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The Association between Screen Time Duration and Learning Focus among Alpha Generation Students: A Case Study at MI Al Islam

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Abstract

The rapid digital immersion among the Alpha Generation has sparked significant concerns regarding their learning focus within formal educational settings. This study aims to analyse the correlation between screen time duration and learning focus among grade 3 students at MI Asas Islam, Salatiga. Employing a quantitative correlational design with a total sampling technique (N = 27), data were collected through closed-ended questionnaires, and subsequently analysed using the Spearman Rank correlation technique via IBM SPSS Statistics. The findings revealed a strong, negative, and statistically significant association between the variables (r = -0.642, p = 0.000), indicating that higher screen time duration is significantly associated with a decline in students' learning focus during classroom activities. In conclusion, the localized digital habits of Alpha Generation in this madrasah context necessitate responsive pedagogical strategies and the reinforcement of family-based digital literacy practices. This study highlights the critical need for collaborative digital regulation between educators and parents to safeguard students' academic focus.

Keywords: *: Alpha Generation, Screen Time, Learning Focus, Madrasah Ibtidaiyah, Case Study.*

INTRODUCTION

Alpha Generation is distinctly characterized by its upbringing within a highly immersive digital ecosystem, where interactive devices serve as primary instruments for daily socialization and cognitive development (Ghamrawi et al., 2025). This pervasive digital exposure has induced significant shifts in the psychological profiles of primary school-aged children, particularly undermining their capacity to sustain attention in formal academic environments (Ahufinger et al., 2025). Consequently, excessive screen stimulation is increasingly recognized as a critical disruption to the natural development of deep focus required for classroom learning.

The duration of screen use that exceeds the daily limit is closely related to a decrease in the quality of selective attention in children (Jourdren et al., 2023; Santos et

al., 2022). Stable learning focus is an absolute prerequisite for successful material retention, yet it is often hindered by cognitive load stemming from passive digital content (Helsa et al., 2022; Skulmowski & Xu, 2022). There is a link between screen addiction and delayed language development and also difficulty processing complex environmental stimuli (Tekeci et al., 2024). Therefore, the urgency of this study lies in the need for an objective assessment of the extent to which technological intensity affects students' focus resilience in the classroom (Massaroni et al., 2024).

Within the framework of Islamic primary education (Madrasah Ibtidaiyah), these attentional challenges become exceptionally pronounced. The madrasah curriculum imposes a distinctive cognitive demand on students, as it intensively integrates comprehensive Islamic doctrines such as Quranic literacy and moral principles alongside standard general subjects (Ahsani, 2020). Consequently, primary school-aged children in this environment are required to maintain a higher threshold of disciplined learning focus to navigate this dual-academic structure successfully (Abdullah et al., 2025). When digital immersion begins to fragment their attention span, it does not merely affect standard academic mastery, but fundamentally threatens the acquisition of core religious literacies that form the bedrock of Islamic schooling.

The primary empirical problem identified in this context is the pronounced degradation of students' classroom attention spans, which directly hinders daily instructional efficiency. Preliminary observations and teacher interviews conducted at MI Asas Islam revealed that third-grade students display a critical dependency on highly stimulating visual media, manifesting rapid boredom and disengagement during conventional, text-based lessons. Furthermore, this focus deficit is characterized by a delayed responsiveness to auditory cues, which requires educators to repetitively prompt students by name to regain their attention, as well as a sharp lack of persistence during fine-motor tasks such as writing, where students frequently lose focus within brief intervals. While broader literature acknowledges that intensive digital exposure correlates with attention shifts (Fei et al., 2025), localized empirical documentation detailing how these specific behavioural patterns disrupt learning within the dense, dual-curriculum environment of a madrasah remains severely limited.

While broader literature highlights various mitigations for digital saturation, such as parental mediation and educational applications (Choy et al., 2024; Troussas et al., 2022), a significant gap remains regarding how screen-induced attention shifts manifest within the unique dual-curriculum structure of a Madrasah Ibtidaiyah. Most existing studies focus heavily on standard public schools or Western urban systems with

uniform academic expectations (Sarvajna et al., 2025). This omission is critical because the cognitive stamina required by madrasah students to master both intensive religious literacies and mandatory secular subjects may create distinct behavioural vulnerabilities when coupled with high screen exposure.

