The Teaching of Literacy in Panama: Challenges in Practices and Environments

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Enseñanza de la lectoescritura en Panamá: retos en prácticas y ambientes

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Abstract
In order to describe and compare the school literacy environment and teaching practices among second and fourth grade Spanish teachers in public and private schools in the provinces of Panama and Panama Oeste, a total of 71 Spanish class observations were conducted, utilizing the ELLCO K-3 rubric to quantify the quality of literacy teaching, along with field notes for deeper qualitative understanding of the teaching process. Researchers found limited evidence of a high quality classroom environment or effective educational practices recommended by the literature. In second grade, scores were similar between private and public schools, slightly below 2 on a scale of 1 to 5. However, in fourth grade there was a larger difference between both systems, with scores of 1.85 and 2.7 respectively. Teaching practices aligned with the effective development of language and literacy were mostly absent in both types of schools, with scores below 1.4 in second grade and below 1.6 in fourth grade, with a slight advantage towards private schools. Results suggest the urgent need for interventions that address teachers' current educational strategies through initial and continuous training, and a renewed commitment to integrate effective approaches in the teaching of literacy in Panama.

Keywords
Language development, teaching, primary teacher education, educational environment, literacy methods

Resumen
Este artículo describe y compara el ambiente y las prácticas de docentes de español de segundo y cuarto grado de escuelas públicas y privadas en las provincias de Panamá y Panamá Oeste. Se realizaron 71 observaciones de clases utilizando la rúbrica ELLCO K-3. Se cuantificó la calidad de la enseñanza de la lectoescritura y se tomaron notas de campo para profundizar cualitativamente en la enseñanza. Se encontró evidencia limitada de un ambiente general de alta calidad o de prácticas efectivas recomendadas por la literatura. En segundo grado, los puntajes de escuelas públicas y privadas fueron similares, ligeramente por debajo de 2 en una escala del 1 al 5. En cuarto grado se encontró una diferencia más amplia entre los sistemas, con puntajes de 1.85 y 2.7 respectivamente. Las prácticas docentes alineadas al desarrollo efectivo de la lectoescritura estuvieron mayoritariamente ausentes en ambos tipos de escuela, con puntajes debajo de 1.4 en segundo grado y de 1.6 en cuarto, con una pequeña ventaja a favor de las escuelas privadas. Los resultados sugieren la necesidad de intervenciones sobre la formación docente inicial y continua, y de un compromiso renovado para integrar enfoques efectivos en la enseñanza de la lectoescritura en Panamá.

Palabras clave
Desarrollo del lenguaje, enseñanza, docente de escuela primaria, ambiente educacional, métodos de alfabetización

Article description | Descripción del artículo | Descrição do artigo
This research article is part of the larger project titled *Relationship between socioeconomic, psycholinguistic, and pedagogical factors and reading performance among primary school children in Panama*, carried out in 2023 by researchers affiliated with the Educational Research Center, Panama (CIEDU AIP by its Spanish acronym). The project was awarded funding through a competitive call for proposals for researchers affiliated with the center.

Introduction

Reading and writing are two essential skills through which we engage with the world and construct meaning. Learning to read and write is a complex process, fundamental for successful engagement in society. In Panama, international standardized assessment results indicate a crisis in children's reading skills. Panamanian students have scored below the regional average in the language tests in PISA 2022 (OECD, 2022) and the 2019 Regional Comparative and Explanatory Study (ERCE). In third grade, results indicate that most students are just beginning their reading process. They are barely capable of locating explicit information or making inferences from highlighted information and texts with a prototypical structure. They struggle to infer the purpose of different texts they read or to relate visual and verbal information within them (UNESCO, 2021).

The results of the national Crecer language exams conducted in 2017 and disseminated by the Panamanian Ministry of Education (MEDUCA) revealed that half of the third grade students did not achieve the minimum reading comprehension (Sánchez-Restrepo, 2019). After conducting a study on school segregation by socioeconomic level using data from ERCE, Murillo *et al*. (2023) found that school segregation in Panama is particularly high, especially between students from different socioeconomic backgrounds. This highlights the urgent need to investigate the implementation of effective teaching practices that could serve as equalizers of opportunities in this context.

To complicate matters, Panama was among the countries that experienced prolonged school closures during the COVID-19 pandemic, facing 81 weeks of irregular schooling (UNESCO, 2022), which affected access and quality of education for approximately 900 000 students. Prior studies in Panama (Cubilla-Bonnetier *et al.*, 2023) evidenced the need to develop effective strategies to diminish disparities, particularly those between public and private schools, which seem to have widened during the pandemic.

