

The Utilization of the Teaching Strategies in Improving the Literacy Skills of the Grade 3 Learners in the Public Elementary Schools in the Fourth Congressional District Division of Camarines Sur

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ARTICLE INFORMATION	ABSTRACT
Article history: Published: October 2026 Keywords: Literacy Skills Grade 3 Teaching Strategies Reading Comprehension Reading Frustration Kendall Concordance Camarines Sur	The study examined literacy skills, teaching strategies, instructional challenges, and proposed solutions for Grade 3 learners in public elementary schools in the Fourth Congressional District, Division of Camarines Sur. The findings covered 408 respondents from elementary schools identified as belonging to Partido District during school year 2025–2026. Weighted means and ranks described results for large, medium, and small districts, while Kendall's coefficient of concordance assessed agreement among the three groups. The overall literacy rating was 3.69, Much Evident. Phonemic awareness received the highest domain mean (4.15), and reading comprehension the lowest (3.39). Teaching strategies received an overall mean of 4.10, Much Effective; active learning ranked highest (4.34), whereas use of technologies ranked lowest (3.51). Challenges received 4.34, Much Challenging, with frustration with reading rated highest (4.50, Very Much Challenging). Proposed solutions received a reported mean of 4.24 and the reported label Very Much Effective. Significant agreement was reported for all literacy domains and all challenge and solution domains. Among teaching strategies, differentiated learning, collaborative learning, and scaffolding were reported as nonsignificant. The findings support coordinated attention to comprehension, vocabulary, motivation, and access to reading resources. They describe reported perceptions and priorities, rather than demonstrating causal improvements in literacy.

1. Introduction

Literacy instruction in the primary grades requires attention to how learners recognize words, interpret language, and sustain engagement with texts. These dimensions are interdependent, but favorable performance in one area does not ensure equivalent strength in another. A learner may identify sounds or read familiar words while still finding vocabulary, connected reading, and interpretation difficult. Understanding the relative profile of these skills is therefore important when selecting instructional priorities. The National Reading Panel (2000) reviewed evidence concerning phonemic awareness, phonics, fluency, vocabulary, and comprehension. Its distinctions remain useful for organizing the instructional domains examined in the study. They also caution against reducing literacy to a single observable behavior. The present investigation considered phonics, phonemic awareness, word recognition, vocabulary development, fluency, and reading comprehension as separate rating domains.

Duke et al. (2021) emphasized that comprehension instruction involves word-reading support, knowledge and vocabulary, strategic processing, and meaningful engagement. This provides a basis for interpreting a profile in which foundational skills receive stronger ratings than comprehension. Graves (2016) similarly presented vocabulary learning as a program involving language experiences, explicit word teaching, word-learning strategies, and attention to words. These perspectives connect classroom practice with opportunities to develop meaning beyond accurate decoding.

Teaching strategies can vary in their demands on teachers, learners, and available resources. Active learning, differentiation, collaboration, storytelling, scaffolding, technology, and reinforcement may serve different instructional purposes. Koehler and Mishra (2009) argued that technology use requires attention to its relationship with pedagogy and content. Consequently, a lower technology rating need not imply that digital tools should displace other instructional approaches; its significance depends on the literacy goals being pursued.

The study addressed four related questions. First, what levels of literacy skills were reported across six domains? Second, how were seven teaching strategies rated? Third, what instructional challenges and proposed solutions were identified? Fourth, did the large, medium, and small district groups agree on the rank ordering of indicators within these domains? An additional objective was to formulate an action plan based on the findings. Agreement among groups and effectiveness of instruction were treated as distinct questions: shared priorities do not establish that a strategy caused learning gains.

2. Methods

2.1 Study setting and respondents

The study examined Grade 3 literacy instruction in public elementary schools in the Fourth Congressional District, Division of Camarines Sur. The reported findings identified 408 respondents from elementary schools of Partido District during school year 2025–2026. Results were organized into large, medium, and small district groups. The number of respondents within each group,

their roles, the number of participating schools, and the criteria used to classify district size were not specified. The respondent total is therefore not treated as a count of learners or teachers of a particular role.

2.2 Measures and procedures

The study reported indicator ratings for six literacy domains, seven teaching-strategy domains, six instructional-challenge domains, and proposed solutions. Literacy indicators described learner behaviors; teaching-strategy indicators were expressed as classroom practices; challenge indicators described difficulties in supporting reading; and solution indicators described proposed instructional or resource responses. Weighted means, verbal interpretations, and ranks were tabulated for each district-size group and for the reported average. The methodological account did not identify the formal research design, sampling procedure, recruitment process, instrument title or provenance, validation and reliability procedures, dates of administration, response rate, or data-collection mode. These procedures cannot be reconstructed from aggregate ratings. The study is consequently reported through the documented participants, setting, measures, and analyses, without assigning an unreported experimental, correlational, or survey design label.

The reported rating intervals were 4.50–5.00, 3.50–4.49, 2.50–3.49, 1.50–2.49, and 1.00–1.49. For literacy skills, the corresponding labels were Very Much Evident, Much Evident, Evident, Fairly Evident, and Not at all. Strategy and solution scales used Very Much Effective, Much Effective, Effective, Fairly Effective, and Not at all. Challenges used Very Much Challenging, Much Challenging, Challenging, Fairly Challenging, and Not at all. All tabulated interpretation codes are retained, including entries that do not follow these intervals.

2.3 Statistical analysis

Weighted means and ranks summarized the reported indicator and domain ratings. The weighting of district-size groups in overall means was not specified. Reported means and ranks were retained without recalculating aggregate results from rounded values. Kendall's coefficient of concordance (W), computed chi-square values, degrees of freedom, tabular comparison values, and decisions on the alternative hypothesis were reported for agreement among the three groups. The comparison tables included the 0.05, 0.025, 0.01, 0.005, and 0.001 levels; the specific prespecified primary testing level was not stated.

Concordance describes similarity in rankings. It does not test whether means differ among district-size groups, whether instruction caused improvement, or whether a strategy score predicts a literacy score. No individual-response dataset, preinstruction baseline, comparison condition, or direct literacy-gain analysis was reported. Ethical approval, consent arrangements, and confidentiality procedures were not described. Such details are necessary for complete methodological reporting but have not been invented.

3. Results

Tables 1–8 present literacy ratings and agreement, Tables 9–17 present teaching strategies and agreement, and Tables 18–26 present challenges, solutions, and agreement. Each descriptive cell combines the reported mean, interpretation code, and rank. The original indicator wording, group values, and decimal precision are retained. The analyses distinguish relative priorities from demonstrated effects.

Table 1. Literacy skills in phonics

Indicator	Large districts	Medium districts	Small districts	Average
1. Learners accurately decode unfamiliar multisyllabic words by segmenting them into syllables.	4.56 VME / 1	4.35 ME / 4	4.40 ME / 2	4.44 ME / 1
2. Learners recognize and use common syllable types to decode words.	4.2 ME / 7	4.21 ME / 7	4.21 ME / 5	4.21 ME / 6
3. Learners use knowledge of prefixes and suffixes to read and understand unfamiliar words.	4.39 ME / 4	4.4 ME / 1	4.41 ME / 1	4.40 ME / 3
4. Learners correctly read words containing consonant blends and digraphs in grade-level text.	4.25 ME / 6	4.23 ME / 6	4.12 ME / 6	4.20 ME / 7
5. Learners pronounce vowel teams and other vowel patterns correctly when reading.	4.41 ME / 3	4.38 ME / 2	4.11 ME / 7	4.30 ME / 5
6. Learners self-correct their pronunciation when they initially misread a word, applying phonics strategies.	3.98 ME / 11	3.59 ME / 11	3.16 E / 11	3.58 ME / 11
7. Learners show awareness of common spelling patterns during word reading and writing.	3.65 ME / 12	2.45 FE / 12	2.78 E / 12	2.96 E / 12
8. Learners spell grade-level words using correct letter-sound correspondences.	4.12 ME / 9.5	3.67 ME / 9.5	3.45 E / 10	3.75 ME / 10
9. Learners break down compound words into known parts when reading.	4.17 ME / 8	3.98 ME / 8	3.76 ME / 8	3.97 ME / 8
10. Learners use phonics strategies to decode challenging words in text.	4.12 ME / 9.5	3.67 ME / 9.5	3.6 ME / 9	3.80 ME / 9
11. Learners apply spelling rules plural forms like to read related word forms.	4.31 ME / 5	4.30 ME / 5	4.3 ME / 4	4.30 ME / 4

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Indicator	Large districts	Medium districts	Small districts	Average
12. Learners read high-frequency irregular words correctly on first attempt, using phonics knowledge when needed.	4.50 VME / 2	4.37 ME / 3	4.34 ME / 3	4.40 ME / 2
Average	4.22 ME	3.93 ME	3.89 ME	4.01 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

Phonics received 4.01, Much Evident. Decoding multisyllabic words and recognizing irregular words were rated more strongly than awareness of spelling patterns. This difference suggests a useful distinction between applying familiar decoding routines and consolidating orthographic patterns. The latter can remain a teaching priority even within a favorable overall domain rating. The results concern rated behaviors; they do not provide an independently scored phonics assessment or establish mastery by every learner.

