before and after an intervention. It determines whether the average difference between the two sets of measurements is significantly different from zero. The paired samples t-test is particularly appropriate for situations where the same participants are involved in both conditions, as it accounts for the fact that the observations are paired within individuals rather than being independent.

To ensure validity, all assessments were conducted under similar conditions, and external variables such as the effect of teacher qualification, instructional time, and classroom environment were kept consistent throughout the study. The school environment also the same because all the three classes were from the same school. Further, the learner characteristics and home environment were the same because learners came from the same residential areas. This control was important for ensuring that the changes observed in literacy competences were genuinely due to the literacy instruction and no other extraneous factors.

### **Data Analysis**

In this study, inferential statistics were employed to analyse the effect of teacher qualification on learner reading achievement, based on pretest and post test results. The Statistical Package for Social Sciences (SPSS), version 27, was utilised for data analysis. The data analysis procedure was structured as follows:

1. **Descriptive Statistics:** The researchers calculated the mean and standard deviation of learner reading achievement scores to provide a comprehensive summary of the data distribution against the qualification of teachers.
2. **Size Effect:** To provide a more comprehensive understanding of the results obtained from the mean and standard deviation, the effect size was calculated for each competence across all three classes. The calculation of the effect size helps to determine the magnitude of the difference between groups in a standardised way. Cohen's d formula was employed for this purpose. The effect size is obtained by calculating the difference of the means and dividing the quotient by the standard deviation.

## **FINDINGS AND DISCUSSION**

### **Effect of Teacher Professional Qualifications on Learners' Reading Achievement in Multilingual Learning Contexts**

The findings are presented and discussed in this section regarding the effect of teacher professional qualifications on learner's reading achievements in multilingual learning contexts in Livingstone district. The findings are presented in line with the thematic areas of discussion as phonemic awareness, phonics, fluency, vocabulary and comprehension. All these factors are discussed in line with the effects they present to the learner's reading

achievements and the classroom outcomes and are lined to the teacher's professional qualifications.

### Phonemic Awareness

The summary of the mean and effect size difference of learners in phonemic awareness for the three classes is presented below:

**Table: 3 Paired Sample Test: Phonemic Awareness**

		Paired Differences					t	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Teacher X	Pretest – Post test	-27.25	21.12	3.34	-0.0047	-20.50	-8.16	39	0.000	1.29
Teacher Y	Pretest – Post test	-11.75	28.45	4.50	-20.85	-2.65	-2.61	39	0.013	0.41
Teacher Z	Pretest-Post test	-14.5	24.80	3.92	-22.43	-6.57	-3.70	39	0.001	0.58

The paired samples test for the three classes is presented. Class 1 A, by teacher X, had the mean difference between the pretest and post test scores of -27.25, with a standard deviation of 21.12 and a standard error mean of 3.34. The 95% confidence interval of the difference ranged from -20.50 to -8.16. Class B taught by teacher Y had the mean difference between pretest and post test scores was -11.75, accompanied by a standard deviation of 28.45 and a standard error mean of 4.50. The 95% confidence interval of the difference spanned from -20.85 to -2.65. Similarly, for Class 1C, the mean difference observed between pretest and post test scores was -14.50, with a standard deviation of 24.80 and a standard error mean of 3.92. The 95% confidence interval of the difference extended from -22.43 to -6.57. The test results for all three classes also included respective t-values, degrees of freedom, and significance levels.

The findings regarding phonemic awareness revealed notable variations in learner performance across the three classes, each taught by a teacher with different professional qualifications. The paired samples test results show that Teacher X, with a bachelor's degree in Primary and a primary teachers' diploma, achieved the most substantial improvement in learners' phonemic awareness, with a large effect size (Cohen's  $d = 1.29$ ). This highlights the importance of specialised training in primary education, which significantly enhanced the

learners' phonemic awareness. Teacher X's qualifications in primary education appear to have equipped them with the necessary pedagogical tools to effectively teach phonemic awareness, leading to significant improvements in learner achievement.

Teacher Y, who holds a Primary Diploma, showed the smallest but still significant improvement (Cohen's  $d = 0.41$ ). This result indicates that although Teacher Y's qualifications in primary teachers' diploma, the basic knowledge acquired contributed to the learner's reading achievement to some extent. Teacher Z, despite holding a primary teacher's diploma and Bachelor's degree in English Language/History played, showed a moderate improvement (Cohen's  $d = 0.58$ ), which was better than teacher Y suggesting that while expertise in a role in improving phonemic awareness, the qualification might have added little effect to the delivery of the content and knowledge in the primary schools. This performance therefore dispels the common misconception that knowledge of language or linguistics is the same as expertise in literacy.