In a joint effort between policymakers, researchers and educators, a National Educational Research Agenda was developed, outlining priority

VOLUMEN 18 / AÑO 2025 / ISSN 2027-1182 / BOGOTÁ-COLOMBIA / Páginas 1-24

research questions in Panama (CIEDU AIP, 2022). From this, several issues related to the strategies and methods used by teachers are highlighted, including those in literacy. Furthermore, there is an urgent need for research that explains low reading performance, beyond sociodemographic factors. It becomes imperative to delve deeper into potential pedagogical explanations, particularly in the context of early primary language instruction, which has not been previously studied in Panama. This study seeks to describe the classroom literacy environment and the language and literacy development teaching practices of second and fourth grade teachers in the provinces of Panama and Western Panama (school districts of Central Panama, Eastern Panama, Western Panama, Northern Panama and San Miguelito); this study also aims to identify differences between public and private schools that might be influencing the literacy gap.

The Literacy Environment and Effective Literacy Instruction

Literacy is both an individual cognitive-linguistic achievement and a socially constructed form of human behavior (Pretorius & Machet, 2004). The environment in which language learning occurs includes the physical and social environment in which students interact with the elements of language (Aziz & Dewi, 2019). A literate school environment fosters high quality interactions between students and teachers, offering a setting that is rich in print texts and a variety of invitations for children to participate in reading and writing activities, as well as to engage in extended conversations, within the framework of effective classroom management strategies (Smith *et al.*, 2002).

Stimulating oral language development significantly contributes to the quality of literacy instruction. Dialogues and verbal exchanges among students, or between teachers and students, are opportunities to enrich comprehension (Nation *et al.*, 2004) and writing (Dockrell *et al.*, 2019). When classroom conversations involve open-ended questions, children's verbal and cognitive breadth expands; encouraging them to express themselves using new words facilitates concept acquisition, vocabulary, and syntactic structure variety (Orellana-García & Melo-Hurtado, 2014). Particularly in Panama, it has been demonstrated that the understanding of grammatical structures plays a role in reading comprehension at least as important as that of vocabulary (Cubilla-Bonnetier & Sánchez-Vincitore, 2025).

Behind the ability to manipulate the alphabetical system lies the capacity to listen to and manipulate the sounds that make up words. Therefore, effective literacy instruction often emphasizes the development of phonological awareness (Moats, 2000; Snow *et al.*, 1998). Once students have begun associating sounds with alphabet symbols, writing can help them continue to combine sounds to make up words (NICHD, 2000). Experts

suggest that instruction in symbol/sound association should be explicit and systematic (Buckingham, 2020). Literature has identified various strategies that teachers can employ to develop phonological awareness, including rhymes (Parra Bravo & Bojorque, 2021; Suárez-Yepes *et al*., 2019), musical activities or audiovisual resources (Galicia Moyeda & Zarzosa Escobedo, 2014), reading diverse texts such as poetry or storybooks, using manipulative printed materials like cards or drawings, and segmenting words into syllables (Parra Bravo & Bojorque, 2021).

As students transition into readers, a good practice involves dedicating efforts to reading texts fluently (Hudson *et al*., 2020; Urizar, 2019; Smith *et al*., 2002), including modeling (Lekwilai, 2016). The development of reading comprehension is the ultimate goal and can be promoted by connecting with prior knowledge, predicting, summarizing, clarifying, making inferences, and utilizing visualization (Pearson & Fielding, 1991; Pressley, 1994). Systematically working on reading comprehension also impacts the quality of early literacy experiences (NICHD, 2000). Teaching comprehension strategies fosters vocabulary expansion (Beck & McKeown, 2007), enhances writing skills (Graham & Hebert, 2010), and promotes the long term development of sophisticated thinking skills such as creativity and problem solving (Danesh & Nourdad, 2017). Teacher-guided text reading through questions that promote reflection before, during, and after reading proves to be an effective strategy for comprehension development (Fountas & Pinnell, 1996).

The design of the physical environment in early primary classrooms plays a crucial role in language development. Classroom organization, coupled with effective classroom management strategies, helps maintain a conducive atmosphere for literacy development, ensuring that students can focus and actively participate in learning activities (Smith *et al.*, 2002). A well organized and stimulating classroom can yield a positive impact on language acquisition, reading, and writing skills (Barrett *et al.*, 2015; Stokes, 2002). A literacy-rich environment stands as a fundamental component of early literacy, positively associated with language development (McGinty *et al.*, 2012). Furthermore, numerous studies have demonstrated that the presence of books in learning environments can have significant impact on skills development (Neuman, 1999; Neuman & Celano, 2001) and, consequently, on learning levels (Evans *et al*., 2000).

In terms of writing, experts suggest that students should use the same processes as professional writers, by engaging in topics that interest them and reviewing their work multiple times (Smith *et al.*, 2002). Writing as a process has multiple stages: brainstorming, drafting, reviewing, editing, and publishing, each requiring different skills (Calkins, 1994). Consequently, teaching the

process of writing, text structures for writing, paragraph or sentence construction skills improves reading comprehension (Graham & Hebert, 2010).

Existing studies on teaching practices and the literacy environment reveal similar patterns across different countries of Latin America. No studies were found in Panama, but Orellana-García & Melo-Hurtado (2014) found low quality in the environment and teaching in Chilean preschools, with notable differences across various socioeconomic levels. In Guatemala, Mirón López (2019) identified that exposure to read-aloud sessions and the encouragement of silent reading significantly correlate with reading comprehension in first grade. Mairena & Morín (2019), while investigating the transition from kindergarten to primary school in Nicaragua, highlighted the high motivation towards literacy, emphasizing the importance of a methodology based on questioning, experimentation, and a socio-affective collaborative environment to support literacy.