Table 2. Literacy skills in phonemic awareness

Indicator	Large districts	Medium districts	Small districts	Average
1. Learners can segment spoken words into individual phonemes (sounds) when given a word orally.	4.46 ME / 5	4.5 VME / 5	4.5 VME / 4.5	4.49 ME / 5
2. Learners can blend individual phonemes to form whole words.	4.56 VME / 1.5	4.56 VME / 1.5	4.5 VME / 4.5	4.54 VME / 2
3. Learners can identify the first or last sound in a spoken word.	4.56 VME / 1.5	4.56 VME / 1.5	4.56 VME / 1	4.56 VME / 1
4. Learners can change one phoneme in a word to make a new word.	4.12 ME / 9	4.1 ME / 9	4.08 ME / 8	4.10 ME / 8
5. Learners recognize and produce rhyming words and word families when asked.	4.34 ME / 6.5	4.35 ME / 6	4.36 ME / 6	4.35 ME / 6
6. Learners can break spoken multisyllabic words into syllables by clapping or tapping	4.54 VME / 3.5	4.51 VME / 4	4.52 VME / 2	4.52 VME / 4
7. Learners can count and identify the number of phonemes (sounds) in spoken words.	4.54 VME / 3.5	4.53 VME / 3	4.51 VME / 3	4.53 VME / 3
8. Learners can count the number of syllables in spoken words.	4.30 ME / 8	4.23 ME / 8	4.13 ME / 7	4.22 ME / 7
9. Learners can delete a specific sound from a word and say the resulting word.	3.49 E / 11	3.57 ME / 11	3.6 ME / 9	3.55 ME / 11
10. Learners can identify words that start with the same sound when given a list of spoken words.	4.34 ME / 6.5	4.31 ME / 7	3.16 E / 11	3.94 ME / 9
11. Learners participate in word games or activities that involve manipulating sounds.	3.44 E / 12	3.12 E / 12	3.02 E / 12	3.19 E / 12
12. Learners can add a phoneme to a spoken word to create a new word.	4.02 ME / 10	3.98 ME / 10	3.45 E / 10	3.82 ME / 10
Average	4.23 ME	4.19 ME	4.03 ME	4.15 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

Phonemic awareness was the highest-rated literacy domain at 4.15, Much Evident. Basic identification and blending tasks received stronger ratings than some sound-manipulation activities. The profile is consistent with treating phonemic awareness as a set of distinguishable tasks rather than a single ability. The National Reading Panel (2000) provides an instructional basis for explicit attention to sounds. In the study, however, the ratings do not establish which instructional sequence produced the observed profile.

Table 3. Literacy skills in word recognition

Indicator	Large districts	Medium districts	Small districts	Average
1. Learners recognize high-frequency sight words automatically without having to sound them out.	4.33 ME / 3	4.40 ME / 1	4.23 ME / 2	4.32 ME / 1.5
2. Learners read grade-level irregularly spelled words.	3.56 ME / 8	3.13 E / 11	3.05 E / 10	3.25 E / 11

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Indicator	Large districts	Medium districts	Small districts	Average
3. Learners use context clues (surrounding words or pictures) to confirm or adjust the pronunciation of an unfamiliar word while reading.	2.78 E / 12	2.67 E / 12	2.68 E / 11	2.71 E / 12
4. Learners apply common spelling patterns when decoding words in text.	3.98 ME / 6	3.87 ME / 7	3.65 ME / 7	3.83 ME / 6
5. Learners read compound words by breaking them into their known parts.	4.10 ME / 4.5	4.01 ME / 5	4.08 ME / 4	4.06 ME / 4
6. Learners identify root words and affixes to help decode and understand unfamiliar words.	3.89 ME / 7	3.65 ME / 8	3.75 ME / 6	3.76 ME / 7
7. Learners read grade-level text fluently, with minimal pausing or reliance on sounding out every word.	4.35 ME / 2	4.24 ME / 3	4.26 ME / 1	4.28 ME / 3
8. Learners recognize and correctly pronounce words with common prefixes by separating them from the base word.	3.48 E / 9	3.45 E / 10	3.10 E / 9	3.34 E / 9
9. Learners infer the pronunciation and meaning of unknown words using word parts (roots, prefixes, suffixes) and context clues.	3.28 E / 11	3.56 ME / 9	3.24 E / 8	3.36 E / 8
10. Learners quickly learn and automatically recognize new vocabulary words introduced during reading or instruction.	3.45 E / 10	4.10 ME / 4	2.45 FE / 12	3.33 E / 10
11. Learners regularly use word-learning strategies (such as breaking words into parts or using context) to decode challenging words.	4.10 ME / 4.5	3.98 ME / 6	3.76 ME / 5	3.95 ME / 5
12. Learners use clues from pictures or surrounding text to determine the meaning of unfamiliar words while reading.	4.50 VME / 1	4.30 ME / 2	4.15 ME / 3	4.32 ME / 1.5
Average	3.79 ME	3.78 ME	3.53 ME	3.70 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

Word recognition received 3.70, Much Evident, below phonics and phonemic awareness. The indicators span familiar-word recognition and the use of contextual or structural information. Their distribution suggests that recognizing words efficiently in connected text may require support beyond isolated sound work. Group means were relatively close, but no between-group mean-difference test was reported. Thus, the district-size pattern should be read descriptively rather than as evidence of a statistically established district effect.

Table 4. Literacy skills in vocabulary development

Indicator	Large districts	Medium districts	Small districts	Average
1. Learners understand and use new vocabulary in conversations and writing.	3.10 E / 10.5	3.05 E / 9	2.98 E / 7	3.04 E / 9
2. Learners use context clues to determine the meaning of unfamiliar words	3.45 E / 8	3.33 E / 7	3.20 E / 6	3.33 E / 8
3. Learners can classify words based on their meaning	3.10 E / 10.5	2.98 E / 10	2.34 FE / 12	2.81 E / 12
4. Learners ask about or explore the meaning of unfamiliar words independently.	3.40 E / 9	2.78 E / 12	2.77 E / 8	2.98 E / 10
5. Learners can provide definitions for words they have learned.	2.98 E / 12	2.9 E / 11	2.56 E / 11	2.81 E / 11
6. Learners use newly learned words in appropriate contexts.	3.98 ME / 4	3.68 ME / 5	2.67 E / 9.5	3.44 E / 6
7. Learners recognize words with multiple meanings and use them correctly.	3.90 ME / 5	3.95 ME / 3	2.67 E / 9.5	3.51 ME / 5
8. Learners use visual aids to understand new words.	4.13 ME / 2	3.78 ME / 4	3.24 E / 4	3.72 ME / 4
9. Learners recognize and use words related to different subjects	4.45 ME / 1	4.1 ME / 1	4.11 ME / 1	4.22 ME / 1

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Indicator	Large districts	Medium districts	Small districts	Average
10. Learners identify root words, prefixes, and suffixes to determine word meanings	3.67 ME / 7	3.19 E / 8	3.23 E / 5	3.36 E / 7
11. Learners develop a growing vocabulary through reading and discussions.	4.10 ME / 3	4.05 ME / 2	4.00 ME / 2	4.05 ME / 2
12. Learners demonstrate understanding of figurative language	3.89 ME / 6	3.67 ME / 6	3.90 ME / 3	3.82 ME / 3
Average	3.68 ME	3.46 E	3.14 E	3.42 E

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

Vocabulary development received 3.42, Evident. Its lower position relative to foundational sound-related domains points to meaning development as a practical priority. Graves (2016) described vocabulary learning through complementary experiences and strategies, supporting attention to repeated meaningful use as well as explicit teaching. The study's ratings cannot determine whether limited exposure, instructional time, or language background explains this pattern; those possibilities require direct evidence.