The findings of the study are supported by Yasin (2021) who established that teacher qualifications have a significant effect on the academic performance of pupils in public primary schools in Hargeisa,  $F_0 = 15.838 > F(2,157) = 3.06$ ;  $p = .000$ ). The study argued that the formal education, experience and certification of the teacher have a significant effect on the performance. The findings also align with Moats (2023) who emphasised on the critical role of teacher expertise in early reading development. Teachers with higher specialized qualifications are better equipped to implement evidence based practices, which in turn lead to more effective phonemic awareness instruction. These results suggest the need for targeted teacher training programs that focus on enhancing teachers' ability to deliver evidence-based literacy instruction in the Zambian schools if the performance of learners could improve. A poorly trained and equipped teacher cannot deliver better than a well-trained teacher hence there is need to depend on well-trained teacher to deliver phonemic awareness which is key to student literacy acquisition in the Zambian classrooms. From the foregoing discussion, it can be seen that a teacher with a degree in primary education is better equipped to teach phonemic awareness than a teacher with a primary teachers' diploma and a secondary degree. This also demonstrates that teacher qualification plays a key role in improving learner performance in the Zambian schools hence this variable should be prioritised by employing agents and government.

### **Phonics**

The summary of the mean and effect size difference of learners in phonics for the three Classes is presented below:



**Table 4: Paired Sample Test: Phonics**

Paired Samples Test		Paired Differences					T	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Class 1A	Pretest – Post test	-34.43	29.75	4.70	-43.91	-24.91	-7.32	39	0.000	1.16
Class 1B	Pretest – Post test	-35.33	25.09	3.97	-43.35	-27.30	-8.91	39	0.000	1.41
Class 1C	Pretest- Post test	-27.35	26.34	4.16	-35.77	-18.93	-6.57	39	0.000	-1.04

A paired samples test was conducted to assess the impact of phonics instruction on learner performance across three Classes: Class 1 A, Class B, and Class 1 C. The data presented in Table 5 showcases the results of a paired sample test conducted on phonics performance across three classes: Class 1A, Class 1B, and Class 1C. For Class 1A, taught by teacher X, the mean difference between pretest and post test scores was -34.43, with a standard deviation of 29.75 and a standard error mean of 4.70. The 95% confidence interval for the difference ranged from -43.91 to -24.91. The t-value was -7.32 with 39 degrees of freedom, and the result was statistically significant ( $p = 0.000$ ), indicating a size effect of 1.16. Class 1B, taught by teacher Y exhibited a mean difference of -35.33, with a standard deviation of 25.09 and a standard error mean of 3.97. The confidence interval for the difference ranged from -43.35 to -27.30. The t-value was -8.91 with 39 degrees of freedom, also yielding a statistically significant result ( $p = 0.000$ ) and a size effect of 1.41. Similarly, For Class 1C, taught by teacher Z, the mean difference was slightly lower at -27.35, with a standard deviation of 26.34 and a standard error mean of 4.16. The 95% confidence interval ranged from -35.77 to -18.93. The t-value for this comparison was -6.57, with 39 degrees of freedom, and the result was statistically significant ( $p = 0.000$ ) with a size effect of -1.04.

Teacher X, with a Bachelor's degree in Primary and a Primary teacher's Diploma, achieved a large effect (Cohen's  $d = 1.16$ ), demonstrating the impact of their qualifications on phonics instruction. However, there was more variability in the learner outcomes, indicating that while the qualifications were important, further refinement in instructional methods may be needed for consistency. The analysis of phonics instruction also highlights significant differences in learner performance across the three classes. Teacher Y, with a Teacher's Primary Diploma, showed a moderate improvement in learner performance (Cohen's  $d = 1.41$ ), suggesting that their instructional methods were particularly effective in improving phonics skills. The consistency in learner performance improvements further supports the idea that Teacher Y's qualifications were closely aligned with the instructional needs of phonics teaching.