Therefore, this study establishes its novelty by directly evaluating the association between screen time duration and learning focus within this specialized Islamic primary school environment, utilizing localized empirical data from MI Asas Islam. The primary objective of this research is to analyse the statistical significance of daily device exposure on the classroom concentration profiles among third-grade students. By providing these insights, the study offers a fresh pedagogical perspective on how digital native behaviours interact with dense, religion-based academic constraints, thereby contributing to more responsive elementary education policies.

METHODS

This study employed a quantitative correlational research design to examine the relationship between variables without manipulation (Sugiyono, 2019). The design is specifically aimed at determining the strength and direction of the association between screen time duration and learning focus among Alpha Generation students. The research was conducted at MI Asas Islam, Salatiga, involving 27 third-grade students as participants. The sampling technique utilized was total sampling, where the entire population is included to ensure the representation of specific group characteristics (Arikunto, 2019).

Primary data collection was conducted by distributing a closed-ended questionnaire developed using a four-point Likert scale (1–4). This instrument consisted of 10 items divided into two main dimensions, as presented in Table 1 below.

Table 1. N-Research Instrument Guide

Variable	Indicator	Items	Total
Screen Time (X)	Intensity of use, daily duration, and digital dependence.	1, 2, 3, 4, 5	5
Learning Focus (Y)	Attention, responsiveness, and perseverance in completing tasks.	6, 7, 8, 9, 10	5
	Total		10

To ensure data objectivity, each student's response was converted to a numerical score using specific scoring criteria. Given that some statements were negative (unfavourable), the researchers applied a reverse scoring procedure in accordance with the guidelines in Table 2:

Table 2. N-Likert Scale Scoring Criteria

Student Responses	Positive Statement Scores (P1-P6, P10)	Negative Statement Scores (P7, P8, P9)
Very Often	4	1
Often	3	2
Rarely	2	3
Never	1	4

The research procedure was executed systematically through four sequential stages. The first stage involved field observations and administrative permitting at MI Asas Islam. The second stage focused on instrument formulation, where item construction was strictly guided by established theoretical frameworks of digital consumption and student attention. To ensure face validity and contextual appropriateness, the drafted items were reviewed and refined alongside experienced elementary education practitioners to confirm that the language, syntax, and phrasing were developmentally suitable for third-grade madrasah students. The third stage involved direct classroom administration, where the researchers utilized an active assistance approach by reading each questionnaire item aloud to mitigate reading comprehension bias, followed by final data tabulation and cleaning.

Data analysis was performed using both descriptive and inferential statistical techniques within IBM SPSS Statistics version 25. Descriptive analysis mapped the general tendencies of each variable using frequency distributions and mean scores. Prior to hypothesis testing, a normality evaluation using the Shapiro-Wilk test was conducted, which revealed a non-normal data distribution. Consequently, this study justified the application of the non-parametric Spearman Rank correlation test to examine the relationship between variables. This technique ensures high statistical accuracy for ordinal data derived from Likert scales (Kraska-Miller, 2013), evaluating the research hypothesis at a strict significance level of $p < 0.05$.

RESULTS AND DISCUSSION

Results

The field data collection process conducted at MI Asas Islam has yielded a series of empirical findings regarding the dynamics of digital behaviour and learning attention among third-grade students. The data obtained from 27 respondents provides an objective picture of how Alpha Generation interacts with technology outside of school hours and how this impacts their ability to focus in the classroom. To provide a comprehensive understanding, the presentation of these research results is divided into three main sections: a description of the screen time variable, a description of the level

of learning focus, and an analysis of the relationship between the two through a statistical correlation test

1. Description of Screen Time Duration

The screen time variable was measured to capture the extent of screen exposure students experience in their daily lives. This measurement is crucial, given that Alpha Generation is growing up in a massive digital ecosystem. Data analysis results indicated a significant contrast in screen time distribution between students with good self-control and those with a tendency toward digital addiction. Visually, the distribution of device usage among respondents can be observed in Figure 1 below.