Table 5. Literacy skills in fluency

Indicator	Large districts	Medium districts	Small districts	Average
1. Learners read aloud with proper pronunciation, expression, and pacing.	3.87 ME / 5	3.34 E / 7	3.12 E / 7.5	3.44 E / 8
2. Learners recognize and correct their reading errors independently.	3.10 E / 11	3.01 E / 11	2.87 E / 10	2.99 E / 10
3. Learners read and understand short texts without frequent pauses.	2.98 E / 12	3.1 E / 10	2.67 E / 11	2.92 E / 11
4. Learners can read different types of texts with ease.	3.45 E / 8.5	3.88 ME / 4	3.24 E / 5	3.52 ME / 5
5. Learners maintain a steady reading speed appropriate for their grade level.	3.98 ME / 3.5	3.45 E / 6	3.40 E / 4	3.61 ME / 4
6. Learners demonstrate confidence when reading aloud.	3.65 ME / 7	3.53 ME / 5	3.23 E / 6	3.47 E / 6
7. Learners read with intonation that reflects punctuation marks.	4.31 ME / 1	4.35 ME / 1	4.27 ME / 1	4.31 ME / 1
8. Learners can read simple passages fluently without unnecessary repetition.	4.10 ME / 2	4.01 ME / 3	4.04 ME / 2	4.05 ME / 2
9. Learners can differentiate between similar-looking words when reading.	3.67 ME / 6	4.02 ME / 2	3.87 ME / 3	3.85 ME / 3
10. Learners can read aloud unfamiliar words with minimal hesitation.	3.98 ME / 3.5	3.28 E / 9	3.12 E / 7.5	3.46 E / 7
11. Learners use punctuation marks as cues when reading aloud.	3.14 E / 10	2.98 E / 12	2.50 E / 12	2.87 E / 12
12. Learners can read short paragraphs smoothly without excessive pausing or hesitation	3.45 E / 8.5	3.34 E / 7	2.98 E / 9	3.26 E / 9
Average	3.64 ME	3.52 ME	3.12 E / 7.5	3.48 E

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

Fluency received 3.48, Evident. The indicators describe aspects of oral and connected reading, but the study did not report words read correctly per minute, passage accuracy, or a prosody score. The rating therefore cannot be interpreted as a standardized fluency benchmark. The small-district mean in this domain table is 3.12, whereas the literacy summary reports 3.28. Both are retained in their respective tables, limiting precise comparison of the group's overall profile.

Table 6. Literacy skills in reading comprehension

Indicator	Large districts	Medium districts	Small districts	Average
1. Learners identify the main idea or theme of a story or passage and its key supporting details.	3.11 E / 11	2.67 E / 11	2.50 E / 11	2.76 E / 11
2. Learners retell the sequence of main events in order, in their own words.	3.34 E / 9	2.98 E / 10	2.67 E / 9.5	3.00 E / 10
3. Learners answer literal questions about a text after reading it.	4.10 ME / 3	4.04 ME / 2	3.98 ME / 2	4.04 ME / 2
4. Learners make logical predictions about what will happen next in a story based on information given in the text.	4.12 ME / 2	3.98 ME / 3	3.34 E / 4	3.81 ME / 3
5. Learners infer characters' feelings, motivations, or traits from context clues in the story.	3.99 ME / 4	3.78 ME / 4	3.40 E / 3	3.72 ME / 4
6. Learners make connections between the text and their own experiences or prior knowledge.	4.20 ME / 1	4.17 ME / 1	3.99 ME / 1	4.12 ME / 1
7. Learners use context to determine the meaning of unfamiliar vocabulary in the text.	3.89 ME / 6	3.21 E / 6.5	3.18 E / 6	3.43 E / 6
8. Learners distinguish between facts and opinions presented in informational texts.	3.41 E / 8	3.12 E / 8.5	2.94 E / 8	3.16 E / 8
9. Learners compare and contrast characters, settings, or ideas within or between texts.	3.98 ME / 5	3.12 E / 8.5	2.98 E / 7	3.36 E / 7
10. Learners identify cause-and-effect relationships described in a story or informational passage.	3.21 E / 10	3.21 E / 6.5	2.67 E / 9.5	3.03 E / 9
11. Learners summarize a paragraph or short passage by stating its main idea and key supporting details.	2.98 E / 12	2.56 E / 12	2.45 FE / 12	2.66 E / 12
12. Learners identify the main problem or conflict in a story and describe its solution or resolution.	3.78 ME / 7	3.67 ME / 5	3.23 E / 5	3.56 ME / 5
Average	3.68 ME	3.38 E	3.11 E	3.39 E

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

Reading comprehension received 3.39, Evident, the lowest literacy domain mean. The result directs attention to meaning construction alongside decoding support. Duke et al. (2021) explain why comprehension requires deliberate instruction rather than being presumed to follow automatically from fluent reading. The study does not identify a causal explanation for the lower rating, but its relative position supports examining questioning, vocabulary use, text structure, and opportunities to explain meaning during reading.

Table 7. Summary of literacy skills

Indicator	Large districts	Medium districts	Small districts	Average
1. Phonics	4.22 ME / 2	3.93 ME / 2	3.89 ME / 2	4.01 ME / 2
2. Phonemic Awareness	4.23 ME / 1	4.19 ME / 1	4.03 ME / 1	4.15 ME / 1
3. Word Recognition	3.79 ME / 3	3.78 ME / 3	3.53 ME / 3	3.70 ME / 3
4. Vocabulary Development	3.68 ME / 4	3.46 E / 5	3.14 E / 5	3.42 E / 5
5. Fluency	3.64 ME / 6	3.52 ME / 4	3.28 E / 4	3.48 E / 4
6. Reading Comprehension	3.68 ME / 5	3.38 E / 6	3.11 E / 6	3.39 E / 6
Average	3.87 ME	3.71 ME	3.50 E	3.69 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Evident; ME = Much Evident; E = Evident; FE = Fairly Evident.

The reported overall literacy mean was 3.69, Much Evident. Phonemic awareness ranked first and reading comprehension sixth, with vocabulary and fluency also receiving Evident average labels. This uneven profile is more informative for instructional planning than the overall classification alone. The group means generally favored large districts, but no statistical comparison of mean differences was supplied. The summary also contains classification and value inconsistencies that prevent treating every displayed aggregate as independently verified.

Table 8. Agreement on rankings of literacy skills

Domain	Squared deviation	k	n	W	χ^2	df	H ₁	Sig.
Phonics	1197	3	12	0.93	30.69	11	Accepted	0.005
Phonemic Awareness	1204.5	3	12	0.94	31.02	11	Accepted	0.005
Word Recognition	1118.5	3	12	0.87	28.71	11	Accepted	0.005
Vocabulary Development	1065	3	12	0.83	27.39	11	Accepted	0.005
Fluency	1116.92	3	12	0.87	28.71	11	Accepted	0.005
Reading Comprehension	1222	3	12	0.95	31.35	11	Accepted	0.001

Table 8 continued. Reported chi-square comparison values

Domain	0.05	0.025	0.01	0.005	0.001
Phonics	19.68	21.92	24.73	26.76	31.26
Phonemic Awareness	19.68	21.92	24.73	26.76	31.26
Word Recognition	19.68	21.92	24.73	26.76	31.26
Vocabulary Development	19.68	21.92	24.73	26.76	31.26
Fluency	19.68	21.92	24.73	26.76	31.26
Reading Comprehension	19.68	21.92	24.73	26.76	31.26

Note. k = number of groups; n = number of items; W = Kendall's coefficient of concordance; χ^2 = computed chi-square; df = degrees of freedom; H₁ = reported decision on the alternative hypothesis; Sig. = reported significance of agreement. NS and Not Significant retain their reported wording. Comparison values and decisions are reproduced without recalculation.

All six literacy domains were reported as showing significant agreement. Reading comprehension had the largest W and computed chi-square, while vocabulary had the lowest W among these domains. This indicates a broadly shared ranking of indicators despite differences in rating levels. It does not establish uniformly high literacy or confirm improvement. The distinction is especially important for comprehension: groups can agree closely on the ordering of difficulties while assigning relatively moderate skill ratings.

Table 9. Teaching strategies in active learning

Indicator	Large districts	Medium districts	Small districts	Average
1. I engage learners in hands-on activities to reinforce concepts.	4.45 ME / 6.5	4.43 ME / 7	4.13 ME / 11	4.34 ME / 7
2. I use games and interactive activities to enhance engagement.	4.15 ME / 11	4.23 ME / 10	4.16 ME / 10	4.18 ME / 11
3. I encourage learners to explore and discover concepts on their own.	4.45 ME / 6.5	4.51 VME / 2.5	4.35 ME / 7	4.44 ME / 6
4. I integrate movement-based activities to maintain learner interest.	4.1 ME / 12	4.12 ME / 11	4.4 ME / 4	4.21 ME / 10
5. I provide real-world examples and applications of lesson topics.	4.21 ME / 10	4.34 ME / 8	4.26 ME / 9	4.27 ME / 9
6. I use inquiry-based learning to stimulate curiosity and critical thinking.	4.32 ME / 9	3.99 ME / 12	3.67 ME / 12	3.99 ME / 12
7. I facilitate class discussions where learners express their thoughts.	4.48 ME / 3.5	4.51 VME / 2.5	4.46 ME / 1	4.48 ME / 2
8. I encourage learners to ask and answer questions freely.	4.56 VME / 1	4.56 VME / 1	4.45 ME / 2	4.52 VME / 1
9. I incorporate role-playing and dramatization in lessons.	4.48 ME / 3.5	4.44 ME / 6	4.39 ME / 5	4.44 ME / 4.5

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Indicator	Large districts	Medium districts	Small districts	Average
10. I guide learners to relate new concepts to their personal experiences.	4.5 VME / 2	4.48 ME / 4.5	4.44 ME / 3	4.47 ME / 3
11. I allow learners to participate in problem-solving activities.	4.46 ME / 5	4.48 ME / 4.5	4.37 ME / 6	4.44 ME / 4.5
12. I create an engaging classroom environment that promotes active learning.	4.34 ME / 8	4.31 ME / 9	4.32 ME / 8	4.32 ME / 8
Average	4.38 ME	4.37 ME	4.28 ME	4.34 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

Active learning ranked highest among strategies, with 4.34, Much Effective. Opportunities for learners to ask and answer questions were strongly rated, indicating the visibility of participation within the reported practices. The results support examining the quality of learner contributions alongside the frequency of activities. Hands-on tasks, games, and discussions are not interchangeable measures of literacy learning; their educational contribution depends on whether they require meaningful reading, explanation, or application.

