
| RESEARCH ARTICLE

Unregulated Screen Time on Kindergarten’s Language and Literacy Development

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| ABSTRACT

This study investigated the relationship between unregulated screen time and the language and literacy skills of kindergarten learners. Utilizing a descriptive-correlational research design, the study examined the profile of parent-respondents in terms of age, gender, educational attainment, occupation, and income, as well as the learners’ average daily unregulated screen time, observed language skills, and observed literacy skills. Data were collected through parent survey questionnaires and teacher-rated language and literacy checklists adapted from established instruments, using a 5-point Likert scale. Random sampling aided by Slovin’s formula was employed, and data were analyzed using Microsoft Excel and Pearson’s *r* at the 0.05 level of significance. Results revealed that learners spent an average of 1–2 hours per day on unregulated screen activities, primarily for educational and entertainment purposes. Language skills were moderately observed and showed a negligible, non-significant relationship with screen time. In contrast, literacy skills were observed at a higher level and demonstrated a weak but significant positive relationship with unregulated screen time. The findings suggest that moderate and purposeful screen exposure may support early literacy development when guided by appropriate content and parental supervision.

| KEYWORDS

Unregulated screen time, language skills, literacy skills, Kindergarten learners, early childhood education, screen exposure

| ARTICLE INFORMATION

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1. Introduction

Language and literacy development during the kindergarten years is a critical foundation for later reading, writing, and classroom learning. The World Health Organization (2019) describes early childhood as a period of rapid cognitive and behavioral development, while Willumsen and Bull (2020) emphasized that habits formed in the early years can shape later health and learning outcomes. In the Philippine setting, this concern is especially important because many learners continue to struggle with foundational skills. UNICEF Philippines (2023) reported that only a small proportion of Filipino learners achieve the minimum reading standard at the end of primary education, and the World Bank (2024) likewise noted that low proficiency in foundational skills such as reading and writing remains a major concern in the country. For kindergarten learners, strengthening early language and literacy is therefore essential, especially in public-school communities.

One issue that increasingly threatens early development is children’s prolonged exposure to screens without clear parental regulation. Madigan et al. (2020) found in a meta-analysis that greater quantity of screen use was associated with lower child language skills, while educational programming and co-viewing showed more favorable associations. Karani et al. (2022) further explained that higher amounts of screen time and earlier onset of viewing tend to have more negative than positive effects on children’s language development. In a later scoping review, Bhutani et al. (2024) also concluded that increased screen time can negatively affect children’s language development, although content and adult co-viewing still matter. In the Philippine context, Dy et al. (2023) reported that more than two hours of screen time was significantly associated with poorer receptive and expressive

language among young Filipino children. These findings show why determining the average unregulated screen time of learners per day is central to the present study.

The level of observed language skills among kindergarten learners must also be examined because language is one of the earliest indicators of school readiness and later academic success. Hutton et al. (2020) found that increased screen-based media use in preschool-aged children was associated with lower integrity of white matter tracts that support language and emergent literacy. Brushe et al. (2024) likewise showed that more screen time was associated with fewer adult words heard by children, fewer child vocalizations, and fewer conversational turns, suggesting that screen exposure may reduce the language-rich interactions children need. Korres et al. (2024) concluded that unsupervised screen exposure may negatively affect children's language usage, whereas supervised use appears more beneficial. Similarly, Massaroni et al. (2024) reported that prolonged screen exposure in early life may negatively affect language development and communication skills, especially comprehension and vocabulary growth. For kindergarten learners, these findings justify close observation of oral language behaviors in the school setting.

Alongside language, the level of observed literacy skills is equally important because early literacy includes the basic abilities that prepare children for formal reading instruction. Zu et al. (2025) found that entertainment-based screen activities significantly and negatively predicted early literacy, while educational use showed only a weak positive relationship. Sundqvist et al. (2024) reported that a supportive home literacy environment was positively associated with preschool children's vocabulary size, especially when adults engaged in dialogic reading and meaningful discussion. Kim and Yim (2024) similarly showed that the home literacy environment was related to children's literacy-related skills and vocabulary development. Looking beyond preschool, Li et al. (2025) found that higher screen time in young children was associated with lower later achievement in reading and math, suggesting that early literacy risks may extend into formal schooling. These studies support the need to assess literacy skills directly among kindergarten learners rather than assuming that screen exposure affects language alone.