Method

Due to the limited existing knowledge regarding the quality of the literacy environment in Panama, this study is part of a broader research project seeking to understand the relationship between socioeconomic, psycholinguistic and pedagogical factors, and the reading performance of primary school children in the provinces of Panama and Wester Panama before, during and after the COVID-19 pandemic. This portion of the project explores two pedagogical variables: the quality of the literacy environment and literacy teaching practices of second and fourth grade teachers in public and private schools in the region.

The purpose of this study is descriptive, employing a mixed methods approach. To describe the school literacy environment and teaching practices among second and fourth grade Spanish teachers in public and private schools, a quantitative approach was used, gathering data through direct observation conducted in 2023 (Hernández Sampieri & Mendoza, 2018). As this research aims to propose deeper pedagogical explanations beyond what may be achievable through a structured observation form, a qualitative approach was also employed. This involved collecting data through field notes, providing more detailed insights into observed behaviors and environment. They were taken and analyzed in Spanish; those cited here have been translated by the authors.

A representative sample of the Panamanian second grade student population and another for fourth grade in five educational regions belonging to the Panama and Western Panama provinces was calculated, considering the proportion of both public and private systems. This ensured an adequate

sample size and involved a random selection of clusters (in this case, schools) within each of the five educational regions. Consequently, the sample was made up of the randomly selected schools that were visited to fulfill the representative sample of the second and fourth grade student population. This led to the observation of 35 second grade teachers and 36 fourth grade teachers, resulting in 71 observations. Table 1 shows the distribution of teachers by grade and school type.

Table 1
Teachers by grade and school type

Second Grade		Fourth Grade	
Public	**Private**	**Public**	**Private**
25	10	26	10

Source: own elaboration.

To determine the quality of the literacy environment and teaching practices, the Early Language and Literacy Observation Tool (ELLCO) was employed. ELLCO K–3 was designed for early elementary settings, focusing on key components identified in research as essential for effective literacy instruction, which were compiled in the theoretical framework. As the observers were proficient in English, there was no need for translation. The implementation of a tool intended for application up to third grade in Panamanian fourth grade students is justified by the documented overall low performance in national and regional assessments (OECD, 2022; Sánchez-Restrepo, 2019; UNESCO, 2021) and national research studies (Cubilla-Bonnetier & Sánchez-Vincitore, 2025; Cubilla-Bonnetier *et al.*, 2023). Consistently below average performances of Panamanian students suggest a potential language development lag regarding what is expected from their literacy development, warranting the use of this tool in the fourth grade context.

The instrument facilitated data collection across two subscales: the General Classroom Environment (GCE) subscale —organization of the classroom, contents, classroom management, professional approach, integration across subjects, opportunities for independent learning, and recognition of diversity— and the Language and Literacy (LL) subscale —discourse climate, opportunities for extended conversations, efforts to build vocabulary, books, reading fluency, sounds to text, reading vocabulary strategies, reading comprehension strategies, writing environment, writing instruction, and students' writing products—.

Items were scored through direct observation using a Likert scale, 5 meaning that there was ample evidence in the classroom or the teacher's

VOLUMEN 18 / AÑO 2025 / ISSN 2027-1182 / BOGOTÁ-COLOMBIA / Páginas 1-24

practice, and 1 being that there was minimal evidence. Based on Cronbach's alpha, it was possible to confirm a high level of reliability for both subscales with the collected sample data, with coefficients of 0.86 and 0.82 respectively, and for the overall instrument, reaching 0.90, supporting the tool's use in the fourth grade and the Panamanian context.

Data collection lasted approximately two Spanish class periods of 40 or 45 minutes each. An average score achieved by teachers of each school type was calculated for each subscale to provide an overall description of the observed aspects, differentiating private and public schools. These were interpreted in the context of effective practices in literacy teaching and the literacy environment evaluated by the rubric and mentioned in the theoretical framework. Additionally, field notes were taken to contextualize the observations and complement qualitative data on certain aspects of practice not captured in the observation form. These qualitative insights aimed to offer broader explanations of the phenomenon.

Several limitations may be considered. In order to conduct a more in-depth analysis of these practices, a more prolonged study would be necessary to gather data on the unfolding of complete lessons, materials used, assignments, and other key instructional elements. For instance, process writing requires time to develop in stages, which was not fully captured within the short observational period.

While such a high Cronbach alpha for the instrument utilized indicates reliability in the Panamanian context, it could also indicate very similar constructs were being observed under different titles. Additionally, it was utilized for one grade level beyond that for which it was designed, within the context of a high income country. Further validation of the instrument in Latin-American contexts would contribute to the field.