Table 10. Teaching strategies in differentiated instruction

Indicator	Large districts	Medium districts	Small districts	Average
1. I modify lesson activities based on learners' varying abilities.	4.34 ME / 8.5	4.12 ME / 11	4.06 ME / 12	4.17 ME / 12
2. I use flexible grouping to cater to different learning needs.	4.41 ME / 7	4.34 ME / 7	4.21 ME / 7.5	4.32 ME / 7
3. I provide additional support to learners who struggle with certain topics.	4.11 ME / 11	4.32 ME / 9	4.44 ME / 2	4.29 ME / 8
4. I give enrichment activities for advanced learners.	4.5 VME / 1.5	4.39 ME / 4	4.43 ME / 3	4.44 ME / 2
5. I use a variety of instructional materials to accommodate diverse learning styles.	4.48 ME / 3.5	4.43 ME / 3	4.12 ME / 9.5	4.34 ME / 5
6. I adapt teaching methods to match learners' multiple intelligences.	4.34 ME / 8.5	4.36 ME / 5	4.11 ME / 11	4.27 ME / 9
7. I provide different assessment methods to measure learning effectively.	4.23 ME / 10	4.11 ME / 12	4.34 ME / 4	4.23 ME / 10
8. I offer alternative ways for learners to express their understanding (e.g., verbal, written, visual).	4.46 ME / 5	4.45 ME / 2	4.12 ME / 9.5	4.34 ME / 5
9. I ensure that learning activities address the unique needs of each learner.	4.45 ME / 6	4.34 ME / 7	4.23 ME / 6	4.34 ME / 6
10. I use personalized feedback to help learners improve.	4.1 ME / 12	4.23 ME / 10	4.21 ME / 7.5	4.18 ME / 11
11. I integrate culturally responsive teaching strategies.	4.48 ME / 3.5	4.34 ME / 7	4.33 ME / 5	4.38 ME / 3
12. I continuously adjust my teaching strategies based on learners' progress.	4.50 VME / 1.5	4.53 VME / 1	4.49 ME / 1	4.51 VME / 1
Average	4.37 ME	4.33 ME	4.26 ME	4.32 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

Differentiated instruction received 4.32, Much Effective. The indicators concern adapting tasks, grouping, assessment, and modes of expression to different learner needs. These are related forms of responsiveness, but they may vary in implementation. The later nonsignificant concordance result suggests caution in assuming a shared priority order across groups. The ratings do not identify which adaptations were provided to specific learners or whether those adaptations reduced achievement gaps.

Table 11. Teaching strategies in collaborative learning

Indicator	Large districts	Medium districts	Small districts	Average
1. I organize group activities where learners work together.	4.49 ME / 1	4.45 ME / 2	4.23 ME / 7	4.39 ME / 5
2. I promote peer learning by encouraging learners to help one another.	4.33 ME / 9.5	4.44 ME / 3	4.50 VME / 2	4.42 ME / 3.5
3. I create opportunities for cooperative problem-solving tasks.	4.34 ME / 7.5	4.12 ME / 10.5	4.11 ME / 11	4.19 ME / 11
4. I foster a classroom environment where learners support and respect each other.	4.45 ME / 4.5	4.39 ME / 4	4.45 ME / 3.5	4.43 ME / 2
5. I guide learners in practicing effective communication during group work.	4.33 ME / 9.5	4.51 VME / 1	4.51 VME / 1	4.45 ME / 1
6. I assign roles and responsibilities within group activities.	4.34 ME / 7.5	4.12 ME / 10.5	4.16 ME / 9	4.21 ME / 10
7. I encourage learners to reflect on their collaborative experiences.	4.16 ME / 12	4.2 ME / 9	4.34 ME / 5.5	4.23 ME / 9
8. I use project-based learning to enhance teamwork and cooperation.	4.45 ME / 4.5	4.34 ME / 6	4.34 ME / 5.5	4.38 ME / 6
9. I incorporate partner work to improve peer interaction.	4.48 ME / 2.5	4.34 ME / 6	4.45 ME / 3.5	4.42 ME / 3.5
10. I assess both individual and group contributions in collaborative tasks.	4.48 ME / 2.5	4.34 ME / 6	4.12 ME / 10	4.31 ME / 7
11. I facilitate debriefing sessions to discuss group learning outcomes.	4.22 ME / 11	4.11 ME / 12	4.09 ME / 12	4.14 ME / 12
12. I integrate social-emotional learning in collaborative activities.	4.43 ME / 6	4.24 ME / 8	4.21 ME / 8	4.29 ME / 8
Average	4.38 ME	4.32 ME	4.29 ME	4.33 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

Collaborative learning received 4.33, Much Effective, closely following active learning. Group activities and peer support were favorably rated, but collaboration requires more than assigning learners to work together. The indicators permit discussion of participation and task design, while the nonsignificant concordance result indicates that a common ranking was not established at the reported levels. No observation or individual contribution measure was supplied to determine how equitably participation was distributed.

Table 12. Teaching strategies in storytelling

Indicator	Large districts	Medium districts	Small districts	Average
1. I use storytelling as a strategy to introduce new concepts.	4.47 ME / 4	4.51 VME / 2	4.49 ME / 2	4.49 ME / 2
2. I employ animated expressions and gestures when narrating stories.	4.23 ME / 9	4.11 ME / 9.5	3.99 ME / 12	4.11 ME / 11
3. I integrate visuals such as charts, posters, and diagrams in my lessons.	4.39 ME / 6	4.48 ME / 4	4.43 ME / 3.5	4.43 ME / 5
4. I use picture books and illustrated materials to enhance comprehension.	4.50 VME / 1.5	4.52 VME / 1	4.34 ME / 5	4.45 ME / 3.5
5. I encourage learners to create and share their own stories.	4.49 ME / 3	4.5 VME / 3	4.51 VME / 1	4.50 VME / 1
6. I utilize puppets and props to make storytelling more engaging.	4.50 VME / 1.5	4.43 ME / 5	4.43 ME / 3.5	4.45 ME / 3.5
7. I connect storytelling activities to lesson objectives.	4.33 ME / 7	4.1 ME / 11.5	4.23 ME / 7	4.22 ME / 9
8. I encourage learners to visualize concepts through drawing and illustrations.	4.41 ME / 5	4.11 ME / 9.5	4.22 ME / 8	4.25 ME / 8

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Indicator	Large districts	Medium districts	Small districts	Average
9. I include multimedia presentations (e.g., slideshows, videos) to support lessons.	4.23 ME / 9	4.31 ME / 7	4.24 ME / 6	4.26 ME / 6.5
10. I use story mapping techniques to help learners understand narratives.	4.12 ME / 11.5	4.24 ME / 8	4.16 ME / 10	4.17 ME / 10
11. I assess learners' comprehension through discussions after storytelling.	4.12 ME / 11.5	4.10 ME / 11.5	4.09 ME / 11	4.10 ME / 12
12. I integrate digital storytelling tools when applicable.	4.23 ME / 9	4.33 ME / 6	4.21 ME / 9	4.26 ME / 6.5
Average	4.34 ME	4.31 ME	4.28 ME	4.31 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

Storytelling received 4.31, Much Effective. Its indicators connect oral presentation, expressive narration, visual support, and learner involvement. Story-based activities offer a practical setting for discussing sequence, vocabulary, and meaning, which are relevant to the literacy profile. The study's favorable rating supports retaining storytelling as an instructional option, while its effectiveness for particular comprehension outcomes remains untested by the reported aggregate data.