Despite the growing body of evidence, several research gaps remain. Karani et al. (2022) described the relationship between screen time and language as multifactorial, indicating that more focused studies are needed on specific contexts and forms of exposure. Korres et al. (2024) also stressed that more evidence is needed on unsupervised exposure to newer types of screens. Although Dy et al. (2023) provided important Philippine evidence, their study focused on children aged 24 to 36 months and did not specifically examine kindergarten learners in a school-based context. Likewise, Li et al. (2025) dealt with later academic achievement in elementary school rather than observed kindergarten language and literacy skills, while Zu et al. (2025) recommended more objective and context-sensitive studies of screen exposure and early literacy processes. Thus, there remains limited localized evidence in Philippine public schools that simultaneously examines the average unregulated screen time of kindergarten learners and their observed language and literacy skills.

Guided by these concerns, the present study is directed toward determining the unregulated screen time of kindergarten learners in relation to their language and literacy skills at Don Andres Soriano Elementary School in Don Andres Soriano, Toledo City. Consistent with the guidance of the World Health Organization (2019) and the discussion of Willumsen and Bull (2020), the study recognizes that excessive screen exposure during the early years deserves close attention because of its possible developmental effects. It also responds to the Philippine need to strengthen foundational learning, as highlighted by UNICEF Philippines (2023) and the World Bank (2024). By identifying the learners' average unregulated screen time per day, the level of observed language skills, and the level of observed literacy skills, this study seeks to produce local evidence that may help teachers and parents develop more responsive supervision, home support, and early intervention strategies for kindergarten learners.

Literature Review

Recent literature consistently suggests that excessive or poorly supervised screen exposure may place young children at risk for weaker language development. In a large longitudinal study, Gath et al. (2025) found that higher levels of screen exposure in early childhood were associated with lower later performance in vocabulary, communication, writing, numeracy, and letter fluency, showing that early screen habits may have lasting developmental implications. Rai et al. (2023) likewise emphasized that the relationship is not explained by duration alone, because the type of device, the kind of content, and the quality of parent-child interaction during screen use also shape children's language outcomes. Expanding this view, Nwachukwu et al. (2025) concluded that screen time affects language development through multiple pathways, including content quality, socioeconomic conditions, and caregiver interaction. Similarly, da Silva Junior et al. (2025) reported that excessive and unsupervised use of interactive screens is most often linked with weaker expressive language and vocabulary, even if some findings remain mixed because of methodological differences across studies.

Related studies also show that screen use must be understood alongside the home literacy environment because literacy growth depends greatly on the quality of children's daily learning experiences. McArthur et al. (2021) found a reciprocal relationship between screen use and reading, showing that greater screen use at 24 months predicted lower reading activity later, which in turn predicted even greater screen use over time. Dore et al. (2020) similarly observed that media use may reduce literacy gains

when it displaces shared reading and decreases the quality of caregiver-child interaction, even if not all language effects are equally strong across designs. Bonifacci et al. (2024) further demonstrated that screen exposure and the home learning environment jointly predict preschoolers’ early literacy and behavioral outcomes, highlighting the importance of examining both factors together. In low- and middle-income countries, Nag et al. (2024) found that adult literacy practices and the availability of books at home were significantly associated with children’s language and literacy skills. Supporting this view, Rosslund et al. (2025) showed that shared book reading was positively associated with vocabulary, whereas daily screen time was negatively associated with vocabulary in young children.

Methodology

This study employed a descriptive-correlational research design to determine the relationship between unregulated screen time and the language and literacy skills of Kindergarten learners at Don Andres Soriano Elementary School in Don Andres Soriano, Toledo City, Cebu, during the School Year 2025–2026. This design was appropriate because it allowed the researcher to describe the learners’ average unregulated screen time per day, as well as their observed language and literacy skills, while examining the association among these variables without manipulating them. The respondents of the study were the 40 Kindergarten learners enrolled in the school, selected through random sampling, with the sample size determined using the Slovin formula to ensure representativeness. Data were gathered through an adapted questionnaire and assessment checklist. The screen time indicators were adapted from Vandewater et al. (2007), while the language development indicators were based on Wetherby and Prizant (2002) and the National Early Literacy Panel (2008). The literacy development indicators were adapted from Clay (1991) and Snow, Burns, and Griffin (1998). The instrument assessed the child’s unregulated screen exposure, type of digital content used, purpose of screen use, level of adult supervision, language skills, and literacy skills through a five-point Likert scale. The study also followed the Input–Process–Output approach, wherein the input included the learners’ screen time and developmental skills, the process involved the administration of the survey and assessment, data collection, tabulation, and analysis, and the output provided findings that served as a basis for recommendations. Descriptive statistics and Pearson’s *r* were used, and Microsoft Excel facilitated data processing and interpretation.

