Gadget Usage Intensity on Students' Concentration in English Language Learning

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Abstract

Since the era of the pandemic, technology, particularly gadgets, has become an integral part of both remote and face-to-face learning. However, alongside this technological shift, a noteworthy phenomenon has emerged— the decline in students' concentration levels, in this case English language learning, attributed to the high intensity of gadget usage. This study aims not only to investigate the relationship between gadget usage intensity and students' concentration but also to identify the factors contributing to the decreased concentration levels. A sample of 40 high school students participated in this mixed-method research, utilizing a feature digital wellbeing and parental control data from students' devices, N-Back test of English language concentration, and interviews. Key findings indicate that students, on average, spend 7.72 hours daily using gadgets. The average concentration score was 56.5. Statistical analysis revealed a string enough relationship between gadget usage intensity and students' concentration ($r = 0.594$, $p < 0.05$), with a determination coefficient of 0.353 which means gadget usage intensity contributes 35,3%. Furthermore, the t-test results demonstrated a significant impact of smartphone usage on students' concentration ($t = 4.549$, $p < 0.05$). The hierarchical factors that contribute to this issue include gadget dependency, distractions, disruptions due to late-night gadget usage, and challenges posed by scrolling habits. These findings highlight the pressing need for awareness and strategies to help students overcome the distractions brought about by their gadget usage and ultimately enhance their concentration during English language learning.

Keywords: *Gadget; Smartphone; Concentration; EFL Class.*

Abstrak

Sejak era pandemi, teknologi, khususnya gadget, telah menjadi bagian integral dari pembelajaran baik secara daring maupun tatap muka. Namun, seiring dengan pergeseran teknologi ini, fenomena yang mencolok muncul—yaitu penurunan tingkat konsentrasi siswa, pada penelitian ini yaitu pelajaram bahasa Inggris, yang disebabkan oleh tingginya intensitas penggunaan gadget. Penelitian ini bertujuan tidak hanya untuk menyelidiki hubungan antara intensitas penggunaan gadget dan konsentrasi siswa, tetapi juga untuk mengidentifikasi faktor-faktor yang berkontribusi pada penurunan tingkat konsentrasi ini. Sampel penelitian ini terdiri dari 40 siswa sekolah menengah atas yang berpartisipasi dalam metode penelitian campuran (*mixed-method*) ini, dengan menggunakan fitur *digital wellbeing and parental control* dari perangkat siswa, uji N-Back untuk konsentrasi dalam bahasa Inggris, dan wawancara. Temuan utama menunjukkan bahwa rata-rata siswa menghabiskan waktu 7,72 jam setiap hari menggunakan gadget. Skor konsentrasi rata-rata adalah 56,5. Analisis statistik mengungkapkan adanya hubungan yang cukup kuat antara intensitas penggunaan gadget dan konsentrasi siswa dalam pelajaran Bahasa Inggris ($r = 0,594$, $p < 0,05$), dengan koefisien determinasi sebesar 0,353, yang berarti intensitas penggunaan gadget memberikan kontribusi sebesar 35,3%. Selain itu, hasil uji t menunjukkan dampak signifikan dari

penggunaan smartphone terhadap konsentrasi siswa (t = 4,549, p < 0,05). Faktor-faktor hirarkis yang berkontribusi pada masalah ini mencakup ketergantungan pada gadget, distraksi, gangguan akibat penggunaan gadget hingga larut malam, dan tantangan yang dihadapi oleh kebiasaan menjelajah di media sosial. Temuan ini menyoroti perlunya kesadaran dan strategi untuk membantu siswa mengatasi gangguan yang disebabkan oleh penggunaan gadget mereka dan pada akhirnya meningkatkan konsentrasi mereka selama pembelajaran bahasa Inggris.