Table 13. Teaching strategies in scaffolding

Indicator	Large districts	Medium districts	Small districts	Average
1. I provide step-by-step guidance when introducing new concepts.	4.44 ME / 1	4.12 ME / 9.5	4.34 ME / 2	4.30 ME / 2
2. I break down complex tasks into smaller, manageable steps.	4.09 ME / 12	4.21 ME / 5	4.45 ME / 1	4.25 ME / 5
3. I use guiding questions to help learners arrive at answers independently.	4.21 ME / 9	4.01 ME / 12	4.21 ME / 6	4.14 ME / 11
4. I model problem-solving strategies before letting learners try on their own.	4.34 ME / 3.5	4.34 ME / 1	4.21 ME / 6	4.30 ME / 2
5. I gradually reduce support as learners gain confidence.	4.23 ME / 8	4.17 ME / 6	4.15 ME / 10	4.18 ME / 9
6. I use sentence starters and prompts to assist learners in their responses.	4.32 ME / 7	4.23 ME / 3	4.31 ME / 4	4.29 ME / 4
7. I provide clear and structured instructions for tasks and activities.	4.16 ME / 10	4.23 ME / 3	4.22 ME / 5	4.20 ME / 7.5
8. I encourage learners to think aloud while solving problems.	4.33 ME / 5.5	4.12 ME / 9.5	4.21 ME / 6	4.22 ME / 6
9. I use checklists and graphic organizers to support learner understanding.	4.14 ME / 11	4.23 ME / 3	4.18 ME / 9	4.18 ME / 10
10. I offer hints and cues to guide learners toward the correct answer.	4.43 ME / 2	4.13 ME / 7	4.33 ME / 3	4.30 ME / 2
11. I ensure that scaffolding techniques match the needs of individual learners.	4.33 ME / 5.5	4.12 ME / 9.5	4.15 ME / 10	4.20 ME / 7.5
12. I assess learners' progress before gradually increasing the level of challenge.	4.34 ME / 3.5	4.12 ME / 9.5	3.34 E / 12	3.93 ME / 12
Average	4.28 ME	4.17 ME	4.18 ME	4.21 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

Scaffolding received 4.21, Much Effective. Breaking tasks into manageable steps and providing guidance address instructional support, but the adequacy of that support depends on learner need and its gradual adjustment. The lower relative rating and nonsignificant concordance call for careful examination of how respondents understood the indicators. They do not establish that scaffolding was absent or ineffective. Classroom evidence would be needed to assess whether assistance promoted eventual independent performance.

Table 14. Teaching strategies in use of technologies

Indicator	Large districts	Medium districts	Small districts	Average
1. I integrate multimedia resources to support my teaching	4.12 ME / 2	3.98 ME / 5	3.45 E / 5	3.85 ME / 4.5
2. I use interactive educational apps to enhance learning experiences.	4.09 ME / 5	4.01 ME / 3	3.99 ME / 2	4.03 ME / 2
3. I encourage learners to use digital tools for research and exploration.	3.78 ME / 6	3.45 E / 6	3.86 ME / 3	3.70 ME / 6
4. I incorporate online quizzes and games to reinforce learning.	3.12 E / 12	2.88 E / 12	2.12 FE / 11.5	2.71 E / 12
5. I use audio-visual materials (e.g., videos, podcasts) to supplement lessons.	3.48 E / 8	3.41 E / 8	2.98 E / 9	3.29 E / 8
6. I teach learners how to use technology responsibly and ethically.	4.10 ME / 4	4.12 ME / 2	3.33 E / 6	3.85 ME / 4.5
7. I leverage digital storytelling tools in the classroom.	3.44 E / 10	3.23 E / 9	2.99 E / 8	3.22 E / 9
8. I facilitate virtual field trips or online learning experiences.	3.32 E / 11	3.11 E / 11	2.45 FE / 10	2.96 E / 11
9. I encourage learners to create digital presentations and projects.	3.45 E / 9	3.43 E / 7	3.12 E / 7	3.33 E / 7
10. I provide learning materials through digital platforms.	3.56 ME / 7	3.22 E / 10	2.12 FE / 11.5	2.97 E / 10
11. I adapt my teaching methods to align with available technological resources.	4.10 ME / 4	4.34 ME / 1	4.34 ME / 1	4.26 ME / 1
12. I assess the effectiveness of technology-based strategies in my classroom.	4.12 ME / 2	3.99 ME / 4	3.76 ME / 4	3.96 ME / 3
Average	3.72 ME	3.60 ME	3.21 E	3.51 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

Use of technologies received 3.51, Much Effective, the lowest strategy mean. Large and medium districts retained Much Effective domain labels, while small districts were classified Effective. This descriptive contrast could inform a review of access and instructional support, but it does not identify the cause of the difference. Koehler and Mishra (2009) place technology within its pedagogical and content relationships, suggesting that improvement planning should specify the reading purpose of a digital activity rather than focus on equipment use alone.

Table 15. Teaching strategies in positive reinforcement

Indicator	Large districts	Medium districts	Small districts	Average
1. I integrate multimedia resources to support my teaching	4.34 ME / 4	4.27 ME / 2	4.12 ME / 2	4.24 ME / 2
2. I use interactive educational apps to enhance learning experiences.	3.99 ME / 7	3.45 E / 8	3.33 E / 6	3.59 ME / 7
3. I encourage learners to use digital tools for research and exploration.	3.33 E / 11	3.15 E / 9	2.99 E / 10	3.16 E / 11
4. I incorporate online quizzes and games to reinforce learning.	3.23 E / 12	3.12 E / 11	2.34 FE / 12	2.90 E / 12
5. I use audio-visual materials (e.g., videos, podcasts) to supplement lessons.	4.34 ME / 4	3.97 ME / 5	3.23 E / 7	3.85 ME / 5
6. I teach learners how to use technology responsibly and ethically.	4.45 ME / 2	4.23 ME / 3	4.00 ME / 4	4.23 ME / 3
7. I leverage digital storytelling tools in the classroom.	3.98 ME / 8	3.12 E / 11	2.45 FE / 11	3.18 E / 10

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Indicator	Large districts	Medium districts	Small districts	Average
8. I facilitate virtual field trips or online learning experiences.	3.99 ME / 7	3.78 ME / 6	3.48 E / 5	3.75 ME / 6
9. I encourage learners to create digital presentations and projects.	3.89 ME / 9	3.11 E / 12	2.99 E / 10	3.33 E / 9
10. I provide learning materials through digital platforms.	3.56 ME / 10	3.45 E / 8	3.12 E / 8	3.38 E / 8
11. I adapt my teaching methods to align with available technological resources.	4.51 VME / 1	4.45 ME / 1	4.34 ME / 1	4.43 ME / 1
12. I assess the effectiveness of technology-based strategies in my classroom.	4.34 ME / 4	4.11 ME / 4	4.09 ME / 3	4.18 ME / 4
Average	4.00 ME	3.68 ME	3.37 E	3.68 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

The domain labeled Positive Reinforcement received 3.68, Much Effective. Its indicators concern multimedia, educational applications, virtual experiences, and other technology practices rather than directly describing praise, rewards, or contingent feedback. The label and entries are retained, but the domain cannot be interpreted confidently as a distinct measure of reinforcement. Its ranking should therefore not be used as evidence about the effectiveness of reinforcement without clarification of the instrument.

Table 16. Summary of teaching strategies

Indicator	Large districts	Medium districts	Small districts	Average
1. Active Learning	4.38 ME / 2	4.37 ME / 1	4.28 ME / 2	4.34 ME / 1
2. Differentiated Instruction	4.37 ME / 3	4.33 ME / 2	4.26 ME / 4	4.32 ME / 3
3. Collaborative Learning	4.38 ME / 1	4.32 ME / 3	4.29 ME / 1	4.33 ME / 2
4. Story Telling	4.34 ME / 4	4.31 ME / 4	4.28 ME / 3	4.31 ME / 4
5. Scaffolding	4.28 ME / 5	4.17 ME / 5	4.18 ME / 5	4.21 ME / 5
6. Use of Technologies	3.72 ME / 7	3.60 ME / 7	3.21 E / 7	3.51 ME / 7
7. Positive Reinforcement	4.00 ME / 6	3.68 ME / 6	3.37 E / 6	3.68 ME / 6
Average	4.21 ME	4.11 ME	3.98 ME	4.10 ME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

The overall strategy mean was 4.10, Much Effective. Active learning, collaboration, differentiation, and storytelling formed the higher-rated part of the profile; technology and the domain labeled Positive Reinforcement were lower. This pattern supports attention to how classroom interaction and resources are combined. It does not rank the causal effects of these strategies. Moreover, the content overlap between technology and Positive Reinforcement limits the interpretation of those two domains as separate constructs.

Table 17. Agreement on rankings of teaching strategies

Domain	Squared deviation	k	n	W	χ^2	df	H ₁	Sig.
Active Learning	1032	3	12	0.80	26.40	11	Accepted	0.005
Differentiated learning	736	3	12	0.57	18.81	11	Rejected	NS
Collaborative learning	747	3	12	0.58	19.14	11	Rejected	Not Significant
Story telling	1061.5	3	12	0.82	27.06	11	Accepted	0.005
Scaffolding	372.5	3	12	0.29	9.57	11	Rejected	NS

Domain	Squared deviation	k	n	W	χ^2	df	H ₁	Sig.
Use of Technologies	1126.5	3	12	0.88	29.04	11	Accepted	0.005
Positive Reinforcement	1185.5	3	12	0.92	30.36	11	Accepted	0.005

Table 17 continued. Reported chi-square comparison values

Domain	0.05	0.025	0.01	0.005	0.001
Active Learning	18.31	20.48	23.21	25.19	29.59
Differentiated learning	19.68	21.92	24.73	26.76	31.26
Collaborative learning	21.03	23.34	26.22	28.30	32.91
Story telling	19.68	21.92	24.73	26.76	31.26
Scaffolding	21.03	23.34	26.22	28.30	32.91
Use of Technologies	19.68	21.92	24.73	26.76	31.26
Positive Reinforcement	19.68	21.92	24.73	26.76	31.26

Note. k = number of groups; n = number of items; W = Kendall's coefficient of concordance; χ^2 = computed chi-square; df = degrees of freedom; H₁ = reported decision on the alternative hypothesis; Sig. = reported significance of agreement. NS and Not Significant retain their reported wording. Comparison values and decisions are reproduced without recalculation.

