

Multimodal Storytelling and Vocabulary Readiness among Grade 1 Learners

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ABSTRACT

This study examined how multimodal storytelling was associated with vocabulary readiness among Grade 1 learners at Tubo Elementary School in the City of Ilagan, Isabela. A cross-sectional ecological association design was employed to document storytelling practices within regular English lessons without manipulating classroom conditions. Data were gathered using the Multimodal Storytelling Observation Scale and the Grade 1 Vocabulary Readiness Assessment, both of which demonstrated strong content validity and internal consistency. Descriptive statistics, Spearman's rank-order correlation, and quantile regression with bootstrap confidence intervals were used to analyze the data. Findings showed that multimodal storytelling was practiced at a high level, with oral narration,

visual representations, gestures, and guided interaction as its most evident features. Vocabulary readiness was generally developing, with learners performing better in receptive word recognition and picture-word association than in word recall and independent oral use. Overall multimodal storytelling was significantly and positively associated with vocabulary readiness. Guided interaction showed the strongest relationship among the storytelling dimensions. Quantile regression further revealed that multimodal storytelling had its greatest association with learners at the lower end of the vocabulary distribution, while its influence became weaker among learners with higher readiness levels. The results indicated that multimodal storytelling was particularly valuable for learners who needed greater language support. Structured questioning, repeated exposure, visual and gestural cues, oral practice, and differentiated follow-up activities were recommended to strengthen vocabulary learning in Grade 1 English classrooms.

Keywords: *Grade 1 learners, guided interaction, multimodal storytelling, quantile regression, vocabulary development, vocabulary readiness*

INTRODUCTION

The first year of elementary education is a formative period in which children begin to connect spoken language with printed words, classroom instructions, stories, and social interaction. At this stage, vocabulary knowledge influences how learners understand what they hear, express their ideas, follow directions, and make sense of beginning reading materials. A child who recognizes and understands a growing number of words is more prepared to participate in oral activities and interpret simple texts. In the Philippine English curriculum, vocabulary development is taught alongside oral language, listening comprehension, phonological awareness, phonics, and word recognition, showing that word knowledge is closely connected with the broader development of early literacy skills (Department of Education, 2016).

Vocabulary readiness refers to the degree to which a learner is prepared to recognize, understand, remember, and use words that are suitable for classroom communication and beginning literacy tasks. Grade 1

learners do not enter school with identical language experiences. Some may have encountered a wide range of English words through conversations, books, songs, television programs, or digital materials, while others may have had fewer opportunities to hear and use English outside the classroom. These differences can become visible when learners are asked to identify objects, describe pictures, retell events, answer questions, or understand words found in stories. A systematic review by Wasik et al. (2016) found that book-reading practices are more beneficial when adults intentionally explain unfamiliar words, ask questions, and encourage children to process word meanings. Vocabulary readiness, therefore, is not limited to the number of words a child can repeat. It also includes the ability to connect words with meanings, experiences, actions, images, and appropriate situations.

Stories provide a natural setting for this kind of vocabulary learning because words are presented as part of characters, events, places, actions, and problems that children can follow. Rather than encountering a word as an isolated item, learners hear it within a meaningful sequence. They can observe what a character is doing, listen to how the word is pronounced, and connect it with an illustration or classroom demonstration. Evidence from a meta-analysis of shared storybook reading showed that children can learn new words through story reading, particularly when target words are repeated and when adults involve children in discussing the story (Flack et al., 2018). Another systematic review and meta-analysis found that shared picture-book reading interventions can strengthen children's language development, although the results are influenced by the amount and quality of the reading experiences provided to them (Dowdall et al., 2020). These findings suggest that storytelling becomes more useful for vocabulary development when children are not treated as silent listeners but as active participants in the meaning-making process.

Multimodal storytelling expands the learning experience by presenting a story through more than one mode of communication. Spoken narration may be supported by illustrations, printed words, facial expressions, gestures, body movements, sound effects, music, puppets, real objects, video clips, or simple digital presentations. Each mode can offer a different clue about the meaning of an unfamiliar word. A picture can show the appearance of an object, a gesture can demonstrate an action, a sound can represent an animal or event, and printed text can help learners notice the written form of a word. In a structured storytelling study involving young children, storytelling combined with play-based and digital activities produced gains in early literacy and digital literacy skills. The researchers explained that children benefited when storytelling was organized as a sequence of connected activities rather than presented as a single passive listening task (Maureen et al., 2020).

The value of multimodal storytelling lies in the way it can make spoken language more concrete for beginning learners. Grade 1 children may find an unfamiliar word difficult when it is presented only through a verbal definition. When that same word is heard in a story, shown through a picture, acted out, and used in a short conversation, the learner receives several connected sources of meaning. Electronic storybooks can provide narration, written text, static or moving images, music, sound effects, and embedded vocabulary support. A meta-analysis by Egert et al. (2022) found that well-designed electronic book interventions can support young children's language development. The effects were stronger when stories were repeated, provided across several sessions, and connected with related classroom activities. Similarly, Savva et al. (2022) reported that electronic storybooks can support language and literacy outcomes among children from prekindergarten to Grade 2, although the effects differ according to the features of the materials and the manner in which they are used.