Also, this study used an instrument designed for a different teaching setting, which may not fully consider the unique characteristics of the entire Panamanian context. Panama exhibits significant disparities in educational contexts, with indigenous areas, where students speak two languages and face distinct cultural and linguistic challenges (MEDUCA, 2018). While this does not undermine the validity of the instrument or the study, it does represent a limitation and a prompt for further research.

Results

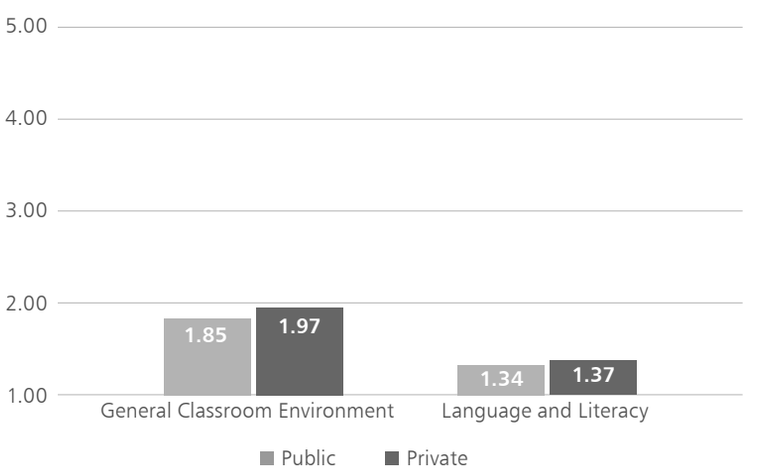
Results will first focus on the second grade data, followed by the fourth grade results. For each grade level, findings will be presented separately according to the two subscales.

Differences by school type in second grade

Figure 1 evidences that in both types of schools, the GCE in second grade is of low quality, with an average score obtained below 1.97. The schools deviate from the recommended effective practices outlined by the literature for fostering an environment conducive to literacy learning. Furthermore, there is an almost complete lack of teaching practices aligned with effective language and literacy development in both types of schools, observing averages lower than 1.37.

Figure 1

Average achieved in second grade by each type of school in each subscale



Source: own elaboration.

Note: N=35

-*General Classroom Environment:* Table 2 delves into the average score obtained by each type of school in each item of the GCE subscale. In private schools, students typically learn in a more organized space with materials likely to be aligned with language development. Field notes in these schools reveal that the furniture was in better condition, and traffic patterns within the classroom were more organized. Furthermore, materials for literacy work, such as visual supports, games, personal letter kits, or worksheets in good condition, were slightly more frequent:

> At the back, there is a shelf that runs from one end of the wall to the other. In one corner, there are abacuses and academic books on the bottom shelves. In the center there are Legos on the shelves below and above, academic books and story books that are stacked, it is not possible to read the titles or identify the genres.

Table 2

Average score in each item of the GCE subscale in second grade by school type

Item	School type	
	Public (n=25)	Private (n=10)
Classroom Organization	1.75	2.10
Contents of the Classroom	1.13	1.90
Classroom Management	2.63	2.40
Professional Focus	2.83	2.50
Integration of Language and Literacy	1.88	1.70
Opportunities for Independence in Learning	1.38	1.50
Recognizing Diversity in the Classroom	1.46	1.70

Source: own elaboration.

In contrast, in public schools, the arrangement of the desks tended to limit traffic patterns and create disruptions throughout the class if students needed to move. Notes taken state: "Desks are a bit precarious and everyone faces the front. They are somewhat crowded as if the intention was for everyone to be closer to the teacher and the blackboard". The use of materials for developing literacy was less evident. Often, they were not in good condition or were insufficient for all students. Prefabricated, printed, or teacher-generated posters were predominant. Descriptions of the physical environment evidence this: "At the back, there are two murals, one commemorating the Black Ethnicity Day with computer generated images and another one also alluding to black ethnicity but in English, with images and printed text".

Furthermore, it was more common to observe in public school teachers clearer classroom management strategies and an organized environment with established rules and routines. However, in some cases, field notes show it as a highly controlled, sometimes overly disciplined, working atmosphere:

> At 7:20 am, the teacher starts by rearranging the desks; they are placed in a U-shape and she moves them all facing the board. She asks students to move their desks in a loud and angry tone. She says: "I'm placing you the way I see fit".

On other occasions, and more frequently than in private schools, it was evident that teachers maintained a positive attitude towards students, although the focus on their learning was highly variable.

Intentional and meaningful integration of language into teaching content was limited in both types of schools. Individual support for students, as well as opportunities for autonomous and self directed learning, were also limited. Teacher's intervention in the learning process was predominant over students' participation. In private schools, it was slightly more evident

that students' diversity, interests, and previous knowledge were valued; however, this was only observed in a few cases.