Significant agreement was reported for active learning, storytelling, use of technologies, and Positive Reinforcement. Differentiated learning, collaborative learning, and scaffolding were reported as nonsignificant. Agreement may reflect a shared view of which indicators are most visible or salient, but it cannot establish a common level of implementation. The comparison values vary across domains even though the table reports 12 items and 11 degrees of freedom throughout; the reported decisions are retained pending verification of the statistical calculations.

Table 18. Challenges in understanding what was read

Indicator	Large districts	Medium districts	Small districts	Average
1. Helping learners identify the main idea of a passage.	4.48 MC / 4	4.45 MC / 4	4.43 MC / 3.5	4.45 MC / 3.5
2. Teaching learners to make inferences based on the text.	4.34 MC / 8	4.44 MC / 5	4.13 MC / 9	4.30 MC / 8
3. Assisting learners in drawing conclusions from what they read.	4.32 MC / 11	4.34 MC / 7.5	4.23 MC / 7	4.30 MC / 9
4. Guiding learners to sequence events correctly in a story.	4.50 VMC / 3	4.53 VMC / 1	4.48 MC / 2	4.50 VMC / 2
5. Teaching learners how to summarize a text.	4.34 MC / 8	4.24 MC / 10	4.34 MC / 5	4.31 MC / 7
6. Helping learners distinguish between fact and opinion.	4.51 VMC / 1.5	4.52 VMC / 2	4.52 VMC / 1	4.52 VMC / 1
7. Assisting learners in understanding cause-and-effect relationships.	4.34 MC / 8	4.12 MC / 11.5	4.12 MC / 10	4.19 MC / 12
8. Supporting learners in identifying the author's purpose.	4.44 MC / 5	4.48 MC / 3	4.43 MC / 3.5	4.45 MC / 3.5
9. Teaching learners to recognize story elements	4.33 MC / 10	4.34 MC / 7.5	4.33 MC / 6	4.33 MC / 6
10. Encouraging learners to use context clues for understanding.	4.17 MC / 12	4.32 MC / 9	4.11 MC / 11	4.20 MC / 11
11. Assessing learners' comprehension through questioning.	4.51 VMC / 1.5	4.38 MC / 6	4.15 MC / 8	4.35 MC / 5
12. Maintaining learner engagement during comprehension activities.	4.43 MC / 6	4.12 MC / 11.5	4.05 MC / 12	4.20 MC / 11
Average	4.39 MC	4.36 MC	4.28 MC	4.34 MC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

Comprehension-related challenges received 4.34, Much Challenging. Distinguishing fact from opinion and sequencing events were among the most strongly rated difficulties. These tasks require learners to organize and evaluate information, which helps explain their relevance to the lower comprehension skill rating without establishing a causal link. Instructional planning can use this combination to prioritize explicit explanation and guided interpretation, followed by evidence of what learners can do independently.

Table 19. Challenges in vocabulary instruction

Indicator	Large districts	Medium districts	Small districts	Average
1. Addressing limited exposure to new words.	3.99 MC / 12	3.23 C / 12	3.12 C / 12	3.45 C / 12
2. Teaching vocabulary with limited classroom time.	4.11 MC / 9.5	3.87 MC / 10	3.67 MC / 10.5	3.88 MC / 11
3. Supporting learners in understanding multiple meanings of words.	4.12 MC / 7	4.34 MC / 4	4.09 MC / 6	4.18 MC / 5.5
4. Helping learners use new vocabulary in sentences.	4.12 MC / 7	4.09 MC / 7	3.99 MC / 7	4.07 MC / 7
5. Encouraging word retention after lessons.	4.09 MC / 11	3.99 MC / 8	3.67 MC / 10.5	3.92 MC / 9
6. Teaching synonyms and antonyms effectively.	4.13 MC / 5	4.34 MC / 4	4.11 MC / 4.5	4.19 MC / 3.5
7. Supporting learners in using vocabulary in oral communication.	4.22 MC / 3	4.16 MC / 6	4.17 MC / 2	4.18 MC / 5.5
8. Making vocabulary activities engaging for young learners.	4.11 MC / 9.5	3.67 MC / 11	3.89 MC / 8	3.89 MC / 10
9. Encouraging learners to use dictionaries or vocabulary charts.	4.15 MC / 4	3.98 MC / 9	3.78 MC / 9	3.97 MC / 8
10. Helping learners understand academic vocabulary.	4.51 VMC / 1	4.45 MC / 1	4.12 MC / 3	4.36 MC / 2
11. Teaching context clues to determine word meaning.	4.12 MC / 7	4.34 MC / 4	4.11 MC / 4.5	4.19 MC / 3.5
12. Ensuring vocabulary instruction meets diverse learner levels.	4.41 MC / 2	4.43 MC / 2	4.34 MC / 1	4.39 MC / 1
Average	4.17 MC	4.07 MC	3.92 MC	4.06 MC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

Vocabulary challenges received 4.06, Much Challenging. Meeting diverse vocabulary levels and supporting academic word knowledge were particularly salient. This complements the moderate vocabulary-skill rating, although the two scales measure different judgments. Graves (2016) supports combining explicit word instruction with broader language experiences and strategies. The findings provide a local rationale for examining the balance of those opportunities, rather than evidence that any one vocabulary technique has already resolved the difficulty.

Table 20. Challenges in phonemic awareness instruction

Indicator	Large districts	Medium districts	Small districts	Average
1. Teaching learners to identify beginning, middle, and ending sounds.	4.33 MC / 11	4.21 MC / 11	4.12 MC / 12	4.22 MC / 11
2. Helping learners blend individual sounds to form words.	4.42 MC / 9	4.22 MC / 10	4.22 MC / 10	4.29 MC / 10
3. Teaching segmenting of spoken words into phonemes.	4.50 VMC / 7	4.51 VMC / 3	4.48 MC / 4	4.50 MC / 3.5
4. Addressing learners' confusion with similar-sounding letters.	4.53 VMC / 2	4.50 VMC / 4	4.44 MC / 6.5	4.49 MC / 5
5. Supporting learners in rhyming activities.	4.51 VMC / 4	4.49 MC / 5.5	4.37 MC / 8	4.46 MC / 8
6. Helping learners recognize and manipulate syllables.	4.51 VMC / 4	4.45 MC / 8.5	4.44 MC / 6.5	4.47 MC / 7

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Indicator	Large districts	Medium districts	Small districts	Average
7. Teaching sound-letter correspondence effectively.	4.50 VMC / 7	4.49 MC / 5.5	4.51 VMC / 2	4.50 VMC / 3.5
8. Identifying phonemic deficits during instruction.	4.34 MC / 10	4.45 MC / 8.5	4.34 MC / 9	4.38 MC / 9
9. Maintaining learner attention during phonics activities.	4.51 VMC / 4	4.52 VMC / 2	4.51 VMC / 2	4.51 VMC / 2
10. Adapting phonemic tasks for learners with learning difficulties.	4.50 VMC / 7	4.48 MC / 7	4.45 MC / 5	4.48 MC / 6
11. Engaging learners in auditory discrimination exercises.	4.54 VMC / 1	4.53 VMC / 1	4.51 VMC / 2	4.53 VMC / 1
12. Incorporating multisensory techniques for phonemic awareness.	4.30 MC / 12	4.13 MC / 12	4.20 MC / 11	4.21 MC / 12.0
Average	4.46 MC	4.42 MC	4.38 MC	4.42 MC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

Weak phonemic awareness received a challenge mean of 4.42, Much Challenging, despite phonemic awareness being the highest-rated skill domain. This apparent tension is informative: respondents may perceive generally evident skills while still finding their instruction demanding. The measures address different questions and should not be collapsed into a single judgment of success. The study does not identify whether difficulties were concentrated among particular learners or whether the challenge ratings concern instructional effort across the class.