The presence of pictures, animation, sounds, or digital effects does not automatically produce better vocabulary learning. Multimedia elements are helpful when they direct attention toward the story and clarify the meaning of target words. They may become distracting when they are unrelated to the narrative or when learners focus more on pressing buttons, watching decorative movement, or listening to background sounds than on understanding the language. Egert et al. (2022) noted that multimedia features closely connected with the narration can guide children toward useful visual information, while unrelated interactive features may interrupt attention and weaken learning. This distinction is important for Grade 1 teaching because learners are still developing the ability to control their attention. Multimodal storytelling should therefore be planned around clear vocabulary objectives, suitable stories, manageable visual materials, purposeful repetition, and guided interaction between the teacher and learners (Egert et al., 2022).

Teacher guidance remains important even when stories are supported by attractive visual or digital materials. Children learn more from a story when the teacher pauses to explain a word, points to a relevant picture, asks a simple question, invites predictions, demonstrates an action, and encourages learners to use the word in their own response. Shared reading research has shown that adult-child interaction supports language development because it changes storytelling from one-way delivery into a conversation about words, events, and ideas (Dowdall et al., 2020). Repeated exposure is also valuable because young learners may need to encounter a word several times before they can recognize it independently and use it accurately. Flack et al. (2018) found that word learning from shared storybook reading is influenced by repetition and the way adults conduct the reading activity. These findings support the use of multimodal storytelling as a guided instructional practice rather than as mere entertainment.

For Grade 1 English instruction, multimodal storytelling may provide a practical way to address differences in learners' vocabulary readiness. Stories can be selected according to the children's age, language level, interests, and familiar surroundings. Illustrations, gestures, objects, and sounds may help learners understand words that cannot yet be explained through English alone. The teacher can also connect story vocabulary with classroom routines, local experiences, family life, animals, plants, places, and activities that children already know. Such connections can make word meanings easier to understand and remember. The Department of Education (2016) places listening to short stories and developing vocabulary among the expected areas of learning in elementary English. Examining how learners respond to multimodal storytelling can therefore provide information that is directly related to classroom instruction and foundational literacy development.

Although the literature supports story reading, structured storytelling, picture books, and electronic storybooks as tools for language development, their usefulness can vary according to learner characteristics, teaching practices, available materials, and the design of the storytelling experience. Findings drawn mainly from preschool programs or broad groups covering prekindergarten to Grade 2 cannot fully describe the vocabulary readiness of a particular Grade 1 class. A school-based investigation can show which forms of multimodal storytelling are experienced by learners and whether these experiences are associated with their ability to recognize, understand, and use age-appropriate vocabulary. Such evidence can help teachers select story materials and classroom strategies that respond to the actual language needs of beginning learners rather than relying only on general assumptions.

This study gives attention to storytelling experiences that combine oral narration with visual, auditory, textual, gestural, and other age-appropriate modes of communication. It also considers vocabulary readiness as reflected in the learners' recognition, understanding, recall, and use of words. The findings may provide a basis for improving storytelling practices, selecting appropriate learning materials, and designing vocabulary activities that are responsive to the needs of Grade 1 learners. By grounding the inquiry in an actual elementary classroom, the study seeks to contribute evidence that can guide early language instruction and support children as they build the vocabulary needed for reading, communication, and continued learning.

Literature Review

Multimodal Storytelling in Early Childhood Education

Multimodal storytelling combines spoken narration with pictures, printed words, music, sound effects, movement, facial expressions, gestures, real objects, and digital media. These modes allow young learners to receive meaning through several forms rather than through spoken language alone. Rahiem (2021) found that digital storytelling made classroom stories more engaging, communicative, entertaining, and theatrical for young children. Visual images, recorded sounds, music, and expressive narration helped sustain children's attention and encouraged them to respond to questions and share their thoughts during storytelling activities. The study also showed that digital technology did not have to replace the teacher because the teacher remained responsible for selecting the story, guiding the interaction, and helping children understand its message.

Visual and Gestural Support for Word Learning

Gestures and visual representations can assist children in linking unfamiliar words with concrete meanings. Mertens and Rohlfs (2021) studied children with an average age of 6.7 years, which closely corresponds to the expected age of Grade 1 learners, and examined how iconic gestures affected the learning of unfamiliar words presented through a story. Their findings showed that carefully presented gestures supported children's productive word knowledge, particularly their ability to say the target words after hearing them in the narrative. A gesture can represent an object, movement, shape, direction, or action, giving the learner an additional clue that supports the spoken word. Goppelt-Kunkel et al. (2023) also reported that signs and gestures can assist children's vocabulary learning, although the influence of iconicity may differ according to the learner's age. These findings suggest that gestures should be meaningful and closely matched with the target vocabulary. A teacher explaining words such as *crawl*, *stretch*, *tiny*, or *round* may demonstrate the action or shape while saying the word and pointing to a relevant picture. Such coordination can help learners establish stronger connections among the sound of the word, its meaning, and its physical representation. Gestures are therefore not decorative movements during storytelling. They are instructional supports that can make abstract or unfamiliar vocabulary more accessible to beginning learners.

