

Learning Styles and Reading Performance of Grade 4 Pupils: Basis for Action Plan

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ABSTRACT

This study determined the learning-style preferences and reading performance of Grade 4 pupils and examined whether the two were significantly related as a basis for a school reading action plan. A descriptive-correlational design was used at Annafunan Integrated School, Tuguegarao City, during School Year 2024–2025. From a population of 202 Grade 4 pupils in five sections, 133 were selected through simple random sampling using the Raosoft sample-size calculation; the teachers of the five sections also provided inputs for the reading intervention plan. Data were gathered using a validated learning-style survey questionnaire and the Philippine Informal Reading Inventory (Phil-IRI). Weighted means summarized learning-style preferences, reading performance was classified

into independent, instructional, and frustration levels, and Pearson product-moment correlation tested the relationship between the variables. The pupils generally preferred the measured learning approaches (overall weighted mean = 2.90). Kinesthetic learning obtained the highest mean (3.21), followed by group (3.13), auditory (3.09), visual (2.99), and individual learning (2.96), whereas tactile learning was not preferred (2.04). Of the 133 pupils, 68 were at the independent level, 48 at the instructional level, and 17 at the frustration level. Learning styles and reading performance were not significantly related ($r = 0.039$, $p = 0.652$). The study concludes that learning-style preference alone does not explain reading achievement. The resulting action plan therefore emphasizes differentiated, multimodal, evidence-informed reading activities, guided and remedial reading, teacher development, pupil engagement, and continuous assessment.

Keywords: *learning styles, reading performance, Grade 4 pupils, Phil-IRI, reading intervention, descriptive-correlational research*

INTRODUCTION

Reading is a foundational academic skill because it supports learning across subject areas and enables pupils to access, interpret, and use information. In basic education, difficulties in word recognition, fluency, and comprehension can affect performance beyond language subjects, making systematic reading assessment and early support essential (Afflerbach, 2016; Wren, 2021). Philippine schools likewise use reading assessment and intervention initiatives to identify learners who need additional assistance and to monitor the development of reading competence (Department of Education [DepEd], 2021; Nava et al., 2016).

At the same time, pupils differ in how they prefer to engage with instructional materials. Learning-style frameworks describe preferences for visual, auditory, reading/writing, kinesthetic, tactile, collaborative, or individual forms of learning. These preferences can help teachers diversify classroom activities and encourage pupil engagement (Moayyeri, 2015; Prithishkumar & Michael, 2014). However, the educational value of matching instruction to a presumed learning style remains contested. Reviews have found weak evidence that preference

matching consistently improves achievement, underscoring the distinction between what learners prefer and what actually predicts performance (Newton & Salvi, 2020; Willingham et al., 2015).

This issue was particularly relevant at Annafunan Integrated School, where Grade 4 pupils displayed varied engagement and reading difficulties. The thesis identified concerns involving motivation, participation, study practices, and low reading performance, while teachers continued to implement reading activities and interventions. Because reading achievement may be affected by several cognitive, instructional, and environmental factors, examining learning preferences alongside actual reading levels can provide a more grounded basis for planning support (Adunyarittigun, 2021; Owusu-Acheaw, 2014).

The study therefore addressed a practical school-level gap: whether Grade 4 pupils' learning-style preferences were associated with their reading performance and how the resulting evidence could inform an action plan. Specifically, it described pupils' learning-style preferences, identified their Phil-IRI reading levels, tested the relationship between learning styles and reading performance, and developed an intervention plan responsive to pupils at independent, instructional, and frustration levels. The study was intended to support teachers, school administrators, parents, pupils, and future educators in making reading instruction more responsive, inclusive, and data-driven.