Teacher Z's qualifications in English Language and History resulted in least performance and learner improvement in phonics (Cohen's  $d = -1.04$ ), suggesting that subject specific expertise in English may not fully align with the pedagogical demands of phonics instruction and the contents of the primary school. This finding highlights the importance of ensuring that teachers have the relevant training and skills to effectively teach foundational literacy skills such as phonics. The findings also resonate with McNally's (2022) research, which emphasises the importance of teacher qualifications in delivering systematic phonics instruction. It should be understood that phonics is a key component for teaching literacy in lower primary schools. A teacher with relevant qualifications like a primary degree is considered to have both the content and pedagogical knowledge to improve learner performance in primary schools. It has become evident that a teacher with a diploma and those with degrees in other fields cannot perform better than one with a primary teacher degree. The policy direction on teacher training should ensure that teachers handling primary school learners should have a degree in primary education to ensure maximum delivery of content. This will enable teachers to teach effectively and thereby improving the primary education system in Zambia.

### Fluency

The summary of the mean and size effect difference of learners in fluency for the three classes is presented below:

**Table 5: Summary of the mean and size effect difference of learners in fluency**

		Paired Differences						T	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference						
					Lower	Upper					
Teacher X	Pretest – Post test	-24.93	36.86	5.83	-36.71	-13.14	- 4.28	39	0.000	0.68	
Teacher Y	Pretest –Post test	-22.00	33.40	5.28	-32.68	-11.33	- 4.17	39	0.000	0.66	
Teacher Z	Pretest – Post test	-18.53	29.60	4.68	-27.99	-9.06	- 3.96	39	0.000	0.63	

The results of the paired samples t-test are presented for three different classes, namely Class 1 A, Class B, and Class 1 C, focusing on the differences between pretest and post test scores. For Class 1 A, taught by teacher X, the mean difference between the pretest and post test was -24.93, with a standard deviation of 36.86 and a standard error mean of 5.83. The 95% confidence interval for the difference ranged from -36.71 to -13.14, and the t-value was -4.28 with 39 degrees of freedom. The significance value was 0.000. The effect size for Class 1 B

was 0.68. In Class B taught by teacher Y, the mean difference between the pretest and post test was -22.00, with a standard deviation of 33.40 and a standard error mean of 5.28. The 95% confidence interval for the difference ranged from -32.68 to -11.33, with a t-value of -4.17 and 39 degrees of freedom. The significance value was also 0.000. The effect size for Class A was 0.66. Class 1 C was taught by teacher Z. The mean difference between the pretest and post test was -18.53, with a standard deviation of 29.60 and a standard error mean of 4.68. The 95% confidence interval for the difference ranged from -27.99 to -9.06, with a t-value of -3.96 and 39 degrees of freedom. The significance value was 0.000. The effect size for Class 1 C was 0.63.

Fluency results further underline the influence of teacher qualifications on learner achievement. Teacher X's approach, with a Bachelor's in Primary Education, yielded a slightly larger effect (Cohen's  $d = 0.68$ ), suggesting that Teacher Y's qualifications contributed to a more substantial improvement in learner fluency. Teacher Y, with a Primary Diploma, demonstrated a medium-to-large effect (Cohen's  $d = 0.66$ ), with a statistically significant improvement in fluency. Similarly, Teacher Z, with a Bachelor's in English Language/History, also contributed to a meaningful improvement (Cohen's  $d = 0.63$ ), though the effect was somewhat smaller compared to the other teachers.

These results indicate that teacher qualifications, combined with effective teaching methods, significantly influence the development of reading fluency. As supported by Porter (2023), teachers with greater expertise in early reading are better positioned to foster fluency in learners, which is critical for reading development. The results are supported by Yasin (2021) who also found that the performance of pupils having teachers with high teacher qualifications was higher than the performance of pupils taught by teachers with low and moderate teacher qualifications (61%,  $S = 21.48$ ). Further, MOE (2013) supports that qualified teachers in the relevant sector should be employed as teachers to enable them to teach the five principles of literacy in the Zambian curriculum. This pointed to the fact that academic performance of pupils increases with teachers' qualifications. However, results suggest that qualification of the teacher affects performance of students in public primary schools hence it is important that teachers who are qualified are assigned to teach so that the educational gains can be realised in the children.