Explicit Vocabulary Instruction through Stories

Exposure to a story alone may not be sufficient for children to develop accurate and lasting knowledge of unfamiliar words. Vocabulary learning becomes more purposeful when teachers identify target words before the storytelling activity, explain their meanings in child-friendly language, repeat them during the story, and provide opportunities for learners to use them afterward. Coyne et al. (2022) examined the long-term effects of direct and extended vocabulary instruction provided during kindergarten and found that children maintained substantial knowledge of the specifically taught words through second grade. The researchers also observed that gains were stronger for the vocabulary that received focused instruction than for general vocabulary knowledge. This distinction shows that children need repeated and intentional experiences with particular words rather than broad exposure without teacher guidance. During multimodal storytelling, explicit instruction can be carried out by showing a picture, acting out an action, giving a familiar example, asking the learners to repeat the word, and using it in another sentence. After the story, learners may identify the corresponding picture, describe a character, complete an oral sentence, or use the word during a short retelling activity. These practices allow teachers to check whether learners can recognize and understand the vocabulary rather than merely imitate its pronunciation. The literature supports a planned storytelling process in which target words are introduced, explained, encountered several times, discussed, and applied in meaningful tasks.

Vocabulary Readiness for Beginning Reading

Vocabulary readiness is closely tied to a child's preparation for formal reading because learners must understand the words represented by the print they are beginning to decode. Jago et al. (2025) conducted a systematic review and meta-analysis of 72 longitudinal studies involving 23,387 children and found that vocabulary and grammar measured before formal reading instruction had significant and moderate effects on reading comprehension, word reading, and pseudoword reading. The findings indicate that oral vocabulary does not support only listening and speaking. It also contributes to how children approach written language at the beginning of schooling. A learner may pronounce a printed word correctly but still fail to understand a sentence when the meaning of the word is unfamiliar. For Grade 1 learners, vocabulary readiness may be seen in their ability to match words with pictures, identify objects and actions, understand words used in classroom directions, explain simple meanings, recall words from a story, and use learned vocabulary in oral responses. These skills provide a language base for comprehending beginning texts and participating in literacy activities. Differences in home language exposure, access to books, adult conversation, and previous learning experiences may also produce varying levels of readiness among children entering Grade 1. Assessing vocabulary readiness alongside multimodal storytelling can help determine whether learners' exposure to meaningful combinations of narration, images, sounds, and gestures is associated with their ability to understand and use age-appropriate words.

METHODS

Research Design

The study employed a cross-sectional ecological association design to examine the relationship between multimodal storytelling experiences and vocabulary readiness among Grade 1 learners. This design was selected because the variables were examined within their natural classroom setting without manipulating the learners' instructional conditions or assigning them to experimental groups. The ecological feature of the design allowed multimodal storytelling to be documented as it occurred during regular English lessons, including the combined use of oral narration, illustrations, printed words, gestures, sound, movement, and classroom objects. Vocabulary readiness was assessed through age-appropriate receptive and expressive language tasks. The design also allowed the researchers to determine whether differences in learners' exposure and engagement during multimodal storytelling were associated with differences in their vocabulary readiness. Since the investigation did not introduce a controlled intervention, the findings were interpreted as evidence of association rather than direct causation.

Research Locale

The study was conducted at Tubo Elementary School, located in Sitio Tubo, San Ignacio, City of Ilagan, Isabela. The school was selected because it provided an appropriate setting for examining how Grade 1 learners responded to storytelling activities that incorporated oral, visual, auditory, textual, and gestural forms of communication. Data collection took place in the regular Grade 1 learning environment so that the learners remained in a setting that was familiar and comfortable to them. Conducting the study within the school also allowed the storytelling observations and vocabulary assessment activities to be aligned with the learners' regular English instruction. The locale was considered suitable because the study sought to generate classroom-based evidence that could guide vocabulary support for beginning learners in the school.

Participants and Sampling Technique

The participants were eligible Grade 1 learners enrolled at Tubo Elementary School during the period of data collection. An eligible-population census sampling technique was applied, which meant that all learners who met the inclusion requirements were invited to participate rather than selecting only a portion of the class. Learners were included when they were officially enrolled in Grade 1, had attended the scheduled storytelling and assessment sessions, had secured written permission from a parent or legal guardian, and had expressed age-appropriate assent to participate. Learners who were absent during the main data-gathering period, whose parents did not provide consent, or who chose not to continue were not included in the final analysis. No learner was selected or excluded based on academic standing, classroom behavior, language ability, or previous assessment results.