Literature Review

Learning-Style Preferences and Multimodal Learning

Learning styles refer to recurring preferences in the ways learners receive, process, and engage with information. The VARK framework organizes preferences around visual, auditory, read/write, and kinesthetic modes, while other learning-style models incorporate tactile, environmental, sociological, emotional, and individual-versus-group dimensions. These frameworks have been widely used to help learners reflect on study preferences and to encourage teachers to vary instructional presentation (Moayyeri, 2015; Pritchard, 2014; Prithishkumar & Michael, 2014). The source study likewise measured visual, auditory, kinesthetic, tactile, group, and individual preferences in reading activities.

Learning preference, however, should not be treated as equivalent to ability. Research has questioned whether teaching learners exclusively according to a preferred style improves educational outcomes. Papadatou-Pastou et al. (2018) reported limited agreement between teachers' judgments and learners' self-reported styles, while Newton and Salvi (2020) documented the persistence of learning-style beliefs despite weak supporting evidence. Willingham et al. (2015) similarly emphasized the limited scientific basis for instructional matching. These findings favor a balanced interpretation in which learning-style information may guide variety and engagement without being assumed to determine achievement.

Learning Preferences, Engagement, and Academic Performance

Some empirical studies have nevertheless found associations between learning preferences and academic outcomes in particular contexts. İlçin et al. (2018), for example, examined learning styles and academic performance among physiotherapy students, illustrating that the relationship may vary by population, subject, and instructional environment. Erhardt (2016) also examined learning-teaching style assessment as a way of describing learner preferences. Such studies suggest that preference measures can provide useful descriptive information even when they should not be interpreted as fixed cognitive categories.

The classroom value of learning-style information may therefore lie more in instructional diversification than in strict matching. Visual organizers, oral explanation, independent reading, collaborative tasks, movement, and hands-on activities can provide multiple pathways for engagement. Klitmøller (2015) noted continuing debate surrounding learning-style models, while Pritchard (2014) emphasized that effective learning also depends on motivation, self-regulation, study habits, effort, and the learning environment. These broader factors are particularly important when interpreting reading achievement among elementary pupils.

Reading Comprehension and the Reading Process

Reading comprehension requires coordinated word recognition, vocabulary, fluency, prior knowledge, and meaning construction. Ngabut (2017) described reading as a process involving both information from the text and knowledge brought by the reader, while Aryadoust (2020) reviewed comprehension subskills that contribute to successful processing. Interactive and transactional perspectives further view reading as an active construction of meaning between reader and text rather than a passive reception of printed words (Main, 2023).

Because comprehension depends on multiple component skills, reading performance cannot be reduced to a single learner preference. Assessment must identify the level of support a learner requires and the specific skills needing development. Morris et al. (2019) examined instructional reading level from a print-processing perspective, while Afflerbach (2016) emphasized the role of assessment in informing reading instruction. These perspectives support the use of structured reading-level data in addition to learner preference surveys when planning intervention.

Reading Assessment and Intervention in Basic Education

The Philippine Informal Reading Inventory is used in school contexts to describe learners' oral, silent, and listening comprehension performance and to classify reading levels for instructional decision-making. Philippine literature has used Phil-IRI and related reading assessments to identify learners requiring remediation and to support targeted school-based programs (Basali, 2020; Nava et al., 2016). DepEd (2021) has likewise promoted tools that allow teachers and parents to monitor reading skills, reinforcing the importance of regular assessment and follow-up.

Reading intervention is most useful when it responds directly to assessed needs. Guided reading, repeated practice, vocabulary development, comprehension strategy instruction, independent reading, and monitoring can be combined with varied instructional formats to sustain engagement (Adunyarittigun, 2021; Wren, 2021). For the present study, the reviewed literature supported an inclusive approach: learning-style preferences were treated as descriptive information for planning varied activities, while Phil-IRI reading levels and empirical performance data provided the primary basis for determining the intensity and focus of intervention.