Table 21. Challenges in sustaining interest in reading

Indicator	Large districts	Medium districts	Small districts	Average
1. Encouraging learners to read voluntarily.	4.45 MC / 10.5	4.34 MC / 11.5	4.27 MC / 12	4.35 MC / 11
2. Making reading activities enjoyable and relevant.	4.23 MC / 12	4.42 MC / 10	4.33 MC / 11	4.33 MC / 12
3. Selecting reading materials that match learners' interests.	4.51 VMC / 6	4.51 VMC / 6	4.46 MC / 6	4.49 MC / 6
4. Addressing learners' preference for non-reading tasks (e.g., games).	4.52 VMC / 3.5	4.53 VMC / 5	4.53 VMC / 3	4.53 VMC / 4
5. Motivating reluctant readers.	4.50 VMC / 8	4.47 MC / 8	4.45 MC / 7	4.47 MC / 7.5
6. Balancing required texts with learner-choice reading.	4.51 VMC / 6	4.44 MC / 9	4.34 MC / 9.5	4.43 MC / 9
7. Establishing a consistent reading routine.	4.53 VMC / 2	4.56 VMC / 2.5	4.54 VMC / 2	4.54 VMC / 3
8. Providing engaging read-aloud sessions.	4.45 MC / 10.5	4.34 MC / 11.5	4.34 MC / 9.5	4.38 MC / 10
9. Reducing learners' boredom during reading tasks.	4.51 VMC / 6	4.54 VMC / 4	4.51 VMC / 5	4.52 VMC / 5
10. Encouraging parents to promote reading at home.	4.48 MC / 9	4.49 MC / 7	4.44 MC / 8	4.47 MC / 7.5
11. Integrating reading with other subjects.	4.56 VMC / 1	4.57 VMC / 1	4.52 VMC / 4	4.55 VMC / 1.5
12. Celebrating learners' reading achievements.	4.52 VMC / 3.5	4.56 VMC / 2.5	4.56 VMC / 1	4.55 VMC / 1.5
Average	4.49 MC	4.48 MC	4.44 MC	4.47 MC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

Lack of interest in reading received 4.47, Much Challenging. The indicators address voluntary reading, enjoyment, routines, and engagement, making motivation a prominent part of the instructional problem. A favorable strategy rating does not establish that learners remain engaged outside the activity or across time. This result supports considering text choice and accessible reading opportunities alongside skill instruction, while avoiding assumptions about learners' home experiences that were not measured.

Table 22. Challenges in reading frustration

Indicator	Large districts	Medium districts	Small districts	Average
1. Helping learners who fear reading aloud.	4.49 MC / 9.5	4.56 VMC / 4.5	4.54 VMC / 7	4.53 VMC / 7
2. Addressing learners' anxiety when reading unfamiliar words.	4.56 VMC / 4	4.56 VMC / 4.5	4.45 MC / 9	4.52 VMC / 8
3. Supporting learners who are embarrassed to make mistakes.	4.56 VMC / 4	4.56 VMC / 4.5	4.56 VMC / 1	4.56 VMC / 3.5
4. Managing learners who quickly give up during reading tasks.	4.56 VMC / 4	4.56 VMC / 4.5	4.56 VMC / 1	4.56 VMC / 3.5
5. Encouraging perseverance despite reading difficulties.	4.54 VMC / 8	4.47 MC / 11	4.44 MC / 10	4.48 MC / 10
6. Adapting reading materials to match learners' levels.	4.56 VMC / 4	4.56 VMC / 4.5	4.56 VMC / 1	4.56 VMC / 3.5
7. Building learners' reading confidence.	4.49 MC / 9.5	4.53 VMC / 9	4.48 MC / 8	4.50 VMC / 9
8. Recognizing signs of reading frustration early.	4.56 VMC / 4	4.56 VMC / 4.5	4.56 VMC / 1	4.56 VMC / 3.5
9. Assisting learners who struggle with comprehension tests.	4.56 VMC / 4	4.56 VMC / 4.5	4.56 VMC / 1	4.56 VMC / 3.5
10. Providing emotional support during difficult reading activities.	4.56 VMC / 4	4.56 VMC / 4.5	4.56 VMC / 1	4.56 VMC / 3.5
11. Preventing disengagement due to past failures in reading.	4.34 MC / 12	4.49 MC / 10	4.34 MC / 11	4.39 MC / 11
12. Teaching learners self-monitoring strategies for reading success.	4.35 MC / 11	4.12 MC / 12	4.34 MC / 11	4.27 MC / 12
Average	4.51 VMC	4.51 VMC	4.50 MC	4.50 VMC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

Frustration with reading was the highest-rated challenge, at 4.50, Very Much Challenging. Several indicators concern embarrassment, anxiety, persistence, emotional support, and matching materials to learner levels. The pattern shows why reading support cannot be limited to technical exercises. It supports attention to the experience of struggling readers, while the ratings do not establish a clinical condition or measure the prevalence of anxiety. The inconsistent code attached to the small-district mean is retained.

Table 23. Challenges in access to books and resources

Indicator	Large districts	Medium districts	Small districts	Average
1. Providing sufficient reading materials in the classroom.	4.56 VMC / 1	4.56 VMC / 1	4.56 VMC / 1	4.56 VMC / 1
2. Accessing age-appropriate storybooks regularly.	4.34 MC / 5	4.45 MC / 4	4.23 MC / 5	4.34 MC / 4
3. Obtaining phonics and decoding practice materials.	4.13 MC / 9	4.23 MC / 8	4.12 MC / 10	4.16 MC / 10
4. Sourcing leveled readers for diverse proficiency levels.	4.34 MC / 5	4.34 MC / 6	4.16 MC / 8.5	4.28 MC / 7
5. Finding local resources for printed reading materials.	4.16 MC / 8	4.23 MC / 8	4.16 MC / 8.5	4.18 MC / 9
6. Getting access to digital reading resources.	4.45 MC / 3	4.48 MC / 3	4.23 MC / 5	4.39 MC / 2.5

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Indicator	Large districts	Medium districts	Small districts	Average
7. Using libraries that are regularly stocked and open.	4.12 MC / 11	4.09 MC / 11	3.34 C / 12	3.85 MC / 12
8. Ensuring each learner has personal reading materials at home.	4.45 MC / 3	4.5 VMC / 2	4.23 MC / 5	4.39 MC / 2.5
9. Encouraging book donations or community support.	4.12 MC / 11	4.23 MC / 8	4.23 MC / 5	4.19 MC / 8
10. Managing multiple learners with limited book copies.	4.11 MC / 12	4.03 MC / 12	3.99 MC / 11	4.04 MC / 11
11. Incorporating technology to supplement limited resources.	4.26 MC / 6	4.38 MC / 5	4.23 MC / 5	4.29 MC / 6
12. Motivating learners to read when books are scarce.	4.23 MC / 7	4.22 MC / 10	4.44 MC / 2	4.30 MC / 5
Average	4.27 MC	4.31 MC	4.16 MC	4.25 MC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

Access-related challenges received 4.25, Much Challenging. The indicators cover classroom materials, age-appropriate books, library access, and reading resources at home. These findings identify a resource dimension alongside instructional and motivational concerns. They do not provide a verified inventory or establish a household deficit for every learner. School planning would need to distinguish availability, suitability, and actual use of materials before deciding how best to respond.

Table 24. Summary of instructional challenges

Indicator	Large districts	Medium districts	Small districts	Average
1. Understanding What Was Read	4.39 MC / 4	4.36 MC / 4	4.28 MC / 4	4.34 MC / 4
2. Lack of Vocabulary	4.17 MC / 6	4.07 MC / 6	3.92 MC / 6	4.06 MC / 6
3. Weak Phonemic Awareness	4.46 MC / 3	4.42 MC / 3	4.38 MC / 3	4.42 MC / 3
4. Lack of Interest in Reading	4.49 MC / 2	4.48 MC / 2	4.44 MC / 2	4.47 MC / 2
5. Frustration with Reading	4.51 VMC / 1	4.51 VMC / 1	4.50 MC / 1	4.50 VMC / 1
6. Lack of Access to Books and Resources	4.27 MC / 5	4.31 MC / 5	4.16 MC / 5	4.25 MC / 5
Average	4.38 MC	4.36 MC	4.28 MC	4.34 MC

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VMC = Very Much Challenging; MC = Much Challenging; C = Challenging.

The overall challenge mean was 4.34, Much Challenging. Reading frustration, lack of interest, and weak phonemic awareness occupied the highest positions, while vocabulary had the lowest relative challenge mean but remained Much Challenging. Thus, a lower rank does not imply an unimportant problem. The profile supports combining cognitive, motivational, and resource responses, rather than treating the strongest foundational skill rating as evidence that foundational instruction no longer requires attention.