-Effective Language and Literacy Development: Table 3 provides insight into the average scores obtained by schools of each type in each item of the LL subscale. These scores are lower than GCE scores, evidencing low implementation of effective teaching practices in literacy development. Regarding discourse climate, isolated opportunities for conversation facilitating the exchange of ideas or opinions were slightly more frequent in private schools. Extended conversations were nearly absent in both types of schools. Notes indicate that teachers' responses in conversations tended to restrict interaction, demonstrating a low level of awareness of the importance of oral language development. However, during recreational periods, some conversations took place that were not necessarily connected with learning. In a second grade classroom at a public school, the following was registered:

> It's snack time. They talk about yesterday's heavy rain; some students engage in conversation: "At my house, the roof almost fell," one student shares; "Oh my God, thank God nothing happened!" the teacher replies.
>
> Now she notices that someone threw something on the floor and she plays the role of a lawyer to find out who did it. They chat a little, in a humorous and friendly way. She says: "On Career Day Celebration, we saw you dressed as lawyers. How do we solve this right now?". No one answers. "We throw it in the trash", she decides. "And who has to pick it up? Why?", she asks. "Because he threw it", students say. "Alright, problem solved. We reviewed the facts and reached a solution", the teacher tells them.

Table 3
Average score in each item of the LL subscale in second grade by school type

Item	School type	
	Public (n=25)	Private (n=10)
Discourse Climate	1.63	1.80
Opportunities for Extended Conversations	1.25	1.40
Efforts to Build Vocabulary	1.25	1.50
Characteristics of Books	1.21	1.40
Development of Reading Fluency	1.50	1.40
Sounds to Print	2.00	1.00
Strategies to Build Reading Vocabulary	1.17	1.30
Strategies to Build Reading Comprehension	1.25	1.50
Writing Environment	1.17	1.30
Focused Writing Instruction	1.17	1.30
Students' Writing Products	1.13	1.20

Source: own elaboration.

VOLUMEN 18 / AÑO 2025 / ISSN 2027-1182 / BOGOTÁ-COLOMBIA / Páginas 1-24

Consequently, efforts to build oral vocabulary were nearly absent, indicating that teachers did not intentionally focus on expanding students' known word repertoire.

Books were practically absent in both types of schools. In cases where they were found, they either were not adapted to students' reading abilities or were not used during classes. Consequently, it was not possible to report observed evidence that the texts utilized during lessons represented diversity in the world through its characters. Reading fluency was mainly promoted through texts in worksheets, and the development of this practice was slightly more evident in public schools.

Strategies to build vocabulary during reading were also scarce in both types of schools. In private schools, it was slightly more evident that the teacher promoted some strategies to demonstrate reading comprehension, modeling and explaining them. In one particular classroom, questions to predict or anticipate what could happen in a text were present, although without providing sufficient explanation to understand that anticipation or connecting with prior knowledge facilitates comprehension:

> The teacher projects a slide with the title *A World to Discover* and a drawing. She reads it and asks them what comes to their mind. A girl says it's like Alice in Wonderland: "I think there's a country in... I mean, Neverland! And there they discover a forest, they discover things", the girl says, connecting with her prior knowledge.

In public schools, there was slightly more evidence of the intentional development of phonological awareness. However, instruction lacked clarity or depth. It was common to find that it was approached similarly to other instructions: correcting and giving nearly no space for self correction or deeper reflection. Students were writing the Spanish word for dog, which contains a very marked sound in the middle (rr):

> The teacher is working with the third girl in the front. She emphasizes the sound of the letters and asks questions like: "What vowel does it end with?". She tells her it's double *r* because she is pronouncing it loudly. "Look!", and makes the sound of the Spanish double *r*. She walks to the back of the classroom to see how the rest of the students wrote "*el perro rorro*". Corrects the double *r* in one student and the segmentation of the words.

The lowest scores in the rubric were registered in items that assessed the quality of the writing environment. In both types of schools, there were minimal opportunities for students to write, beyond copying or solving grammar exercises in their notebooks. During these scarce moments of

writing, teachers were more concerned about their students completing the task than guiding them through writing processes with a specific purpose. There were no observed strategies for students to understand the processes and purposes of writing in order to become confident writers. Generally, the assigned tasks were tedious and repetitive. Notes recorded in a private school describe the type of writing tasks that most students carried out and the way teachers intervened:

> While the children are silent, the teacher writes a repertoire of words on the board. The repertoire consists of words with the Spanish sounds *fr* and *fl*. She also writes sentences. When she finished copying the words, she walked around the desks. For those who had not started copying, she turns the notebook page and indicates where to start copying. She does this for all students, one by one.

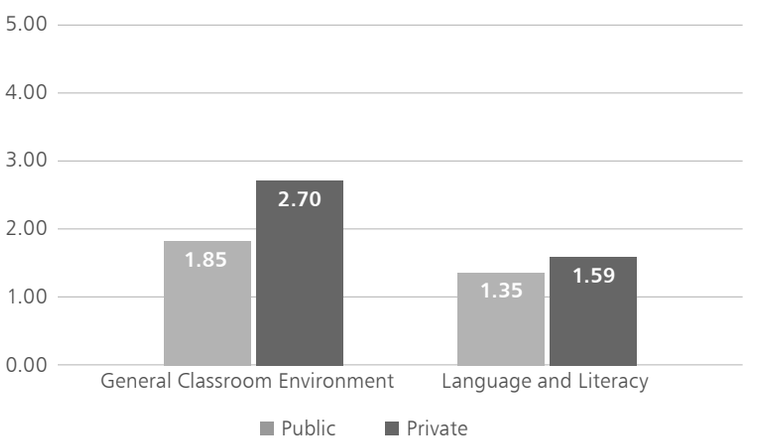
Lastly, the display of written products generated by students in the classroom was minimal. There was no indication of whether teachers used any strategy to organize, exhibit, or store them.