Conceptual Framework

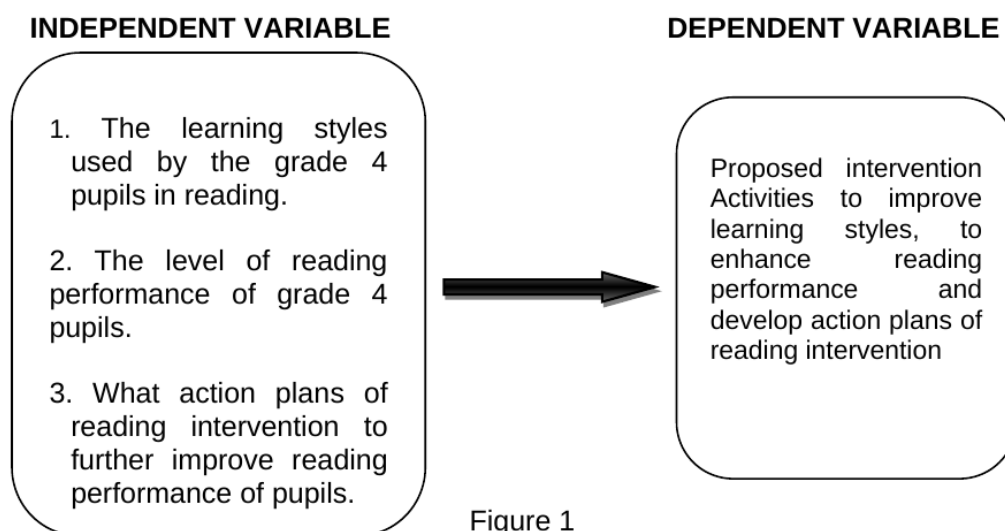


Figure 1

METHODS

Research Design

The study used a descriptive-correlational research design to describe the learning-style preferences and reading performance of Grade 4 pupils and to test the association between these variables without manipulating them. This design was consistent with correlational inquiry, which examines the strength and direction of relationships among naturally occurring variables (Bhandari, 2023), and with descriptive approaches used to document conditions within an implementation setting (Gu & Warren, 2017).

Research Locale

The study was conducted at Annafunan Integrated School, located at 103 Maharlika Highway, Barangay Annafunan East, Tuguegarao City, Cagayan, in the Cagayan Valley Region. The school serves elementary and junior high school learners. Data collection focused on the Grade 4 level during School Year 2024–2025.

Participants and Sampling Technique

The Grade 4 population consisted of 202 pupils distributed across five sections. Using the Raosoft sample-size calculation, 133 pupils were selected through simple random sampling. The teachers of the five Grade 4 sections also served as respondents for the open-ended component concerning the reading intervention action plan. The final quantitative analyses were based on the 133 sampled pupils.

Research Instrument

Data were gathered through a learning-style survey questionnaire and the Philippine Informal Reading Inventory (Phil-IRI). The pupil questionnaire covered visual, auditory, kinesthetic, tactile, group, and individual learning-style preferences using a four-point scale: 3.25–4.00, Strong Preference; 2.50–3.24, Preference; 1.75–2.49, No Preference; and 1.00–1.74, Strongly No Preference. The questionnaire was reviewed for validity by two master teachers and the school principal. An open-ended component was used to obtain teachers' inputs for the proposed action plan. Phil-IRI data were used to classify reading performance into independent, instructional, and frustration levels, consistent with the school's reading assessment procedures (DepEd, 2021; Nava et al., 2016).

Data Gathering Procedure

Before data collection, the researcher sought permission from the school principal to administer the instruments and obtained parental permission for Grade 4 pupils to participate. Pupils answered the learning-style questionnaire with appropriate guidance, and the school's reading assessment information was gathered through Phil-IRI procedures. Teacher inputs were collected for the action-plan component. The researcher then organized the learning-style responses, reading-level results, and intervention suggestions for analysis.

Data Analysis

Weighted means were used to summarize the pupils' learning-style preferences and interpret them using the four-point descriptive scale. Reading performance was summarized according to Phil-IRI categories: independent level (99% or higher), instructional level (91%–98%), and frustration level (90% or lower). Pearson product-moment correlation was used to determine whether learning-style scores and reading performance were significantly related at the 0.05 level of significance.