Research Instrument

Data were collected using two researcher-developed instruments: the Multimodal Storytelling Observation Scale and the Grade 1 Vocabulary Readiness Assessment. The Multimodal Storytelling Observation Scale documented the learners' exposure and responses to oral narration, visual representations, printed language, gestures and movement, auditory elements, and guided interaction. Each indicator was rated using clearly defined behavioral descriptions to minimize differences in scoring across classroom observations. The Grade 1 Vocabulary Readiness Assessment measured receptive word recognition, picture-word association, understanding of words used in short sentences, oral naming, word recall, and the use of familiar vocabulary in simple responses. Pictures, spoken directions, concrete examples, and brief oral tasks were incorporated into the assessment so that differences in reading ability did not prevent learners from demonstrating their vocabulary knowledge.

The instruments underwent content and developmental validation before their administration. A panel composed of specialists in early language education, Grade 1 instruction, educational assessment, and research methodology examined the clarity, relevance, age appropriateness, and alignment of each item with the study

variables. The item-level content validity index was computed from the experts' ratings, and items that did not reach the recommended agreement level of .78 were revised or removed. The Multimodal Storytelling Observation Scale obtained a scale-level content validity index based on average expert agreement of S-CVI/Ave = .94, while the Grade 1 Vocabulary Readiness Assessment obtained S-CVI/Ave = .96. These values indicated strong agreement among the validators regarding the suitability and relevance of the instrument items. The experts also reviewed the appropriateness of the pictures, sentence length, vocabulary difficulty, directions, scoring procedures, and expected administration time.

A pilot test was conducted among Grade 1 learners from a comparable elementary school who were not included in the main investigation. The pilot administration determined whether the directions were understandable, the illustrations were recognizable, and the activities could be completed without causing unnecessary fatigue or confusion. Items that appeared unclear, repetitive, overly difficult, or weakly aligned with the intended construct were revised following the pilot session. Internal consistency was examined using Cronbach's alpha. The Multimodal Storytelling Observation Scale obtained a coefficient of $\alpha = .91$, indicating excellent internal consistency, while the Grade 1 Vocabulary Readiness Assessment obtained $\alpha = .89$, indicating good internal consistency. Interrater reliability was also examined by having two trained raters independently evaluate a sample of storytelling sessions. The observation scale obtained an intraclass correlation coefficient of ICC = .88, which indicated strong agreement between the raters. Minor differences in scoring were discussed, and the behavioral descriptions were further refined before the main data-gathering period.

Data Gathering

Permission to conduct the study was secured from the appropriate education authorities and the school head before any learner was approached. The class adviser and parents were informed about the purpose of the study, the procedures to be followed, the expected duration of participation, and the measures used to protect the learners. Written parental consent and child assent were obtained before the collection of data. The storytelling and assessment schedules were coordinated with the teacher to prevent interruption of major lessons, examinations, and school activities.

Before the classroom observations, the raters were oriented on the meaning of each indicator and the proper use of the observation scale. Practice scoring was completed using a storytelling session that was not part of the final dataset. Multimodal storytelling was then observed across several regular English sessions rather than during a single classroom encounter. This procedure reduced the possibility that an unusual lesson, learner mood, or classroom event would determine the storytelling score. The ratings obtained across the observed sessions were averaged to produce a more stable representation of each learner's participation and engagement.

The vocabulary readiness assessment was administered individually or in small groups in a quiet area within the school. Directions were stated in simple language and were demonstrated before the learners answered the scored items. The researcher used the same instructions, sequence, visual materials, and allowable response time for all participants. Learners were given brief pauses when signs of tiredness or discomfort were observed. Responses were recorded on coded assessment sheets and checked for completeness after each session. The results were encoded in a password-protected dataset, and a second review was performed to identify encoding errors, missing entries, or scores that did not match the original assessment forms.

Data Analysis

The data were examined using descriptive and distribution-sensitive statistical procedures. Median scores, interquartile ranges, minimum and maximum values, and percentage distributions were used to summarize multimodal storytelling and vocabulary readiness. These measures were selected because observation ratings and vocabulary scores from young learners could show skewness, score clustering, or extreme observations that were not adequately represented by the mean alone. Cronbach's alpha was recomputed using the main-study responses to confirm the internal consistency of the instruments.

Spearman's rank-order correlation was initially used to determine the direction and strength of the monotonic relationship between multimodal storytelling and vocabulary readiness. A positive coefficient indicated

that higher multimodal storytelling scores were associated with higher vocabulary readiness scores, while a negative coefficient indicated an inverse pattern. The magnitude of the relationship was interpreted using the absolute value of the correlation coefficient, together with its confidence interval, rather than relying only on the probability value.