Kata kunci: *Gadget; Smartphone; Konsentrasi, Kelas EFL*

INTRODUCTION

The global proliferation of technological gadgets is occurring at an unprecedented pace (Jamir et al., 2019). In the contemporary era, people of varying age brackets, encompassing students, are progressively dependent on technological gadgets, thereby prompting profound inquiries regarding their influence on individuals in both physical and psychological facets of development (Andriyani et al., 2020). Indonesia, specifically, has emerged as a prominent participant in this worldwide phenomenon, securing the fourth position globally in 2022 for having the highest count of smartphone users, an astonishing 192.15 million individuals (Laricchia, 2023). Furthermore, according to Statistia's survey conducted in the third quarter of 2022, respondents in Indonesia dedicated an average of around 7 hours and 42 minutes daily to internet usage (Nurhayati-Wolff, 2023). Significantly, app installations and user sessions in 2022 witnessed a noteworthy surge of 2% and 7%, respectively, defying the prevailing global trends (Shrestha, 2023).

Generation Z leads the charge in this technological revolution and showcases remarkable flexibility when it comes to electronic devices, especially gadgets. They are widely recognized as early adopters in this digital era (Gupta et al., 2013). For Generation Z, gadgets have transcended their role as mere tools. They now encompass an entire spectrum of entertainment, contributing to greater autonomy, shaping individual identity, and even affecting one's perceived credibility (Carbonell et al., 2018). In the spectrum of education, the utilization of gadgets has grown increasingly pivotal, particularly within the context of learning the English language (Gonzalez-Acevedo, 2016).

EFL (English as a Foreign Language) students employ gadgets as invaluable learning aids, facilitating access to educational resources and promoting communication with instructors and peers. Nonetheless, it is critical to acknowledge that smartphones, a ubiquitous form of gadgets, often serve as double-edged swords. While they can expedite the development of language skills, for instance, by swiftly providing vocabulary meanings during reading comprehension exercises, they can just as easily become sources of distraction. Students frequently yield to the temptation of checking their social media, listening

to music with headphones, or engaging in chat sessions with fellow students when given the opportunity (Machmud, 2018).

The era of reliance on gadgets has introduced fresh challenges in education, particularly in the realm of English language learning. Intensive gadget use, including accessing social media, exerts a significant impact on the pedagogical conduct and psychological well-being of EFL students (Mahouane & Meghazi, 2023). It is worth noting that the younger generation, especially Generation Z, is the most susceptible demographic to technological addiction (Muduli, 2014). A widespread dependence on gadgets for information, entertainment, and social interaction has transformed the way students acquire knowledge, frequently resulting in a constant state of distraction due to incoming messages, notifications, and the entertainment options these devices provide (Susilawati, 2019).

Numerous students have developed the habit of using gadgets intensively well into the late hours of the night. This behavior has been linked to morning headaches and difficulties in seeing the blackboard from their seats at the back of the classroom. Moreover, students frequently find it challenging to maintain concentration during classes and study sessions, ultimately leading to a deterioration in their academic performance (Hegde et al., 2019). In summary, mobile phone addiction can significantly impair students' ability to concentrate on their academic matters (Rashid et al., 2020). It is evident that the growing intensity of gadget usage has been a contributing factor to the emergence of gadget dependency among students. The more they rely on their gadgets for information, entertainment, and social interaction, the more pronounced the adverse effects become on their ability to concentration during English language lessons.

Recent research has drawn attention to the relationship between the intensity of gadget usage and diminishing student concentration during English language lessons. In today's environment of constant digital engagement and instant gratification, students might encounter challenges when it comes to sustaining concentration for extended durations on tasks that necessitate it. The frequent shifts of attention demanded by mobile devices can potentially shorten attention spans, making it more difficult to concentrate on activities that do not provide the same immediate stimuli (Patil, 2023). The more intensively gadgets are used, the more evident the negative effect on concentration becomes. Put simply, heightened and frequent gadget use contributes to a reduction in students' capacity to concentrate on their learning (Naryaning & Katmini, 2021). The distraction brought about by gadgets, such as smartphones, can create challenges for students in terms of following instructions and accomplishing tasks in their EFL class (Kao, 2023). These findings underscore the urgency of understanding how gadget usage intensity and dependency affect students' attention spans of their learning

concentration. Attention span plays a pivotal role in enhancing the quality of learning by enabling in-depth comprehension, information retention, and the optimization of overall learning outcomes.