Differences by school type in fourth grade

Figure 2 evidences a low quality of GCE in public schools and generally a medium quality in private schools. Both types of schools presented a low level of implementation of teaching practices aligned with effective language and literacy development, below 1.6 on a scale of 1 to 5, with a slight advantage towards private schools.

Figure 2

Average achieved in fourth grade by each type of school in each subscale



Source: own elaboration.

Note: N=36

VOLUMEN 18 / AÑO 2025 / ISSN 2027-1182 / BOGOTÁ-COLOMBIA / Páginas 1-24

-*General Classroom Environment:* In private schools, it was notably more evident that the classroom was organized in a way that allowed for orderly traffic inside, equipped with age appropriate furniture, as shown in table 4. It was more common to find materials organized into categories, mostly in good condition and easily accessible to students with proper guidance from the teacher. In both types of schools, teachers demonstrated strategies for effective classroom management, using rules and routines to maintain a pleasant working atmosphere. In multiple classrooms, it was evident that teachers maintained a positive attitude towards students and focused on their learning. In a fourth grade classroom at a public school, the following was noted:

> The teacher moves around all the desks, reaching the back of the classroom to check in progress. He stops at some desks to provide input: "Let's see how we're doing?", he asks at one desk, smiling, and the children smile back. There's good rapport and a positive working atmosphere.

Table 4
Average score in each item of the GCE subscale in fourth grade by school type

Item	School type	
	Public (n=26)	Private (n=10)
Classroom Organization	1.54	2.60
Contents of the Classroom	1.15	2.50
Classroom Management	3.04	3.40
Professional Focus	2.88	3.30
Integration of Language and Literacy	1.73	3.00
Opportunities for Independence in Learning	1.27	2.10
Recognizing Diversity in the Classroom	1.31	2.00

Source: own elaboration.

In private schools, it was more evident that language instruction significantly integrated with class content. The teachers also encouraged more student independence in the learning process, resulting in increased motivation. The following notes, taken in a private school, support this observation. In this class, each student had a tablet and was working on an activity deciphering messages:

> She tells them that when they find the first message, they should wait before moving on to the next one. She mentions that she has already looked for them beforehand and knows what they are, so they should solve them on their own, and she will give help when needed. […] She approaches another desk, then turns to the whole class and says: "I noticed that there are symbols that are quite similar, so you have to be careful". "Yes, I got confused with one that goes to the left and another one just like it that

goes to the right", a boy laughs. She replies: "Exactly, and I see that some of you are having trouble because they are quite similar". She says this aloud so that everyone can hear. Students are focused and autonomously completing the task; when they call her, she assists.

Additionally, opportunities for students to use their prior knowledge considering their diversity were also more evident than in public schools.

-Effective Language and Literacy Development: Table 5 demonstrates a low quality of literacy teaching in both types of schools. Limited opportunities for the exchange of ideas in public schools were found. Teachers' responses to exchanges tended to restrict or dismiss ideas or opinions, whereas in private schools, this was slightly less evident. In both types of schools, there was minimal evidence that teachers understood the importance of extended conversations in oral language development and literacy learning. Sometimes, conversational opportunities were ignored, as in this example from a public school group:

> While the teacher hands out the worksheets, a child comments that he always passes by a haunted house that looks like the one at the fair. The teacher and most students hear him, but no one continues the conversation. Then the child turns to two of his classmates, but there's no exchange; he's recounting an event when he passed by the supposed haunted house.

In public schools, there was minimal evidence of teaching practices to build new vocabulary; teachers did not usually note words that students did not understand to address them, and the overall class vocabulary was restricted and simple.

Table 5

Average score in each item of the LL subscale in fourth grade by school type

Item	School type	
	Public (n=26)	Private (n=10)
Discourse Climate	1.69	2.30
Opportunities for Extended Conversations	1.31	1.50
Efforts to Build Vocabulary	1.50	2.50
Characteristics of Books	1.19	1.60
Development of Reading Fluency	1.50	1.70
Sounds to Print	1.50	1.00
Strategies to Build Reading Vocabulary	1.19	1.80
Strategies to Build Reading Comprehension	1.31	1.60
Writing Environment	1.35	1.20
Focused Writing Instruction	1.19	1.20
Students' Writing Products	1.15	1.10

Source: own elaboration.