Quantile regression served as the principal inferential treatment. Unlike ordinary least-squares regression, which estimated only the average change in vocabulary readiness, quantile regression examined whether multimodal storytelling had different associations with learners located at the lower, middle, and upper portions of the vocabulary score distribution. Models were estimated at the 25th, 50th, and 75th percentiles. This approach was particularly appropriate because the instructional value of multimodal storytelling could differ between learners with limited vocabulary readiness and those who already demonstrated stronger word knowledge. Bias-corrected bootstrap confidence intervals based on 5,000 resamples were generated for the regression coefficients. Statistical significance was evaluated at the .05 level, while coefficient size, direction, confidence intervals, and pseudo- R^2 values were considered when interpreting the practical importance of the results. The analysis did not treat statistical significance alone as sufficient evidence of educational importance.

Ethical Consideration

The study observed ethical safeguards appropriate for research involving young children. Participation was voluntary and began only after written parental consent and age-appropriate learner assent had been secured. The learners were informed through simple explanations that the activities were not examinations, would not affect their grades, and could be stopped whenever they felt uncomfortable. Parents and learners were allowed to withdraw participation without penalty or loss of any school benefit.

Codes were used in place of learner names on assessment sheets, observation forms, encoded files, and statistical outputs. Individual results were not disclosed to classmates or unauthorized persons. Digital files were protected by passwords, while printed materials were stored in a secured location accessible only to the researcher. Findings were reported in combined form so that no learner could be identified from the manuscript. The storytelling materials and vocabulary tasks were screened for age suitability, cultural sensitivity, and emotional safety. No humiliating, frightening, discriminatory, or developmentally inappropriate content was used. The researcher also avoided labeling learners as weak, delayed, or deficient based on their scores. Any instructional concern observed during the study was communicated through the proper school process and was not used to diagnose a learning or language disorder.

RESULTS AND DISCUSSION

Table 1. *Validity and Reliability Results of the Research Instruments*

Research Instrument	Number of Items	S-CVI/Ave	Cronbach's Alpha	Additional Reliability Measure	Interpretation
Multimodal Storytelling Observation Scale	24	.94	.91	ICC = .88	Strong validity and reliability
Grade 1 Vocabulary Readiness Assessment	30	.96	.89	Not applicable	Strong validity and reliability

Note. S-CVI/Ave refers to the scale-level content validity index based on average expert agreement. ICC refers to the intraclass correlation coefficient for interrater agreement.

Table 1 shows that the two instruments satisfied the required standards for validity and reliability. The Multimodal Storytelling Observation Scale obtained an S-CVI/Ave of .94, indicating a high level of agreement among the experts regarding the relevance, clarity, developmental suitability, and alignment of its indicators. Its Cronbach's alpha coefficient of .91 showed that the items consistently measured the different forms of multimodal

storytelling observed during Grade 1 English lessons. The intraclass correlation coefficient of .88 also indicated strong agreement between the trained raters who independently observed selected storytelling sessions.

The Grade 1 Vocabulary Readiness Assessment obtained an S-CVI/Ave of .96 and a Cronbach's alpha coefficient of .89. These results showed that the vocabulary tasks were suitable for young learners and consistently measured the intended aspects of vocabulary readiness. The strong validity rating also confirmed that the pictures, oral directions, word choices, sentence structures, and scoring procedures were appropriate for Grade 1 learners. These findings supported the use of the instruments in examining the relationship between storytelling experiences and vocabulary readiness.

The reliability results were particularly important because the study involved young children whose responses could be influenced by attention, familiarity with materials, and comfort during assessment. The strong internal consistency values suggested that learner scores were not mainly produced by unclear or unrelated items. The high interrater agreement also reduced the possibility that storytelling ratings depended only on the personal judgment of one observer.

Table 2. *Observed Level of Multimodal Storytelling during Grade 1 English Lessons*

Dimension	Median	Interquartile Range	Interpretation
Oral narration	4.30	0.40	Very high
Visual representations	4.20	0.50	High
Gestures and movement	4.10	0.60	High
Guided interaction	4.00	0.65	High
Printed language support	3.80	0.70	High
Auditory elements	3.60	0.80	High
Overall multimodal storytelling	4.02	0.54	High

Scale interpretation: 4.21 to 5.00, very high; 3.41 to 4.20, high; 2.61 to 3.40, moderate; 1.81 to 2.60, low; and 1.00 to 1.80, very low.

As presented in Table 2, multimodal storytelling was observed at a high overall level, with a median of 4.02 and an interquartile range of 0.54. This result showed that storytelling sessions commonly combined spoken narration with pictures, movements, printed words, sounds, and teacher-led interaction. The relatively narrow interquartile range indicated that the observed practices were reasonably consistent across the storytelling sessions.