Results

Table 1. Child’s frequency of screen time

Frequency of Screen Time	f	%
Always	4	10.00
Often	8	20.00
Sometimes	20	50.00
Rarely	8	20.00
Total	40	100.00

Table 1 shows the child’s frequency of screen time. The data reveal that most learners sometimes engage in screen time, with 20 respondents or 50.00 percent. This is followed by often and rarely, with 8 respondents or 20.00 percent each. Meanwhile, only 4 respondents or 10.00 percent were reported to always use screens. The findings suggest that screen exposure is common among the learners, but for most of them, it occurs on a moderate basis rather than as a constant daily habit.

Table 2. Child’s time of screen time

Purpose	WM	SD	Verbal Description
TV	2.35	0.74	1-2 hours
Youtube	2.35	0.89	1-2 hours
Ad Apps	2.60	0.63	1-2 hours
Total	2.43	0.75	1-2 hours

Table 2 presents the child's time of screen exposure according to purpose. The results show that educational apps obtained the highest weighted mean of 2.60 with a standard deviation of 0.63, followed by TV and YouTube with identical weighted means of 2.35, although YouTube showed a slightly higher variability. The overall weighted mean of 2.43 indicates that learners generally spend 1–2 hours on screen-related activities. This suggests that screen use among the learners is moderate and commonly distributed across different types of digital media.

Table 3. Child's' purpose of screen time

Time of screen time	f	%
Morning	2	5.00
Afternoon	13	32.50
Evening	18	45.00
Before Bed	7	17.50
Total	40	100.00

Table 3 shows that the child's screen time is mainly used for educational and entertainment purposes, while some parents also allow screen exposure to calm the child or occupy them when busy. In terms of schedule, most learners use screens in the evening, with 18 or 45.00 percent, followed by the afternoon with 13 or 32.50 percent. Fewer learners use screens before bed and in the morning. This suggests that screen use is more common later in the day, especially after school or home activities.

Table 4. Average unregulated screen time of the learners per day

Purpose	f	%
Educational	19	1
Entertainment	18	2
To calm the child	15	3
While parents are busy	10	4

Table 4 presents the average unregulated screen time of the learners per day based on the time of use. The data show that most learners are exposed to screens during the evening, with 18 respondents or 45.00 percent. This is followed by the afternoon, with 13 respondents or 32.50 percent. Meanwhile, 7 respondents or 17.50 percent use screens before bed, while only 2 respondents or 5.00 percent are exposed in the morning. The findings indicate that unregulated screen time commonly occurs later in the day, particularly in the evening.

Table 5. Level of observed language skills of the learners

S/N	Indicators	WM	SD	Verbal Description
1	Understands and follows 2-step directions	3.43	1.01	Observed
2	Speaks in complete sentences	3.28	1.09	Moderately Observed
3	Uses age-appropriate vocabulary	3.10	0.90	Moderately Observed
4	Engages in conversation with peers	3.03	0.93	Moderately Observed
5	Answers WH-questions correctly	2.90	0.87	Moderately Observed
6	Tells a short story in sequence	2.98	0.83	Moderately Observed
	Aggregate Weighted Mean	3.12		Moderately Observed
	Aggregate Standard Deviation		0.94	

Table 5 presents the level of observed language skills of the learners. The results show an aggregate weighted mean of 3.12 and an aggregate standard deviation of 0.94, interpreted as moderately observed. Among the indicators, understanding and following 2-step directions obtained the highest weighted mean of 3.43 and was described as observed. In contrast, answering WH-questions correctly got the lowest weighted mean of 2.90, although still interpreted as moderately observed. Overall, the findings indicate that the learners demonstrate a fair level of language skills, but some areas still need improvement.