VOLUMEN 18 / AÑO 2025 / ISSN 2027-1182 / BOGOTÁ-COLOMBIA / Páginas 1-24

The vast majority of classrooms in both public and private schools lacked books beyond academic ones. Books were not commonly used for learning purposes, they were not in good condition and there was no variety of genres or reading levels. Field notes showed that very rarely did researchers encounter reading corners, and when found in public schools, conditions were very poor:

> In the back, there's a Family Day mural and a board with a tree and some books. It seems to be a decoration for a reading corner, but it's not clear because there's no table or something to support books, and they are stored in containers.

There was also minimal evidence of practices that effectively promote building vocabulary during reading of texts in both types of schools, and minimal evidence of modeling or instruction for reading comprehension strategies. Slightly more evidence of practices fostering the development of fluent reading in fourth grade private schools was found. Several teachers modeled reading texts with some expressiveness but did not focus on providing varied strategies to students to develop automaticity or fluency while reading:

> She calls a girl to read aloud and gives very clear instructions, telling them that after Maria reads, she will ask them some comprehension questions. "Maria is going to read out loud, and you can listen to me now perfectly because I speak loudly, right?"; "Yes", everybody replied. "That's why Maria needs to raise her voice so we can hear her". Maria reads loudly and fluently, stumbles on some slightly more difficult words, and the teacher helps her. She calls another girl to read and also emphasizes on reading loudly and clearly: "We have to hear and understand what she says to answer some questions", she tells them before the girl reads the text again. She tells them to pay attention because now she will read for them. She starts reading with a good tone, rhythm, and expressiveness.

On the other hand, limited but slightly more evidence of work on phonological awareness was found in public schools. In both public and private schools, there was scarce evidence of text writing. Writing opportunities were limited and very basic, focusing on superficial aspects such as copying, correcting grammar, working with word lists, or writing sentences. Practices promoting understanding of the processes and purposes of writing to develop capable and confident writers were not evident. It can be concluded that text writing was not approached as a process or a communication tool, also evidenced by the absence of student's written products in

the classroom. While some classroom walls displayed Spanish work done by students, it was not possible to identify any system used by teachers to collect and archive these products. For instance, in the description of the physical environment of a classroom in a public school, it was noted a very simple writing product: "There is an alphabet chart on the board, a 'Back to Class' mural, and an exhibit of traffic signs made by the kids". This reflects a basic approach to integrating literacy practices into the classroom environment, where student-created materials are used to reinforce learning.

Discussion

According to previous research, a rich literacy environment is shaped by teaching practices, the working atmosphere, interactions among students and between teachers and students, and the physical environment, which includes the classroom layout and materials available for literacy instruction (Aziz & Dewi, 2019). However, both in second and fourth grades of public and private schools, only evidence of a conducive working atmosphere for language learning in terms of a demonstrated effective classroom management was found. Teachers also exhibited good rapport and established agreements to promote tolerance and respect within their classrooms. Nevertheless, overall results show limited evidence of effective teaching practices specifically for language and literacy development, as well as a low quality of the literacy environment in private and public schools in both grades.

The prevalence of prefabricated, computer printed, or teacher generated posters indicates an opportunity for improvement as it might imply a low level of student involvement in the creation of work to be displayed. This suggests missed opportunities for meaningful learning, leading to a disconnection between the intended communication of the poster and their relevance to students.

Only in fourth grade at private schools an acceptable discourse climate was found, where more conversation events took place during classes. In the rest of the schools and grades, conversations between students (and between teachers and students) that deviated from the topic or learning objective were discouraged, revealing a lack of awareness regarding the positive relationship between oral language and the apprenticeship of reading and writing. Evidence of efforts to build oral vocabulary was also more prevalent in fourth grade at private schools than in other grades and types of schools. Results indicate that students are not benefiting from good practices to develop oral communication and comprehension. As experts mention, the low quality of the discourse climate, limited opportunities for extended conversations, and the nearly absent development of oral vocabulary could

potentially affect students' reading comprehension levels in the long term (Nation *et al.*, 2004; Perfetti & Hart, 2002).

The existence of reading materials was minimal in all classrooms, which could indicate that students are not in environments that promote reading books, beyond academic ones, nor reading for pleasure. Consequently, students might not be benefiting from the previously studied positive long term effects that reading books has on gaining topical knowledge and developing complex skills such as creativity, writing of different types of texts and comprehension (Neuman, 1999). Although private schools have the possibility of accessing better quality resources, insufficient evidence was observed of the presence of meaningful reading materials integrated into learning.

Focusing on phonological awareness instruction enhances reading performance (Snow *et al.*, 1998). This practice was more evident in public schools, particularly in second grade, although without sufficient evidence of systematic application. By fourth grade, the evidence naturally decreased, as students would be expected to have developed this skill previously. A higher level of implementation of phonological awareness may have been expected in private schools, possibly through differentiated teacher profiles, or access to better quality resources and teacher training opportunities. The presence of more phonological awareness activities in public schools, may be related to the former implementation in Panama of the *Escuela Nueva Activa* program, which included a related component (Mogollón & Solano, 2011; Giraldo Usme & Sena Alzate, 2016). However, field notes rarely included evidence of strategies identified by literature as effective for developing phonological awareness. One such activity, suggested by Parra Bravo & Bojorque (2021), was observed in some classes: working on syllable segmentation.