Oral narration received the highest median of 4.30 and was interpreted as very high. The result suggested that stories were delivered using clear pronunciation, expressive voice, appropriate pacing, and changes in tone that helped distinguish characters, actions, and events. Oral delivery appeared to be the most established feature of the storytelling sessions. This was expected because narration remained the main channel through which the story sequence and target vocabulary were introduced.

Visual representations obtained a median of 4.20, indicating that illustrations, picture cards, story images, and concrete objects were frequently used. Visual support appeared to strengthen the connection between spoken words and their meanings. This practice was valuable for Grade 1 learners because pictures could provide immediate clues when the meaning of a word was not yet familiar. Digital and visual storytelling materials have also been associated with stronger learner attention and increased participation when the visuals are closely related to the story content (Rahiem, 2021).

Gestures and movement also received a high rating, with a median of 4.10. Actions, facial expressions, hand movements, and body positioning were regularly used to demonstrate words and events. This result suggested that the teacher did not depend solely on spoken definitions when introducing unfamiliar vocabulary. Meaningful gestures could help children establish a physical representation of an action or object, particularly when the vocabulary involved movement, size, shape, or direction. Mertens and Rohlfing (2021) explained that

iconic gestures can support children's production of newly encountered words when the movements clearly represent their meanings.

Guided interaction obtained a median of 4.00. The teacher commonly paused to ask questions, invited learners to predict events, directed attention to pictures, and encouraged oral responses. However, the result remained lower than oral narration and visual representation. This indicated that some sessions still relied more heavily on teacher delivery than on extended learner participation. More opportunities could have been provided for children to explain pictures, use new words, retell short events, and respond to open-ended prompts.

Printed language support and auditory elements received the lowest medians, although both remained within the high category. Printed words were used less consistently than oral and visual materials. Some target words appeared in captions, labels, or story text, but they were not always emphasized during storytelling. Auditory elements, such as music, recorded sounds, environmental noises, and character voices, were also less frequently incorporated. This finding revealed an area for instructional improvement. Multimodal storytelling was evident, but its strongest features remained oral and visual, while printed and auditory modes were not yet equally developed.

Table 3. *Vocabulary Readiness across the Assessed Skill Areas*

Vocabulary Skill Area	Maximum Score	Median Score	Interquartile Range	Median Percentage	Interpretation
Receptive word recognition	12	11	2	91.67%	Highly ready
Picture-word association	10	8	2	80.00%	Ready
Understanding words in short sentences	10	7	3	70.00%	Developing
Oral naming	10	6	3	60.00%	Developing
Word recall	8	4	2	50.00%	Beginning
Use of words in simple responses	10	5	3	50.00%	Beginning
Overall vocabulary readiness	60	41	11	68.33%	Developing

Interpretation: 90.00% to 100.00%, highly ready; 75.00% to 89.99%, ready; 60.00% to 74.99%, developing; and below 60.00%, beginning.

Table 3 reveals that the learners demonstrated a developing level of overall vocabulary readiness. The median score was 41 out of 60, equivalent to 68.33 percent. Although the learners showed competence in recognizing and matching words, many still experienced difficulties recalling vocabulary independently and using words in oral responses.

Receptive word recognition produced the strongest result, with a median percentage of 91.67 percent. Most learners could identify a familiar word when it was spoken and select its corresponding picture or object. This result showed that the learners had developed a useful store of words that they could recognize when clues were available. Picture-word association also received a ready interpretation, with a median percentage of 80.00 percent. The learners generally succeeded when words were accompanied by clear visual choices.

The results declined when the tasks required deeper understanding or independent word production. Understanding vocabulary in short sentences received a median percentage of 70.00 percent. Some learners recognized a word when it was presented alone but struggled to interpret the same word when it appeared in a sentence. This suggested that their knowledge of some words remained dependent on direct visual cues rather than flexible understanding across different situations.

Oral naming was also at the developing level. Learners sometimes recognized an object or action but could not immediately produce the corresponding English word. This difference between recognition and production was more visible in the word-recall and simple-response tasks, which both obtained median percentages of 50.00 percent. The learners had difficulty retrieving words without picture choices, completing oral statements, and using target vocabulary to describe characters or events.

The pattern showed a clear instructional concern. The learners' receptive vocabulary was stronger than their expressive vocabulary. They could often understand words when they heard or saw them, but they were less prepared to recall and use the same words independently. This finding was consistent with the view that word learning requires more than exposure. Children need repeated opportunities to explain, retrieve, apply, and use target vocabulary in meaningful speech (Coyne et al., 2022).

Jago et al. (2025) emphasized that early vocabulary knowledge contributes to later reading development because children need sufficient language knowledge to understand the words they encounter in print. The developing overall result therefore suggested that the learners had begun to build a useful vocabulary foundation, but they still required structured support in moving from recognition toward active word use.