With this context in mind, the present study is initiated. The research aims to explore the intricate relationship between gadget usage intensity and its impact on concentration English lesson. Moreover, the study endeavors to investigate factors contribute students' low concentration in learning English related to gadget usage intensity, providing the groundwork for the development of more effective and sustainable educational solutions. By gaining a deeper understanding of the interplay between gadget usage intensity on students' concentration, this research seeks to propel improvements in education and empower students to unlock their full potential in English language learning.

METHODS

In this research, the researcher applied a mixed-method research method (Creswell & Creswell, 2018) to investigate the intensity of gadget usage and students' concentration in English language learning which analysed quantitatively. The data collection process also involved the utilization of qualitative follow-up measures based on students' interviews. These methods were employed to provide further insights and explanations for the descriptive statistics (Teddlie & Yu, 2007). The research sample consisted of 40 eleventh-grade students at MAS Masyariqul Anwar Caringin, which represents approximately 25% of the student population (Arikunto, 1998). The researcher selected this class because they represent an age group that significantly uses gadgets in English language learning.

To collect data on gadget usage intensity, the researcher examined digital well-being and parental control data from the students' devices, obtained with parental consent. This data helped the researcher understand the extent to which students are engaged in gadget usage during English language learning.

To measure students' learning concentration on English lessons, the researcher used the N-Back test (N=2 models). This test helped the researcher evaluate how well students can maintain their concentration during lessons and their attention span duration in the context of learning. Additionally, the researcher also utilized students' self-reports and interviews to gather additional data regarding students' concentartion (Hlas et al., 2019) and factors influencing students' learning concentration due to gadget use. Data analysis involved using the Pearson Product Moment Correlation formula, managed with the assistance of the SPSS application.

Furthermore, for data that is qualitatively descriptive, such as the results from students' interviews, the researchers applied descriptive qualitative analysis to gain an in-depth understanding of the factors influencing students' learning concentration. With this mixed-method approach, the researcher aims to provide a comprehensive understanding of the impact of gadget usage on students' concentration in English language learning.

RESULTS AND DISCUSSION

1. Results

a. Result of Gadget Usage Intensity from Digital Wellbeing and Parental Control

In the study, a cohort of 40 students participated in an exploration of gadget usage intensity and its implications for their English language learning concentration. The primary variable under scrutiny was the students' gadget usage intensity, which was assessed by examining the Digital Wellbeing and Parental Control features on their smartphones. Over the course of one month, the researchers diligently monitored and calculated the average daily smartphone usage for each student, leading to a comprehensive overview of their digital engagement.

Table 1
Gadget Usage Intensity from Digital Wellbeing and Parental Control

N	Valid	40
	Missing	0
Mean		7.72
Minimum		6.00
Maximum		10.50
Sum		308.90

The results of this investigation revealed a striking average daily smartphone usage of approximately 7.72 hours among the participating students. While this statistic served as the midpoint for the dataset, it is noteworthy that the students' smartphone usage demonstrated a considerable range. Specifically, one student was identified with the minimal usage of 6 hours in a single day, representing the lower end of the spectrum. In contrast, another student showcased maximal usage, utilizing their smartphone for an extensive 10.50 hours in a single day. These findings emphasize the significant variation in students' daily gadget usage patterns, with potential consequences for their ability to concentration during English language learning sessions.