### **Vocabulary**

The summary of the mean and size effect difference of learners in vocabulary for the three Classes is presented below:

**Table 6: Paired Samples Test Results: Vocabulary**

Paired Samples Test		Paired Differences					T	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Class 1A	Pretest – Post test	-26.50	36.76	5.81	-38,26	-14.74	- 4.56	39	0.000	0.72
Class 1B	Pretest – Post test	-14.75	32.83	5.19	-25.24	-4.25	- 2.84	39	0.007	0.45
Class 1C	Pretest – Post test	-24.50	30.90	4.87	-34.35	-14.65	- 5.03	39	0.000	0.79

The paired samples test results for the three classes show the following findings:

For Class A, taught by teacher X, the pretest-posttest paired differences yielded a mean of -26.50, with a standard deviation of 36.76 and a standard error mean of 5.81. The 95% confidence interval for the difference ranged from -38.26 to -14.74, and the t-value was -4.56 with 39 degrees of freedom. The p-value of 0.000 was obtained. The effect size of 0.72 was obtained. In Class B, was taught by teacher Y. The mean of the pretest-posttest differences was -14.75, with a standard deviation of 32.83 and a standard error mean of 5.19. The 95% confidence interval for the difference ranged from -25.24 to -4.25. The t-value was -2.84 with 39 degrees of freedom, and the p-value obtained was 0.007. The effect size was moderate at 0.45. Teacher Z Taught Class C, the pretest-posttest differences had a mean of -24.50, a standard deviation of 30.90, and a standard error mean of 4.87. The 95% confidence interval for the difference ranged from -34.35 to -14.65, with a t-value of -5.03 and 39 degrees of freedom. The result was statistically significant with a p-value of 0.000, and the effect size was large at 0.79. Despite the large effects on all teachers, the ranking still demonstrates that Teacher Z outperformed Teacher X who also outperformed teacher Y. The reason for this better performance by the teacher with a secondary qualification can be attributed to the extensive vocabulary which a degree in English language program has unlike the primary degree and diploma which has more of literacy and language. Therefore, teacher training needs to ensure that vocabulary is extensively taught on the course to improve teacher output in this competence.

These findings are consistent with research that highlights the role of teacher expertise in supporting vocabulary development (The Educator's Science of Reading Toolbox, 2023). Teachers with specialised training are more likely to implement effective vocabulary instruction, which has a significant impact on learners' overall literacy achievement. The findings are further supported by Wilden, Porscho, and Schurig (2020) who found that a qualified teacher with a higher qualification in the lower primary was better placed to teach vocabulary and fluency in the primary schools than a seasoned unqualified teacher. Therefore, the qualification of a teacher was relevant to the understanding of the type of vocabulary a learner should use and its activities in order to make sense of their learning. Indeed, a primary

school teacher who has a degree in primary education understands how to teach vocabulary better than a teacher who has not got such a degree hence it should be a point of campaign that qualified teachers should be handling the primary classrooms for better results in the Zambian schools. Despite the other teacher having a secondary degree, they failed performed perform better than a teacher with a diploma which meant that a relevant qualification in given line expert brings about relevant learner outcomes. Therefore, not every degree qualification should be linked to better learner outcomes apart from a relevant qualification linked to the primary school education sector.

### Comprehension

**Table 7: Paired Samples Test Results for Comprehension**

		Paired Differences					T	Df	Sig. (2-tailed)	Size Effect
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Class A	1 Pretest – Post test	-66.00	28.08	4.44	-74.98	-57.02	-14.86	39	0.000	2.35
Class B	1 Pretest – Post test	-47.00	35.46	5.61	-58.34	-35.66	-8.38	39	0.000	1.33
Class C	1 Pretest – Post test	-40.00	34.42	5.44	-51.01	-28.99	-7.35	39	0.000	1.16

The paired samples test results present comprehension scores across all three classes from the pretest to the post test.

For Class 1A taught by teacher X, the difference between the pretest and posttest scores showed a mean of -66.00, with a standard deviation of 28.08 and a standard error mean of 4.44. The 95% confidence interval for the difference was between -74.98 and -57.02. The t-value was -14.86, with 39 degrees of freedom. The significance value (p-value) was 0.000, indicating a statistically significant difference. In Class B taught by teacher Y, the mean difference between the pretest and post test scores was -47.00, with a standard deviation of 35.46 and a standard error mean of 5.61. The confidence interval for the difference ranged from -58.34 to -35.66. The t-value was -8.38, with 39 degrees of freedom, and the p-value was also 0.000, confirming a statistically significant difference. Class C was taught by teacher Z The mean difference between the pretest and post test was -40.00, with a standard deviation of 34.42 and a standard error mean of 5.44. The 95% confidence interval for the difference ranged from -51.01 to -28.99. The t-value for this difference was -7.35, with 39 degrees of freedom, and the p-value was 0.000, indicating that the difference was statistically significant.