Ethical Consideration

Participation was undertaken with permission and informed consent. The pupils and teachers were informed about the study, participation was voluntary, and respondents could decline items they were uncomfortable answering. Names and identifying information were kept confidential, and collected information was used only for the stated research purposes. These procedures reflected the study's stated commitment to trust, transparency, confidentiality, and responsible handling of participant information (Žukauskas et al., 2018).

RESULTS AND DISCUSSION

Learning-Style Preferences of Grade 4 Pupils

The Grade 4 pupils generally preferred the measured learning approaches, with an overall weighted mean of 2.90. Kinesthetic learning obtained the highest mean (3.21), followed by group learning (3.13), auditory learning (3.09), visual learning (2.99), and individual learning (2.96). Tactile learning obtained the lowest mean (2.04) and was interpreted as No Preference. The profile shows that pupils were especially receptive to movement, active participation, collaboration, listening, visual input, and independent work, while touch-centered reading activities were less favored.

Table 1. *Summary of Pupils' Learning-Style Preferences in Reading*

Learning-style preference	Weighted mean	Interpretation
Visual	2.99	Preference
Auditory	3.09	Preference
Kinesthetic	3.21	Preference
Tactile	2.04	No Preference
Group	3.13	Preference
Individual	2.96	Preference
Overall	2.90	Preference

This pattern supports the use of varied classroom experiences rather than reliance on a single presentation mode. It is consistent with learning-style literature that treats preferences as useful descriptive information for structuring engagement (Moayyeri, 2015; Prithishkumar & Michael, 2014). At the same time, the profile should not be interpreted as evidence that instruction must be matched exclusively to a pupil's preferred style. Contemporary reviews caution that preference and learning effectiveness are not equivalent and that strict matching does not reliably improve outcomes (Newton & Salvi, 2020; Papadatou-Pastou et al., 2018; Willingham et al., 2015).

Reading Performance of Grade 4 Pupils

Reading performance showed substantial variation. Sixty-eight pupils were at the independent level with an average score of 99.12, 48 were at the instructional level with an average of 91.28, and 17 remained at the frustration level with an average of 60.71. Thus, most pupils were able to read either independently or with instructional support, while a smaller but important group continued to experience substantial difficulty with reading and comprehension.

Table 2. *Reading Performance of Grade 4 Pupils*

Reading level	n	SD	Average score	Interpretation
Independent	68	1.562	99.12	Reads independently
Instructional	48	2.543	91.28	Needs teacher guidance
Frustration	17	0.456	60.71	Experiences substantial difficulty

The presence of pupils at all three levels highlights the need for differentiated reading support. Learners at the instructional level require guided practice to consolidate comprehension and fluency, while those at the frustration level require more intensive remediation. This use of reading-level information is consistent with assessment literature emphasizing that instructional decisions should be anchored in demonstrated performance and specific reading needs rather than general preference alone (Afflerbach, 2016; Morris et al., 2019).

Relationship Between Learning Styles and Reading Performance

Pearson product-moment correlation showed a very weak positive association between learning styles and reading performance ($r = 0.039$, $n = 133$). The p -value of 0.652 exceeded the 0.05 level of significance; therefore, the relationship was not statistically significant and the null hypothesis was accepted. The finding indicates that

differences in the pupils' reported learning-style preferences were not meaningfully associated with differences in their reading performance.

Table 3. *Relationship Between Reading Performance and Learning Styles*

Statistic	Value	Interpretation / decision
Pearson r	0.039	Very weak relationship
p-value	0.652	Not significant at $\alpha = .05$
n	133	Null hypothesis accepted

This result is consistent with literature cautioning against treating learning-style preference as a strong predictor of academic performance. Willingham et al. (2015), Papadatou-Pastou et al. (2018), and Newton and Salvi (2020) all questioned the assumption that matching instruction to a preferred style produces superior outcomes. Reading performance is more plausibly understood as the result of interacting competencies and conditions, including word recognition, comprehension processes, reading strategies, motivation, practice, quality of instruction, and access to appropriate materials (Adunyarittigun, 2021; Aryadoust, 2020; Ngabut, 2017).