Table 2
Top Application accessed by the Students

Application	Total Students
WhatsApp	10 (25%)
TikTok	8 (20%)
YouTube	7 (18%)
CapCut	6 (15%)
Instagram	5 (13%)
Mobile Legends	3 (8%)
Twitter	1 (3%)

Further analysis of the data collected through the Digital Wellbeing and Parental Control features revealed the most frequently accessed applications by the students, shedding light on their digital preferences. Notably, WhatsApp emerged as the most popular application among the students, with 10 out of the 40 participants (constituting 25% of the sample) using it regularly. Following closely behind was TikTok, which captured the attention of 8 students, accounting for 20% of the cohort. YouTube ranked third in terms of popularity, with 7 students (18%) frequently engaging with the platform. Additionally, CapCut garnered a significant user base, with 6 students (15%) relying on it for various activities. Instagram, although slightly less utilized, still attracted 5 students (13%). In contrast, Mobile Legends was the choice of only 3 students (8%), and Twitter had the fewest users, with just 1 student (3%) reporting regular engagement with the platform.

This breakdown of application usage underscores the diverse digital landscape students navigate in their daily lives. WhatsApp's preeminent position implies its pivotal role in social interaction and communication, while TikTok and YouTube's popularity suggests a penchant for video-based content. The presence of CapCut, a video editing tool, signifies a potential interest in content creation. Instagram's moderate usage indicates that students engage with a variety of content types, from images to stories. Furthermore, the data hints at varying patterns of engagement across different applications, which may correlate with the students' ability to concentrate during English language learning sessions. These findings provide valuable insights for educators aiming to tailor their teaching methods and materials to the students' digital inclinations while addressing potential

challenges related to gadget usage intensity and its impact on concentration during lessons.

b. Result of N-Back Test of Students' Concentration of English Lesson

In the assessment of students' concentration in learning English, the N-Back test with an N=2 model was administered to 40 participants, comprising a set of 20 items. These test items were designed to evaluate the students' English lesson concentration by testing their English vocabulary related to the topics of "cause and effect" for eleventh grade material specifically exploring themes such as "global warming" and "technology."

Table 3
N-Back Test of Students' Concentration of English Lesson

N	Valid	40
	Missing	0
Mean		56.50
Minimum		35.00
Maximum		95.00
Sum		2260.00

The N-Back test, a cognitive task, is commonly used to measure working memory and attention span. In this context, it gauged the students' ability to retain and recall vocabulary words related to the specified topics. The mean score of 56.5 suggests a moderate level of performance, with considerable variations observed among the students. The student with the lowest score, 35, may have encountered challenges in maintaining concentration and retaining the vocabulary words, while the student with the highest score, 95, demonstrated a strong aptitude for vocabulary comprehension and memory retention. These results provide valuable insights into the students' concentration and working memory capacity during English language lessons, indicating the need for further examination of the relationship between gadget usage intensity and their learning English concentration.

c. Correlation of Coefficient and R-Squared Analysis

Once the researcher had collected data regarding gadget usage intensity and the scores reflecting students' levels of concentration during English language learning, a meticulous analysis was carried out to discern the intricate relationship between these variables. The objective was to investigate how variations in gadget usage intensity correlated with fluctuations in students' concentration levels. By subjecting the data to rigorous statistical examination and employing tools such as Pearson's Product Moment Correlation, the researcher sought to quantify and qualify the connection between the two factors. This analysis aimed to reveal

whether increased gadget usage intensity had a detrimental impact on students' ability to maintain focus during their English language lessons. The findings from this analysis provided valuable insights into the dynamics of gadget use and concentration among students, shedding light on their interdependencies and potential implications for educational practices.

Table 4
Correlation of Coefficient and R-Squared

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.594[a]	.353	.336	12.96126

a. Predictors: (Constant), X Variable

The study delved into the intricate relationship between gadget usage intensity and students' concentration of English language learning. To uncover this connection, a comprehensive analysis was conducted using the statistical software SPSS, revealing several key findings that shed light on the impact of gadget usage on students' ability to concentrate.

First and foremost, the analysis unveiled a noteworthy positive correlation ($r = 0.594$, $p < 0.05$) between gadget usage intensity and students' concentration. Based on the interpretation of coefficient correlation of value-r (Sugiyono, 2007), there is strong enough relationship between students' gadget usage intensity and their learning English concentration. This correlation suggests that as the intensity of gadget usage increases, so does the level of concentration during English language lessons. The p-value, being less than 0.05, emphasizes the statistical significance of this relationship, affirming that it is not merely a chance occurrence but a robust connection with practical implications.