Table 25. Solutions offered for instructional challenges

Indicator	Large districts	Medium districts	Small districts	Average
1. Providing explicit phonics instruction in small groups	4.45 ME / 7.5	4.21 ME / 11.5	4.02 ME / 11	4.23 ME / 11
2. Incorporating multi-sensory activities into phonics lessons	4.5 VME / 6	4.52 VME / 6	4.45 ME / 6	4.49 ME / 6
3. Conducting daily phonemic awareness exercises	4.34 ME / 10	4.45 ME / 7	4.23 ME / 7.5	4.34 ME / 8

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Indicator	Large districts	Medium districts	Small districts	Average
4. Teaching new vocabulary explicitly	4.34 ME / 10	4.44 ME / 8.5	4.17 ME / 9.5	4.32 ME / 9.5
5. Using visual aids and interactive games (like flashcards or word maps)	4.45 ME / 7.5	4.41 ME / 10	4.23 ME / 7.5	4.36 ME / 7
6. Modeling and practicing reading comprehension strategies (such as summarizing, questioning, and predicting)	4.54 VME / 5	4.54 VME / 5	4.51 VME / 5	4.53 VME / 5
7. Using Venn diagrams to teach text structure and main ideas.	4.56 VME / 2.5	4.56 VME / 2.5	4.56 VME / 2.5	4.56 VME / 2.5
8. Conducting interactive read-aloud sessions	4.56 VME / 2.5	4.56 VME / 2.5	4.56 VME / 2.5	4.56 VME / 2.5
9. Integrating gamified activities into lessons	4.34 ME / 10	4.44 ME / 8.5	4.17 ME / 9.5	4.32 ME / 9.5
10. Organizing peer book discussion groups for increasing student motivation	4.13 ME / 12	4.09 ME / 13	3.99 ME / 12.5	4.07 ME / 13
11. Allowing students to choose their own reading materials	4.56 VME / 2.5	4.56 VME / 2.5	4.56 VME / 2.5	4.56 VME / 2.5
12. Partnering with local libraries for reading programs	3.21 E / 15	3.22 E / 15	2.19 FE / 15	2.87 E / 15
13. Engaging reading buddies for one-on-one tutoring	3.98 ME / 14	3.67 ME / 14	3.56 FE / 14	3.74 E / 14
14. Using flexible grouping for targeted support	4.12 ME / 13	4.21 ME / 11.5	3.99 ME / 12.5	4.11 ME / 12
15. Maintaining a diverse classroom library with a variety of genres and levels	4.56 VME / 2.5	4.56 VME / 2.5	4.56 ME / 2.5	4.56 ME / 2.5
Average	4.31 ME	4.30 ME	4.12 VME	4.24 VME

Note. Cells show weighted mean, verbal interpretation code, and rank (mean; code / rank). Blank ranks remain blank. VME = Very Much Effective; ME = Much Effective; E = Effective; FE = Fairly Effective.

The proposed solutions included comprehension modeling, interactive read-alouds, learner choice, diverse classroom libraries, explicit foundational instruction, and targeted support. Library partnerships received the lowest mean, 2.87, Effective. These are ratings of proposed responses rather than results from an evaluated intervention. The reported overall mean of 4.24 carries a Very Much Effective label despite the stated scale intervals. The value and label are preserved; neither establishes that the proposals produced literacy gains.

Table 26. Agreement on rankings of challenges and solutions

Domain	Squared deviation	k	n	W	χ^2	df	H ₁	Sig.
Understanding What Was Read	978	3	12	0.76	25.08	11	Accepted	0.01
Lack of Vocabulary	1123	3	12	0.87	28.71	11	Accepted	0.005
Weak Phonemic Awareness	1086	3	12	0.84	27.72	11	Accepted	0.005
Lack of Interest in Reading	1188	3	12	0.92	30.36	11	Accepted	0.005
Frustration with Reading	1138	3	12	0.88	29.04	11	Accepted	0.005
Lack of Access to Books and Resources	1035.5	3	12	0.80	26.40	11	Accepted	0.01
Solutions offered	2391.5	3	15	0.95	39.90	14	Accepted	0.001

Table 26 continued. Reported chi-square comparison values

Domain	0.05	0.025	0.01	0.005	0.001
Understanding What Was Read	19.68	21.92	24.73	26.76	31.26
Lack of Vocabulary	19.68	21.92	24.73	26.76	31.26

Domain	0.05	0.025	0.01	0.005	0.001
Weak Phonemic Awareness	19.68	21.92	24.73	26.76	31.26
Lack of Interest in Reading	19.68	21.92	24.73	26.76	31.26
Frustration with Reading	19.68	21.92	24.73	26.76	31.26
Lack of Access to Books and Resources	19.68	21.92	24.73	26.76	31.26
Solutions offered	23.69	26.12	29.14	31.32	36.123

Note. k = number of groups; n = number of items; W = Kendall's coefficient of concordance; χ^2 = computed chi-square; df = degrees of freedom; H₁ = reported decision on the alternative hypothesis; Sig. = reported significance of agreement. NS and Not Significant retain their reported wording. Comparison values and decisions are reproduced without recalculation.

All challenge and solution domains were reported as showing significant agreement. The solutions domain had the largest W and computed chi-square, indicating strong consistency in the reported priority order. That agreement gives a basis for coordinated planning, but it does not validate the practical effectiveness of the proposals. The table assigns solutions a significance label of 0.001, while the narrative uses $p < 0.05$. These statements are retained as distinct reported levels rather than converted into an invented exact probability.

4. Discussion

4.1 An uneven literacy profile

The study's central descriptive finding was an uneven literacy profile. Phonemic awareness and phonics received stronger ratings than vocabulary, fluency, and comprehension. This supports an instructional interpretation that foundational skills and meaning construction both need attention. It does not show that foundational teaching was sufficient, that comprehension difficulties were caused by any particular deficit, or that every Grade 3 learner followed the same pattern.

The distinction between the National Reading Panel's (2000) domains helps organize these findings without treating them as interchangeable. Likewise, Duke et al. (2021) connect comprehension with multiple instructional supports, including vocabulary, knowledge, strategy use, and engagement. In the study, these connections provide an interpretive framework for prioritizing support; the aggregate ratings did not test a model of how the domains influenced one another.

4.2 Strategy ratings and instructional meaning

The strongest strategy ratings favored interactive and learner-involving approaches. Active learning, collaboration, differentiation, and storytelling may provide settings in which learners explain ideas and practice reading-related language. Yet a high rating does not reveal whether the activity targeted a specific literacy need or whether the learner transferred the skill to independent reading. Planning should therefore connect an activity with a clear reading purpose and an observable learning task.

Technology was less strongly rated, but the evidence does not justify replacing other strategies with digital activities. Schindler et al. (2017) reviewed technology and engagement in higher education, a context different from Grade 3 classrooms. Their work is relevant to the need to specify engagement and instructional purpose, but its findings cannot be transferred directly to these learners. The technology results also require caution because the Positive Reinforcement domain repeats technology-related content, weakening the distinctness of the constructs.

4.3 Challenges and proposed responses

Reading frustration and lack of interest were the most prominent challenges. Their position alongside comprehension difficulties suggests that the proposed response should attend to both instructional demand and learner experience. Matching text difficulty, allowing meaningful choice, modeling reading strategies, and providing supportive practice are consistent with the proposed solutions. The study did not evaluate an intervention combining these elements, so the recommendations remain proposals for implementation and subsequent assessment.

The action-plan discussion emphasized explicit, multisensory, and systematic instruction for phonemic awareness and vocabulary, including daily sound exercises, vocabulary teaching, visual aids, and interactive games. Its broader implications also included comprehension strategy modeling, differentiated support, read-alouds, access to varied texts, and community participation. No complete action-plan matrix with verified responsibilities, schedule, budget, or success indicators was reported. Those implementation details cannot be supplied as if they were findings of the study.

4.4 Agreement and local planning

Concordance was generally strong for literacy domains, challenges, and proposed solutions, while three teaching-strategy domains did not show significant agreement. Shared ranking can help establish common priorities, but it is different from shared rating levels or equivalent classroom practice. Nonsignificance does not demonstrate that a strategy has no educational value. The pattern instead suggests that district discussion should distinguish agreement on priorities from the content and quality of implementation.

Differences among large, medium, and small district means were descriptive. Group sizes, district classification criteria, and contextual characteristics were not reported, so the study cannot attribute those differences to resource availability, school size, teaching quality, or learner background. The results can guide questions for local investigation, while decisions about allocating support require additional school-level evidence.

5. Conclusion

The study reported literacy skills as Much Evident overall, with stronger ratings for phonemic awareness and phonics than for vocabulary, fluency, and comprehension. Teaching strategies were rated Much Effective, with active learning highest and technology lowest. Instructional

challenges were Much Challenging overall; frustration with reading received the strongest challenge rating. The proposed solutions emphasized explicit instruction, comprehension support, learner choice, differentiated assistance, and access to reading materials. Significant agreement was reported across literacy, challenge, and solution domains, while differentiated learning, collaborative learning, and scaffolding were reported as nonsignificant. These findings identify perceived strengths and shared priorities for Grade 3 literacy support. They do not demonstrate that the teaching strategies caused improved literacy. Interpretation is limited by missing procedural details, inconsistent classifications, and the absence of direct measures of change.

References

- [1] Duke, N. K., Ward, A. E., & Pearson, P. D. (2021). The science of reading comprehension instruction. *The Reading Teacher*, 74(6), 663–672. <https://doi.org/10.1002/trtr.1993>
- [2] Graves, M. F. (2016). *The vocabulary book: Learning and instruction* (2nd ed.). Teachers College Press.
- [3] Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70. <https://citejournal.org/volume-9/issue-1-09/general/what-is-technological-pedagogicalcontent-knowledge/>
- [4] National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (NIH Publication No. 00-4754). National Institute of Child Health and Human Development. <https://www.nichd.nih.gov/publications/product/247>
- [5] Schindler, L. A., Burkholder, G. J., Morad, O. A., & Marsh, C. (2017). Computer-based technology and student engagement: A critical review of the literature. *International Journal of Educational Technology in Higher Education*, 14, Article 25. <https://doi.org/10.1186/s41239-017-0063-0>