The analysis of comprehension scores revealed significant improvements in all three classes, with Teacher X with a Primary Bachelor's degree and Diploma had the largest improvement (Cohen's  $d = 2.35$ ), reflecting the effectiveness of their instructional strategies in improving reading comprehension as a result of qualification. Teacher Y, despite holding a primary teacher's diploma, showed a moderate to large effect (Cohen's  $d = 1.33$ ), suggesting that their subject-specific expertise was beneficial, though not as impactful as Teacher X's approach. Teacher Z's class who holds a Bachelor's degree in English Language/History showed the least effect as well (Cohen's  $d = 1.16$ ), indicating that the qualification in a different field did not contribute to the learner achievement in the primary schools in Zambia.

These results support the conclusions of Kirsch et al., (2020), who argue that targeted professional development enhances teachers' instructional strategies and, by extension, learner outcomes. Teacher qualifications, coupled with effective pedagogical practices, have a direct impact on learners' ability to comprehend texts. However, this relationship is not always the case, for example, Lubumbe (2024) found the despite some secondary school teachers being qualified, they did not impart the necessary reading comprehension skills in totality. In support, Mkandawire (2022) found that there were multiple factors contributing to low performance in reading comprehension which included lack of knowledge by some teachers on the procedure for teaching reading comprehension and therefore, taught poorly. All the teachers mostly focused merely on reading, speed, pronunciation of words and vocabulary instead of using relevant techniques and activities to make learners understand the text. Through this, it can be argued that comprehension teaching is better done by a teacher who is well qualified in the primary sector unlike those who do not have higher qualifications in the primary education. It is important to emphasise that teachers with the highest qualifications in primary education should be appreciated as they contribute to learner achievement in primary schools.

### Overall Learners' Performance in Literacy and Language

The table below provides a summary of the average scores of learners in relation to their teachers' qualifications, which is the focus of this research. To determine the effect of the teacher on learners' reading achievement, the class, teacher labels, and their qualifications are presented.

**Table 8: Average Score of Learners' Performance in Literacy and Language**

Class	Teacher	Qualification	Average Pretest mean	Average Posttest mean
1A	X	Bachelors in Primary Education	11.40	45.48
1B	Y	Primary Diploma	9.66	37.57
1C	Z	Bachelors in English Language / History	11.07	36.04

The table below provides a summary of the average effect size on learners' performance in literacy and language. The effect size is interpreted following Cohen's  $d$  formula conventions.



**Table 9: Average Size Effect of Learners' Performance in Literacy and Language**

Class	Teacher	Qualification	Average Size Effect	Interpretation (Cohen's Conventions)
1A	X	Bachelors in Primary Education	1.33	Large effect
1B	Y	Primary Diploma	0.85	Medium to large effect
1C	Z	Bachelors in English Language / History	0.84	Medium to large effect

Key: Cohen's *d* formula interpretation (Effect Size)

Range	Interpretation
0.0 - 0.1	Trivial effect
0.2 - 0.4	Small effect
0.5 - 0.7	Medium effect
0.8 - 1.2	Large effect
1.3 - 1.9	Very large effect
2.0 or greater	Extremely large effect

The outcomes reveal notable variations in literacy performance across three classes, each taught by teachers with distinct qualifications.

Class 1A, instructed by Teacher X, who possesses a Bachelor's degree in Primary Education, had a mean pretest score of 11.40 and a mean post test score of 37.37. The effect size for this class was 1.33, representing a large and meaningful impact of the intervention. Class 1B, led by Teacher Y, who holds a Primary Diploma, recorded a mean pretest score of 9.66 and a mean post test score of 45.48. The effect size for this class was 0.85, indicating a medium-to-large impact according to Cohen's conventions. Class 1C, taught by Teacher Z, who holds a Bachelor's degree in English Language and History, achieved a mean pretest score of 11.07 and a mean post test score of 36.04. The effect size for this class was 0.84, signifying a medium-to-large impact.

In terms of overall literacy performance, the findings suggest that teacher qualifications play a crucial role in determining learner outcomes, but they are not the sole factor influencing success. Teacher X, with a degree in primary education achieved the largest overall effect (Cohen's  $d = 1.33$ ), while Teacher Y, with a Primary Diploma, also achieved a notable medium-to-large effect (Cohen's  $d = 0.85$ ). Teacher Z, despite their academic qualifications in secondary degree, showed a somewhat the lowest effect among the three teachers (Cohen's  $d = 0.84$ ), indicating specialized training was a major factor in determining quality teaching and high learner achievements.