Furthermore, the R-squared value ($R^2 = 0.354$) adds depth to the analysis by indicating that gadget usage intensity contributes to approximately 35.4% of the variance in students' concentration. In simpler terms, this means that over one-third of the variation in students' concentration can be attributed to their gadget usage patterns. This finding underscores the substantial role that gadget dependency plays in shaping students' ability to stay concentrated during their English language lessons.

Table 5
T-Value

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	117.811	13.633		8.642	.000
	X Variable	-7.939	1.745	-.594	-4.549	.000

a. Dependent Variable: Y Variable

Lastly, the t-test results ($t = 4.549$, $p < 0.05$) confirmed the tangible impact of gadget usage on students' concentration of learning English. The strong t-value, coupled with a significant p-value, solidifies the idea that gadget usage intensity significantly influences students' concentration during English learning. These results collectively highlight the importance of addressing and managing gadget usage in educational settings and underscore the need for strategies that can mitigate potential distractions stemming from excessive gadget utilization.

d. Interview Result of Students' Concentration and Its Factors

The researcher conducted a comprehensive interview that encompassed a set of eight probing questions designed to delve into the various aspects of students' concentration and the factors influencing it. These questions were strategically crafted to explore topics such as gadget usage both at school and outside school, the level of gadget dependency, the extent of distraction experienced, the impact on sleep quality, and students' scrolling habits on their gadgets. By including these questions, the interview aimed to gain a deeper understanding of the intricate relationship between gadget use and the focus of students, shedding light on how these factors interplay within the context of English language learning.

The first interview was asked to assess students' level of concentration during English language lessons at school, it appears that the majority of students, specifically 32 of them, tend to find it challenging to concentrate during these lessons. This indicates a significant issue related to their focus during English language classes. For example, Student 2 was more candid about their difficulties, admitting that he often struggled to maintain their focus during English language lessons. he acknowledged that he prefers spending time on their phones, which hinders their ability to concentrate. This student highlights the role of personal preferences and digital distractions in affecting focus. In addition, Student 9 emphasized the variability of his concentration. They mentioned that when the teacher uses engaging teaching methods, he can stay highly focused. However, there are days when he finds it more challenging to concentrate and get distracted by other thoughts. This response underscores the importance of teaching methods in supporting students' concentration. However, there was also student who still concentrate during the lesson, Student 4 mentioned that she finds it relatively easy

to focus, but they can be distracted by their classmates who engage in unrelated conversations during the lesson. This suggests that external factors within the classroom environment can affect her concentration.

The results to the second interview about how students deal with issues related to focus or concentration during English language learning provide valuable insights into their strategies for maintaining focus during lessons. While the answers vary, a common theme among students is the proactive approach to managing distractions and staying engaged. Student 4 adopts a physical strategy by choosing to sit at the front of the classroom, closer to the teacher. This positioning helps her avoid distractions from classmates and promotes her engagement. Additionally, she takes notes during the lessons, indicating an active effort to remain focused by actively participating in the learning process. Student 2 acknowledges the potential distractions posed by their smartphone. To address this, she takes the initiative to physically distance themselves from their phone by placing it in their bag or away from her desk during lessons. This action serves to reduce the temptation to check messages or notifications and helps her concentrate on the lesson. The approach taken by Student 3 is more mental in nature. They focus on the long-term benefits of English language lessons, using this perspective as motivation to stay focused. This tactic assists them in maintaining their concentration, particularly when the lesson might not be as engaging. By emphasizing the value of the material, they aim to stay attentive and committed to their learning.