Table 6. Level of observed literacy skills of the learners

S/N	Indicators	WM	SD	Verbal Description
1	Identifies letters of the alphabet	3.65	1.05	Observed
2	Recognizes own name in print	3.60	1.08	Observed
3	Holds a book correctly and turns pages	3.45	0.78	Moderately Observed
4	Matches letters with sounds (phonemic awareness)	3.33	0.94	Moderately Observed
5	Understands left-to-right progression of reading	3.28	0.85	Moderately Observed
6	Retells stories read aloud	3.20	0.85	Moderately Observed
7	Attempts to write own name	3.38	0.87	Observed
Aggregate Weighted Mean		3.41		Observed
Aggregate Standard Deviation			0.92	

Table 6 presents the level of observed literacy skills of the learners. The findings reveal an aggregate weighted mean of 3.41 and an aggregate standard deviation of 0.92, interpreted as observed. Among the indicators, identifying letters of the alphabet obtained the highest weighted mean of 3.65, followed by recognizing one’s own name in print with 3.60, both described as observed. On the other hand, retelling stories read aloud got the lowest weighted mean of 3.20 and was interpreted as moderately observed. Overall, the results indicate that the learners generally demonstrate observed literacy skills, although some areas still require further enhancement.

Table 7. Test of relationship between the unregulated screen time and the language skills of the learners

Variables	r-value	Strength of Correlation	p-value	Decision	Remarks
Unregulated Screen Time and Language Skills	0.077	Negligible Positive	0.635	Do not reject H ₀	Not Significant

Significant at p < 0.05 (two-tailed)

Table 7 presents the test of relationship between unregulated screen time and the language skills of the learners. The computed r-value of 0.077 indicates a negligible positive correlation between the two variables. However, the obtained p-value of 0.635 is greater than the 0.05 level of significance, leading to the decision not to reject the null hypothesis. This means that the relationship between unregulated screen time and language skills is not significant. Therefore, unregulated screen time does not have a statistically significant association with the language skills of the learners in this study.

Table 8. Test of relationship between the unregulated screen time and the literacy skills of the learners

Variables	r-value	Strength of Correlation	p-value	Decision	Remarks
Unregulated Screen Time and Literacy Skills	0.382*	Weak Positive	0.015	Reject H ₀	Significant

Significant at p < 0.05 (two-tailed)

Table 8 presents the test of relationship between unregulated screen time and the literacy skills of the learners. The computed r -value of 0.382 indicates a weak positive correlation between the two variables. Since the p -value of 0.015 is lower than the 0.05 level of significance, the null hypothesis is rejected. This means that there is a significant relationship between unregulated screen time and the literacy skills of the learners. Therefore, the findings suggest that unregulated screen time is significantly associated with the literacy skills of the learners in this study.

Discussion

The findings show that unregulated screen time was a common experience among the kindergarten learners, although it generally occurred at a moderate level. Most of the learners sometimes engaged in screen time, and their overall exposure across TV, YouTube, and educational applications was within 1–2 hours per day. Screen use was also more likely to happen in the evening and afternoon, suggesting that exposure commonly took place after school or during home routines. In terms of development, the learners' language skills were only moderately observed, with the strongest skill seen in following 2-step directions, while answering WH-questions correctly received the lowest mean. This suggests that although the learners already demonstrated basic receptive and expressive language abilities, some important communication skills were still developing and may require continued support from both school and home.

A notable result of the study is the difference between language and literacy outcomes in relation to unregulated screen time. While screen time showed only a negligible positive and non-significant relationship with language skills, it showed a weak positive but significant relationship with literacy skills. This means that, based on the data, unregulated screen exposure was not strongly associated with the learners' language development, but it was linked to their literacy skills. At the same time, literacy skills were generally rated higher than language skills, with an overall interpretation of observed, particularly in identifying letters and recognizing one's own name in print. These findings may imply that some forms of screen exposure are more closely connected with early literacy-related tasks than with broader oral language abilities, although the weak correlation suggests that other home and school factors may still play a major role in the learners' development.

Conclusion

The study concluded that the parent-respondents' demographic profile, including balanced gender distribution, varied age groups, diverse educational attainment, and predominantly formal employment with lower- to lower-middle income, plays a significant role in shaping the household context and children's screen time behaviors. Kindergarten learners exhibit moderate daily unregulated screen time of 1–2 hours, primarily for educational and entertainment purposes, with usage concentrated in the afternoon and evening. While unregulated screen time shows negligible impact on language development, it has a weak but significant positive relationship with literacy skills, indicating that moderate and purposeful screen use can support early literacy when combined with appropriate content and parental guidance. Overall, these findings underscore the need for balanced, structured, and educationally meaningful digital engagement to enhance children's early learning outcomes.

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