Table 4. *Percentage Distribution according to Overall Vocabulary Readiness*

Vocabulary Readiness Category	Percentage
Highly ready	9.00%
Ready	31.00%
Developing	39.00%
Beginning	21.00%
Total	100.00%

Table 4 shows that the largest group of learners was classified under the developing category, representing 39.00 percent of the participants. Another 21.00 percent remained at the beginning level. Taken together, 60.00 percent of the learners had not yet reached the ready category. This distribution confirmed that vocabulary readiness was not uniform across the class.

The presence of learners in the ready and highly ready categories showed that some children could recognize, understand, recall, and use age-appropriate vocabulary with limited assistance. However, the smaller percentage of highly ready learners indicated that advanced vocabulary performance was not yet common. Only a limited group consistently demonstrated independent understanding and use of the assessed words.

The 21.00 percent classified at the beginning level represented the most important instructional concern. These learners required more support in word recognition, sentence-level understanding, oral naming, recall, and use. They were likely to benefit from slower story presentation, additional visual cues, repeated explanation, concrete demonstrations, and more opportunities to speak during and after storytelling.

The distribution also justified the use of quantile regression because an average score alone would not fully describe the wide differences among the learners. A method that examined the lower, middle, and upper portions of the vocabulary distribution was needed to determine whether multimodal storytelling had the same association across different readiness levels.

Table 5. *Spearman Rank-Order Correlations between Multimodal Storytelling and Vocabulary Readiness*

Multimodal Storytelling Dimension	Spearman's rho	Bootstrap 95% Confidence Interval	p-value	Interpretation
Oral narration	.46	[.15, .68]	.009	Moderate positive relationship
Visual representations	.52	[.23, .72]	.003	Moderate positive relationship
Gestures and movement	.49	[.19, .70]	.005	Moderate positive relationship
Guided interaction	.63	[.39, .79]	< .001	Strong positive relationship
Printed language support	.36	[.02, .61]	.041	Weak to moderate positive relationship
Auditory elements	.31	[-.04, .58]	.078	Positive but not significant

Multimodal Storytelling Dimension	Spearman's rho	Bootstrap 95% Confidence Interval	p-value	Interpretation
Overall multimodal storytelling	.59	[.33, .76]	< .001	Moderate to strong positive relationship

Table 5 indicates a statistically significant positive relationship between overall multimodal storytelling and vocabulary readiness, with a Spearman correlation coefficient of .59 and a probability value below .001. The bootstrap confidence interval ranged from .33 to .76 and did not include zero. This finding showed that learners who received stronger and more participatory multimodal storytelling experiences generally obtained higher vocabulary readiness scores.

The relationship was moderate to strong rather than perfect. This meant that multimodal storytelling was an important factor, but it did not account for every difference in vocabulary readiness. Learners' previous language exposure, attendance, home literacy experiences, confidence in speaking, and familiarity with English could also have influenced their performance. The result should therefore be understood as evidence of a meaningful association, not as proof that storytelling alone determined vocabulary readiness.

Guided interaction produced the strongest dimension-level relationship, with a coefficient of .63. This showed that vocabulary readiness was more closely associated with what the teacher and learners did together than with the mere presence of attractive storytelling materials. Learners achieved better vocabulary results when the teacher asked questions, explained words, invited predictions, prompted oral answers, and encouraged the use of target vocabulary. The finding supported the idea that children learn more effectively when storytelling includes active discussion and opportunities to process word meanings.

Visual representations obtained the second-highest coefficient at .52. Pictures and concrete illustrations appeared to help learners connect spoken words with recognizable meanings. This was especially useful in receptive word recognition and picture-word association, which were the strongest areas of vocabulary readiness. The result agreed with findings that well-designed visual and electronic story supports can assist language learning when they are closely connected to the narration and instructional goals (Egert et al., 2022).

Gestures and movement were moderately associated with vocabulary readiness, with a coefficient of .49. The result suggested that actions and body movements gave learners useful memory and meaning cues. Gestures may have been particularly helpful for action words, descriptive vocabulary, and words that could be represented physically. Oral narration also showed a moderate positive association, demonstrating that expressive delivery, clear pronunciation, and repeated use of target words contributed to vocabulary learning.

Printed language support had a weaker but statistically significant relationship with vocabulary readiness. The lower coefficient may have resulted from the learners' beginning reading level. Grade 1 learners could benefit from seeing printed words, but many still depended more strongly on oral, visual, and gestural support. Printed words may become more influential as decoding skills develop.

Auditory elements produced a positive coefficient of .31, but the relationship did not reach the .05 significance level. Sounds, music, and recorded effects may have attracted attention, but they did not consistently strengthen vocabulary readiness. One possible explanation was that auditory features were used less frequently and were sometimes supplementary rather than directly connected with target vocabulary. Decorative sounds may improve enjoyment without necessarily improving word knowledge. The result suggested that auditory features should be selected according to their instructional relevance rather than added only to make the story entertaining.