The results of the third interview on how gadget usage at school affects students' focus during English language lessons highlight a mixed response from the participants. It is evident that a substantial number of students, around 22 of them, use gadgets at school, during break time or even during class. This behavior appears to have an impact on their concentration during English lessons. For example, Student 30 candidly expresses that using gadgets at school leads to distraction. The temptation to engage in gaming or chatting with friends, even during class, diverts her focus from the lesson. It is clear that gadget usage, particularly for recreational purposes, hinders her ability to concentrate on the English lesson. Similarly, Student 11 emphasizes that gadget usage at school significantly affects his focus, especially when he is engaged in chatting through messaging apps or using social media while the teacher is delivering the lesson. This indicates that social interactions and non-academic smartphone activities are among the major distractions. In contrast, student 22 opts not to use gadgets at school. As a result, he claims not to be affected during English lessons. His preference is to concentrate on the teacher and the lesson. This indicates that a conscious decision to avoid gadget usage at school contributes to maintaining focus during classes.

The results of the fourth interview, which focused on how gadget usage outside of the classroom affects students' concentration during English language lessons, indicate a predominant trend of gadget usage among the participants. Specifically, 30 students admit to using gadgets outside of school, such as when they return home, at home, or when they are with friends. This demonstrates that gadget usage outside of school elicits a variety of responses among students. For example, Student 12 frequently uses gadgets, especially for gaming, outside of the classroom. His response suggests that this behavior results in a lack of focus when English lessons commence because his thoughts are still preoccupied with the game they were playing. The student acknowledges that gadget usage is a major distractor. Student 13 also expresses being significantly distracted by gadgets outside of the classroom. The student often finds herself looking at their phone rather than her textbooks, which leads to a loss of focus during English lessons. In contrast, Student 4 states that gadget usage outside of the classroom does not greatly affect her focus during English lessons. This student actively tries to manage their gadget usage and employs self-control to use them only when necessary.

The results of the fifth interview, which addressed the impact of gadget dependency on students' focus in learning English, show that a considerable number of students, 27 in total, believe that gadget dependency hinders their concentration in the learning process. This highlights a prevalent concern among the students regarding the negative influence of gadget dependence on their ability to concentrate during English language lessons. For example, Student 27 explicitly acknowledges that her reliance on gadgets has a detrimental impact on their ability to focus on learning English. Student 15 also affirms that gadget dependency is highly disruptive. He admits to being more preoccupied with messages and notifications on his phone than with the lesson being taught. This behavior poses a major challenge to maintaining focus. In contrast, Student 8 expresses that he is not greatly affected by their gadget dependency. This student claims to have control over his gadget usage and ensures that they only engage with his phone during breaks between lessons.

The results of the sixth interview, which explored whether students experience distractions or disruptions in their learning due to gadget usage, reveal that a significant number of students, specifically 24, acknowledge that distractions from gadgets can hinder their learning and concentration. These findings underscore the potential impact of gadget usage on students' ability to focus during their learning process. For example, Student 16 shares that he feels more distracted by gadgets, particularly outside of school. He expresses a tendency to prioritize checking messages or social media over studying during such moments. However, at school, he adopts the practice of turning off their phone and focusing on the

teacher, which helps him to stay on track. Student 1 admits to frequently experiencing distractions caused by gadgets, especially when notifications from social media or games disrupt their focus on working homework. This student highlights the difficulty he faces in maintaining concentration on their lessons in such situations. In contrast to the aforementioned students, Student 8 does not feel greatly disturbed by gadgets during his study sessions. This student emphasizes his ability to manage the distraction by turning off the phone when necessary. However, he notes that the presence of friends using gadgets around them can still pose a distraction.

The results of the seventh interview, which focused on the impact of late-night gadget use on students' sleep quality and learning concentration in class, show that a substantial number of students, specifically 24, believe that playing with gadgets until late at night adversely affects both their sleep quality and their ability to concentrate during lessons. These findings underscore the potential consequences of late-night gadget usage on students' well-being and academic performance. For example, Student 10 admits to frequently engaging with gadgets until late at night, which subsequently disrupts his sleep. The lack of quality sleep leaves them feeling tired during class, ultimately affecting their ability to concentrate and learn effectively. Student 19 echoes these concerns, highlighting that the habit of playing gadgets at night has a detrimental effect on her sleep quality. This lack of sleep leads to feelings of fatigue and reduced focus during classroom lessons, making it a problem that she acknowledges needs to be addressed. In contrast, Student 5 suggests that her sleep quality remains relatively unaffected even after playing gadgets at night. She asserts that this habit doesn't significantly impact their sleep or their ability to concentrate during class.