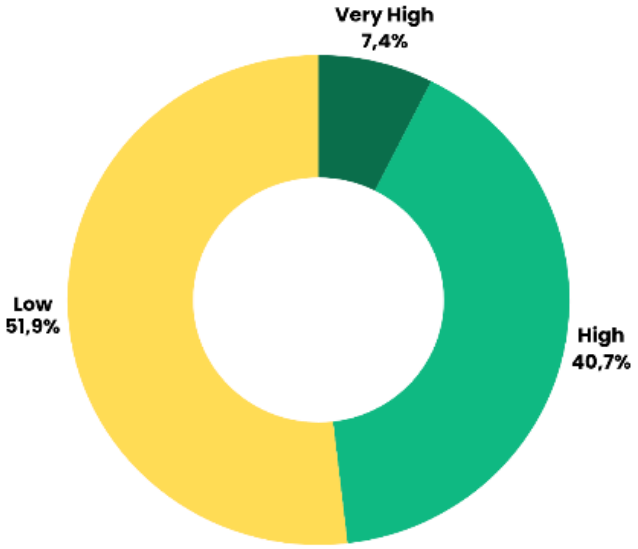

Figure 1. Frequency Distribution of Screen Time (Variable X)

Based on the data presented in Figure 1, the majority of students (51.9%) still fall into the "Low" category. However, a finding that warrants serious attention is the combined proportion of students in the "High" (40.7%) and "Very High" (7.4%) categories, which together account for nearly half of all respondents (48.1%). This indicates that device usage has become a dominant activity for nearly half of the third-grade student population at the study site. The high percentage in these higher categories indicates that digital visual stimulation is an integral part of students' lives outside academic hours.

2. Description of Learning Focus

Regarding the second variable 'learning focus', the researchers observed students' levels of attention and responsiveness during the madrasah's learning process. Learning focus is considered a key indicator in assessing students' success in absorbing the material. The data obtained were then classified into four levels of focus quality to identify the concentration patterns of Generation Alpha in the classroom, as shown in Figure 2.

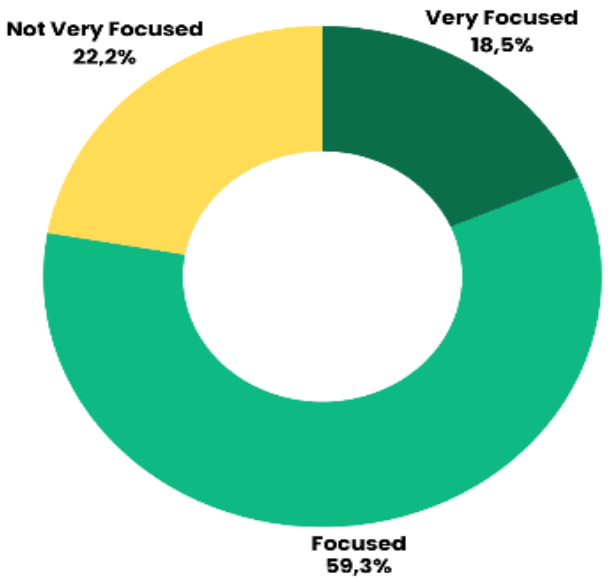

Figure 2. Frequency Distribution of Learning Focus

Figure 2 shows that, in general, third-grade students have a fairly positive concentration profile, with 59.3% classified as "Focused" and 18.5% as "Very Focused." However, the researchers found that 22.2% of students fell into the "Less Focused" category. This group of students in the "Less Focused" category exhibits symptoms such as being easily distracted by their surroundings, requiring repeated calls by name to respond to the teacher's instructions, and having difficulty in completing independent tasks on time. The phenomenon of low focus among some of these students raises further research questions regarding its relationship to the digital consumption patterns previously discussed.

3. Analysis of the Relationship Between Screen Time Duration and Learning Focus

After describing each variable individually, the next step is to conduct an inferential analysis to determine whether a statistically significant relationship exists.

Since the research data uses an ordinal scale derived from a Likert scale, the researchers employed Spearman's rank correlation (ρ), which was analyzed using SPSS 25 software. The results of this statistical analysis are presented in the following formal table to help readers understand the strength and direction of the relationships between variables:

Table 3. Results of Spearman Rank Correlation Analysis

Variable	Statistic	Screen Time (X)	Learning Focus (Y)
Screen Time (X)	*Correlation Coefficient*	1.000	-0,642
	Sig. (2-tailed)	.	0,000
Learning Focus (Y)	*Correlation Coefficient*	-0,642*	1.000
	Sig. (2-tailed)	0,000	.
N		27	27

* A significant correlation at the 0.05 level (two-tailed).

The interpretation of the data in Table 3 reveals findings of critical importance for the field of elementary education. The significance value (Sig. 2-tailed) of 0.000, which is far smaller than the significance level of 0.05 (0.000 < 0.05), clearly demonstrates a significant relationship between screen time and students' focus on learning at MI Asas Islam. The correlation coefficient of -0.642 indicates a relationship strength falling into the "strong" category.