Results also indicate that reading comprehension in the observed classrooms is not aligned with effective practices mentioned by experts. It was not possible to observe teachers engaging with texts by asking different types of questions before, during, or after reading (Fountas & Pinnell, 1996). There was also no evidence of teachers using, demonstrating, modeling, or verbalizing their thinking using varied cognitive strategies to analyze and comprehend texts (Smith *et al.*, 2002). The manner in which teachers foster reading comprehension is at a basic level, primarily through asking direct questions to extract highlighted information from the text. Consequently, as experts mention, students do not benefit from the development of sophisticated higher level thinking skills such as creative problem solving (Danesh & Nourdad, 2017).

Data collected also evidences a very basic approach to writing, in contrast to what the literature suggests. In almost all the classrooms where writing was addressed, it was done through copying word lists from the board, dictating words, or engaging in monotonous tasks involving

worksheets given to the students. Children might not be reaping the benefits that learning the process of writing offers for life, as it also improves students' reading skills and comprehension according to previous research (Graham & Hebert, 2010).

A better quality literacy environment and teaching practices in second grade was expected, considering children are at an earlier stage and require higher quality instruction to become confident readers and writers. However, collected data indicates that the quality of the literacy environment and teaching practices was slightly better in fourth grade. This aligns with existing literature that suggests that literacy processes in the country progress at a slower pace than suggested by international literature on the subject (Cubilla-Bonnetier *et al.*, 2023).

Previous studies with Panamanian data highlight the crucial role that socioeconomic factors play in the educational system (Murillo *et al.*, 2023). The findings of the present study support this notion, revealing that the literacy environments in public schools, serving a larger proportion of lower socioeconomic students, are characterized by limited resources and lower quality teaching practices.

Conclusions

Results reveal a concerning scarcity of effective teaching practices in key areas of language and literacy development, suggesting an urgent need for a profound reflection on current pedagogical strategies and a renewed commitment to integrate effective approaches into initial and continuous teacher training. These outcomes align with those of Orellana-García & Melo-Hurtado (2014) in Chile, highlighting a common pattern of prevalent unsupportive literacy environments and teaching practices misaligned with effective methods in the region. This call to reinforce effective literacy teaching methodologies was also identified by Mairena & Morín (2019) in Nicaragua.

The low scores in the implementation of phonological awareness strategies demonstrate a limited understanding among teachers regarding the potential of this skill. The impact of phonological awareness on literacy development in Panamanian children, even beyond international standards, has been demonstrated by previous studies (Cubilla-Bonnetier & Sánchez-Vincitore, 2025). Given these findings, it is crucial to intensify teacher training efforts and/or develop school intervention programs that systematically and consistently address phonological awareness. Further research to determine whether this issue is related to teachers' lack of motivation, insufficient access to high quality training opportunities, time constraints, or other barriers, would be valuable.

VOLUMEN 18 / AÑO 2025 / ISSN 2027-1182 / BOGOTÁ-COLOMBIA / Páginas 1-24

The limited implementation of meaningful writing activities also emphasizes the critical need for decisive actions in this area, such as the design and implementation of robust teacher training programs focused on effective pedagogical strategies for developing significant writing skills, along with direct interventions with students. Providing more and better books and instructional materials is also critical. Decision makers and educators should thoroughly explore methods and materials that have shown to enhance reading comprehension, phonological awareness, oral language, vocabulary, and writing development in other programs or countries. This call to action highlights the importance of ongoing training, the exchange of best practices among teachers, and the constant adaptation of pedagogical methods to ensure that students acquire solid foundations for academic success and life skills. Active collaboration among researchers, educators, and experts is essential for advancing these topics and improving the reading performance of Panamanian students.

Teachers' ability to establish and maintain a conducive learning environment, characterized by well defined rules of coexistence and a student-centered approach, provides a solid foundation upon which effective pedagogical interventions could be built. Leveraging this positive aspect might involve incorporating specific strategies within classroom management that align with the needs identified in this study. For example, promoting enriching discussions that drive oral language and vocabulary by leveraging the existing established and shared classroom expectations fostering tolerance and respect. By capitalizing on the existing classroom management strengths, teachers would have the opportunity to maximize their impact on students' holistic development, thus creating an educational environment where key skills can effectively flourish.

In light of the findings and previous research, it is crucial for future studies to investigate the underlying impact of socioeconomic disparities on literacy teaching practices and classroom environments. Further research could also delve into the availability of resources in both public and private schools, as well as analyze teacher training levels across these systems at different grades, to assess how these factors influence student outcomes. Although the study identified a lack of resources and teacher training as contributing factors to the literacy gap between public and private schools, further research is needed to explore other specific reasons. For instance, differences in parental involvement, school leadership, or access to supplementary programs may also be influencing literacy outcomes. These factors warrant deeper investigation to better understand how they contribute to the disparities observed.

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