Table 6. *Quantile Regression of Multimodal Storytelling on Vocabulary Readiness*

Vocabulary Score Quantile	Regression Coefficient	Bootstrap Standard Error	Bias-Corrected 95% Confidence Interval	p-value	Pseudo-R ²	Decision
25th percentile	6.18	1.85	[2.51, 9.71]	.002	.31	Significant
50th percentile	4.82	1.54	[1.79, 7.84]	.003	.24	Significant

Vocabulary Score Quantile	Regression Coefficient	Bootstrap Standard Error	Bias-Corrected 95% Confidence Interval	p- value	Pseudo- R ²	Decision
75th percentile	2.14	1.22	[-.24, 4.58]	.076	.10	Not significant

Note. Coefficients were estimated using 5,000 bootstrap resamples. The coefficient represents the expected change in vocabulary readiness score for every one-point increase in the overall multimodal storytelling rating.

Table 6 presents the principal inferential analysis of the study. Multimodal storytelling significantly predicted vocabulary readiness at the 25th and 50th percentiles but not at the 75th percentile. The findings showed that the strength of the relationship differed according to the learners' position in the vocabulary score distribution.

At the 25th percentile, a one-point increase in the multimodal storytelling rating was associated with an estimated 6.18-point increase in vocabulary readiness. The coefficient was statistically significant at .002, and the confidence interval ranged from 2.51 to 9.71. The model accounted for approximately 31 percent of the variation at the lower portion of the vocabulary distribution.

This was the strongest result of the study. Multimodal storytelling had its greatest association among learners with lower vocabulary readiness. These learners appeared to benefit more from the combined use of narration, pictures, gestures, printed words, sounds, and guided discussion. Multiple forms of support may have reduced the language demands of the task and provided several ways for learners to understand unfamiliar words.

The result had important instructional implications. Learners who struggled to understand or produce English vocabulary were not necessarily unable to learn the words. Their performance may have improved when word meanings were made visible, concrete, repeated, and connected with actions or story events. Multimodal storytelling therefore showed promise as a responsive strategy for learners who needed additional language support. At the 50th percentile, a one-point increase in multimodal storytelling was associated with a 4.82-point increase in vocabulary readiness. The coefficient remained statistically significant, with a probability value of .003. The pseudo-R² value of .24 indicated that multimodal storytelling explained a meaningful portion of the differences among learners near the middle of the vocabulary distribution.

The smaller coefficient at the median suggested that learners with average vocabulary readiness still benefited from multimodal storytelling, although the association was weaker than among learners at the lower end. These learners may already have possessed enough vocabulary to understand parts of the story without extensive assistance. They continued to gain from pictures, gestures, repetition, and teacher questioning, but their dependence on these forms of support was less pronounced.

At the 75th percentile, the coefficient decreased to 2.14 and was not statistically significant at the .05 level. The confidence interval included zero, indicating uncertainty about the direction and size of the effect among learners with stronger vocabulary readiness. These learners may already have had sufficient vocabulary knowledge to understand the stories even when fewer multimodal supports were provided.

The upper-quantile result did not mean that multimodal storytelling was unnecessary for more prepared learners. It indicated that the same form of storytelling may not have produced equally large gains for them. Learners with stronger vocabulary might require more challenging activities, such as explaining word relationships, using vocabulary in original sentences, identifying multiple meanings, producing detailed retellings, and creating their own multimodal stories.

The difference across quantiles revealed that a single average relationship would have concealed an important classroom pattern. The effect of multimodal storytelling was not uniform. It was strongest among learners with the lowest vocabulary readiness and gradually weakened among those with higher scores. This finding supported the value of differentiated storytelling instruction. Learners at the beginning level needed intensive visual, gestural, and interactive support, while learners at higher readiness levels needed more complex vocabulary application.

CONCLUSION

The multimodal storytelling was significantly associated with the vocabulary readiness of Grade 1 learners, with the strongest contribution observed among those who had lower vocabulary scores. The combined use of oral narration, pictures, gestures, printed words, sounds, and guided interaction helped learners recognize and understand vocabulary, although many still experienced difficulty in word recall and independent oral use. Guided interaction emerged as the most influential storytelling component, showing that teacher questioning, explanation, repetition, and learner participation were more important than the mere presence of attractive materials. Based on these findings, Grade 1 teachers should regularly integrate structured multimodal storytelling into English lessons, with greater emphasis on explicit vocabulary instruction, repeated exposure, picture-supported explanations, gestures, oral practice, and short retelling activities. Learners at the beginning level should receive additional small-group support and simpler multimodal tasks, while those with higher readiness should be given more challenging activities such as sentence construction, descriptive speaking, and story creation. The school may also provide appropriate storybooks, visual materials, audio resources, and teacher training to strengthen the quality and consistency of storytelling instruction. Future studies may examine the long-term effects of multimodal storytelling through experimental or longitudinal designs and include learners from other schools to determine whether similar results can be observed across different Grade 1 learning environments.

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