The negative direction of the relationship, indicated by the minus (-) sign in the coefficient, logically implies that the two variables have an inverse relationship. Every increase in students' screen time directly results in a decrease in their level of focus or concentration during class. These results reinforce the hypothesis that excessive exposure to digital stimulation among Alpha Generation can lead to reduced attention span when facing conventional learning processes that require sustained focus.

Discussion

Research findings showing a strong negative correlation (r = -0.642; ρ = 0.000) between screen time duration and the learning focus of third-grade students at MI Asas Islam confirm clear disruptions in students' classroom concentration mechanisms. Theoretically, this phenomenon supports the Information Processing Theory, which posits that attention acts as the primary filter in the sensory register before information can be successfully transmitted to working memory. Excessive screen exposure beyond moderate thresholds results in psychological saturation and a high cognitive load,

thereby degrading students' capacity to selectively process instructional information during the learning process at the madrasah. This condition leads to a sharp decline in sustained attention, causing students to lose the capacity to remain engaged during conventional, long-duration academic activities.

The findings of this study align with broader educational psychology literature indicating that extensive digital exposure fundamentally alters children's behavioural engagement and situational responsiveness during formal instruction (Kouhbanani et al., 2023). This pattern suggests that the lower concentration levels observed among the participants at the study site reflect a state of cognitive fatigue rather than a simple lack of classroom discipline, as rapid visual stimulation reduces their tolerance for slower to the text-based learning materials. In line with this, Toth et al. (2025) emphasize that high screen time correlates linearly with diminished attention performance and disrupted sleep patterns, which cumulatively weakens students' cognitive readiness and academic stamina when facing school activities.

Contextually, these empirical findings offer a critical explanation when mapped against the specific academic environment of MI Asas Islam. Unlike standard elementary schools, madrasah students are subjected to a rigorous dual curriculum structure that demands the simultaneous mastery of general secular subjects and intensive Islamic religious literacies. This dense academic schedule inherently requires prolonged mental stamina and high cognitive engagement throughout the school day. When students engage in excessive screen time at home, the resulting cognitive fatigue and shortened attention spans directly clash with these heavy classroom demands. Consequently, the lack of learning focus observed in this study is not merely an isolated behavioural issue, but rather a structural vulnerability where digital exhaustion diminishes the psychological resources necessary to process complex, multidisciplinary school materials.

Furthermore, this negative correlation highlights the urgent need for targeted pedagogical interventions that bridge home digital habits and school performance. Since, madrasah students must navigate both cognitive and spiritual learning objectives, maintaining optimal concentration is paramount for their holistic development. School administrators and teachers should collaborate closely with parents to establish structured screen management strategies, ensuring that digital device exposure does not compromise the students' readiness for demanding school activities. By addressing this issue from both structural and familial dimensions, educators can foster a more supportive learning environment that safeguards the academic focus among Alpha

Generation students within Islamic primary education.

The practical implications of this study call for immediate pedagogical adaptations within Islamic primary education settings. School administrators and educators at MI Asas Islam should design balanced instructional schedules that mitigate cognitive fatigue by introducing interactive physical activities during peak learning hours. Furthermore, teachers can implement classroom device management campaigns and collaborate closely with parents to establish healthy digital boundaries at home ensuring that student attention is preserved for demanding academic tasks.

The researchers acknowledge several limitations of this study particularly the small sample size of twenty-seven students which restricts the generalizability of the findings to broader student populations. Additionally, the reliance on subjective questionnaires may introduce response bias or comprehension constraints among young participants. Future research should expand the sample diversity across multiple madrasahs and incorporate objective observation tools to provide a deeper more comprehensive understanding of digital consumption impacts on student learning focus.

CONCLUSION

In conclusion, this study demonstrates a significant negative correlation between screen time duration and learning focus among Alpha Generation students at MI Asas Islam. The empirical evidence indicates that excessive digital device exposure outside school hours relates closely to diminished classroom concentration. Because madrasah students must navigate a demanding dual curriculum that combines general and religious education, preserving optimal attention span is vital for their academic success. These findings underscore the importance of collaborative intervention between educators and parents to monitor digital consumption, thereby safeguarding the cognitive readiness and holistic development of young learners in Islamic primary education.

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