Proposed Reading Intervention Action Plan

Because learning-style preference was not significantly related to reading performance, the action plan did not treat style matching as the primary intervention mechanism. Instead, it combined varied and inclusive learning activities with guided reading, remedial support, teacher development, reading engagement, and continuing assessment. The plan was designed to support pupils at the frustration and instructional levels while maintaining enrichment opportunities for independent readers.

Table 4. *Core Components of the Proposed Reading Intervention Action Plan*

Objective	Activities / strategies	Persons involved / schedule	Success indicator
Improve comprehension and fluency	Daily guided reading using mixed visual, auditory, read/write, and hands-on activities	Grade 4 teachers; whole school year	Higher scores in quarterly reading assessments
Provide inclusive instruction	Graphic organizers, flashcards, word walls, read-aloud, paired/choral reading, oral drills, textbooks, dictionaries, role-play and dramatization	Grade 4 teachers; whole school year	Active participation and varied materials used
Strengthen teacher competence	INSET/LAC sessions on evidence-based reading strategies, VARK integration, and sharing of developed materials	School head and master teachers; quarterly	Teachers apply varied reading strategies and improve instruction
Increase reading engagement	DEAR, reading stations, remedial sessions, and peer tutoring	Teachers, pupils, reading coordinator; daily	Improved reading interest and participation
Monitor reading progress	Regular reading assessments and progress monitoring	Teachers and reading coordinator; quarterly	Improved reading levels and documented monitoring

The intervention reflects a multimodal but evidence-oriented approach. Visual, auditory, read/write, kinesthetic, tactile, group, and individual activities can be used to increase engagement, yet decisions about intensity of support are anchored in actual reading performance. Guided practice, assessment, and systematic intervention are consistent with the broader reading literature and with the school-based use of Phil-IRI for identifying and monitoring learners who require additional support (Basali, 2020; DepEd, 2021; Nava et al., 2016).

CONCLUSION

Grade 4 pupils at Annafunan Integrated School demonstrated varied learning-style preferences, with stronger preferences for kinesthetic, group, auditory, visual, and individual approaches and a lower preference for tactile activities. Reading performance was also varied: most pupils were at independent or instructional levels, while 17 pupils remained at the frustration level and required more focused support. Most importantly, learning-style preferences were not significantly related to reading performance ($r = 0.039$, $p = 0.652$). Thus, preference alone did not provide a sufficient explanation for pupils' reading achievement.

The study contributes a practical school-based basis for reading intervention by distinguishing engagement preferences from demonstrated reading needs. The proposed action plan therefore prioritizes differentiated and multimodal reading experiences, guided and remedial instruction, teacher professional development, sustained reading engagement, and regular assessment. Its central implication is that varied strategies may help pupils participate and remain motivated, but reading support should be driven principally by assessed reading performance and evidence-based skill development.

Recommendation

Teachers should continue using varied reading activities that incorporate visual, auditory, read/write, kinesthetic, collaborative, and independent opportunities without assuming that a particular learning-style preference will determine achievement. Pupils at the instructional and frustration levels should receive sustained guided reading, remedial instruction, repeated practice, and appropriate enrichment or scaffolding based on their assessed needs.

The school should conduct regular reading assessments to monitor progress, use the results to adjust interventions, and strengthen teacher competence through INSET or LAC sessions on evidence-based reading strategies and multimodal classroom practice. The proposed action plan should be disseminated within the school and implemented with coordinated support from the school head, master teachers, Grade 4 teachers, reading coordinator, pupils, and parents. Future studies may use multiple schools, classroom observation, performance-based measures, and additional learner or environmental variables to explain reading performance more comprehensively.

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