The study findings indicated that Teacher X performed better than teacher Y who also performed better than teacher Z. the findings of the study can be attributed to the fact that a

teacher with higher specialised training is better than higher unspecialized training as well as better than a lower specialized qualification when it comes to knowledge and pedagogy and content. The foregoing findings are in line with the Expert theory by Ericsson (1993), especially the first two principles on Deliberate Practice and Domain-Specificity. The study findings and discussion highlight the importance of appreciating efforts in skill mastery by the teachers because this is what makes them produce better products unlike the untrained teachers. This means that teaching is a dedicated practice session which aims at improving performance within a specific domain in the education system. Secondly, Domain-Specificity underscores that expertise is often limited to particular areas rather than being universally applicable. Therefore, trained teachers in primary schools tend to understand what they are supposed to teach in their field of profession unlike the less trained. It is in this vein that David (1980) argued that an expert should be distinguished from a novice because an expert acquires experience and contextual knowledge to contribute to teaching expertise while a person who is not trained cannot contribute relevant knowledge to the profession. In this context, the teacher who held a degree in primary education proved to be a better expert in the teaching of learners in the primary school hence they performed better than a teacher who held a primary teachers diploma and the one with a secondary teacher's degree. Therefore, experts should be appreciated in the education system because they bring about improved learner performance in the classrooms.

From the performance teachers exhibited alongside their qualification alignment, the study can argue that teaching primary school learners effectively needs a primary degree qualification. Despite teacher Y possessing a diploma in primary education, it can be seen that the teacher was able to apply the basic teaching methods while teacher Z, with a degree in secondary education, seemed to be lost in the primary section. The teachers in this case have to acquire relevant qualifications in primary education for them to demonstrate the knowledge they have acquired and share with the learners. As much as content is prepared through the Ministry of Education, this study shows that teachers need higher specialized training in the subject matter they will teach in primary schools in order to improve learning outcomes in literacy and language. This means that content and pedagogical knowledge is in tandem with their qualifications which eventually influence their teaching and learning outcomes.

## CONCLUSION

The findings of this study indicate that learners taught by the teacher with a Bachelor's in Primary Education and a Primary Teacher's Diploma achieved the highest post test scores (Cohen's  $d = 1.33$ ), followed by those instructed by the teacher with a Primary Teacher's Diploma only (Cohen's  $d = 0.85$ ) while the lowest performance was recorded by the class taught by the teacher with a Bachelor's Degree in English Language and History (Cohen's  $d = 0.84$ ). These results suggest that specialised training in primary education, particularly at the bachelor's level, provides teachers with more superior pedagogical competences necessary for effective literacy instruction in multilingual learning contexts. The slightly lower performance of the teacher with only a Primary Teacher's Diploma only may indicate the

need for further qualifications to enhance instructional strategies beyond the diploma level. Additionally, the lowest achievement levels in the class taught by the teacher with a Bachelor's in English Language and History suggest that qualifications designed for secondary education do not sufficiently equip teachers with the skills needed for foundational literacy instruction at the primary level. Overall, these findings underscore the critical importance of aligning teacher qualifications with the specific instructional demands of primary education to enhance learner outcomes in multilingual settings.

The results of this study have implications on teacher preparation both during pre-service and in-service training. Firstly, the ministry of education should ensure that when in-service teachers apply for further training, the higher training should be consistent with the subject and level which they teach. The training should also demonstrate career progression so that the build in knowledge and skills in realistic. Secondly, a revision of teacher training programs should be done by the Ministry of Education to ensure that teachers are well prepared to effectively manage multilingual classrooms. To achieve this, training modules should be comprehensive and include multilingual pedagogies. These modules should cover strategies such as translanguaging by code-switching, code mixing, use of graphic organisers and sandwiching. By integrating these approaches, teachers may be better equipped with the necessary skills to address the linguistic diversity in their classrooms enabling them to foster an inclusive and supportive learning environment for all learners. Thirdly, in order to enhance literacy instruction, primary schools should strengthen Continuing Professional Development (CPD) through tailored initiatives. These initiatives could include classroom demonstrations, collaborative workshops, and mentorship opportunities, all aimed at improving teachers' instructional strategies. A particular focus should be placed on foundational literacy training, ensuring that teachers are well-equipped to assess and teach literacy in multilingual contexts effectively.

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