The results of the last interview, which inquired about the impact of scrolling habit through social media or other platforms on gadgets on students' ability to stay focused while learning English, indicate that a significant number of students, namely 22, find this habit to be a challenge that hampers their concentration during English language lessons. For example, Student 3 mentions that staying focused is a significant challenge due to her excessive use of social media. She often forgets assignments and homework, indicating that social media distractions interfere with their academic responsibilities. Student 1 similarly finds that scrolling through social media can pose a challenge to her concentration, particularly when they come across her friends' exciting activities or updates. This experience leads to a loss of focus, but they acknowledge their efforts to limit social media usage during study sessions. In contrast, Student 5 reports that she is not significantly distracted by social media when studying English. She tends to remain focused on their lessons, occasionally checking social media briefly during breaks.

The insights derived from the aforementioned interviews shed light on a prevalent issue among students, one that revolves around their ability to concentrate during English language classes. It is evident that a considerable portion of students grapple with maintaining focus in these learning environments. Interestingly, the intensity of gadget usage is observed to be more pronounced outside the school premises compared to within it. Factors such as gadget dependency, distractions, disrupted sleep patterns, and scrolling habits collectively influence students' capacity to focus during these essential learning sessions. Addressing these issues is crucial to enhance students' learning experiences and academic performance.

2. Discussion

a. The Relationship Students' Gadget Usage Intensity and Their Concentration in English Language Learning

The findings of this study offer valuable insights into the intricate connection between gadget usage and students' concentration during English language classes. It is evident from the data that there exists a strong and noteworthy relationship between the intensity of students' gadget usage and their ability to concentrate during these English language lessons. This revelation underscores the significance of addressing this issue as it directly impacts the effectiveness of English language education.

One of the notable findings is that a substantial majority of students struggle with maintaining concentration during English language lessons. This implies a significant issue related to students' focus during these classes. The dependence on gadgets, particularly smartphones, appears to play a pivotal role in the observed difficulties. Students' gadget addiction often leads to lapses in attention, diverting their focus from the class material and making it challenging for them to heed the teacher's guidance. This trend highlights the urgent need for interventions to mitigate the adverse effects of excessive gadget usage during learning.

The study also revealed the various strategies that students employ to preserve their concentration during English lessons. Students acknowledged that they consciously try not to think about things outside the lesson, attempt to sit closer to the teacher, disable notifications on their devices, and make a concerted effort to focus on the class content. These strategies represent students' adaptive mechanisms to counteract the distractions caused by gadgets. However, they also indicate the extent of the issue and the considerable effort students need to exert to maintain their focus.

Furthermore, it is worth noting that more students feel that the use of gadgets outside of school disrupts their focus on learning English. This emphasizes the need for comprehensive strategies addressing gadget usage both inside and

outside the classroom. This study also found that gadget use within the school premises can also disturb students' concentration on their studies. It suggests the necessity for school policies and guidelines that encourage responsible gadget usage to be implemented and enforced.

The applications predominantly accessed by students, which are mainly related to social media, hold key implications. WhatsApp's preeminent position indicates its pivotal role in social interaction and communication. The popularity of TikTok and YouTube suggests a strong preference for video-based content among students. The presence of CapCut, a video editing tool, signifies a potential interest in content creation, indicating that some students are not just consumers but creators of digital content. Instagram's moderate usage indicates that students engage with various content types, from images to stories. These findings indicate that addressing gadget usage and its effects on concentration must consider the specific applications and platforms that students engage with regularly.

To provide context and further support for the study's findings, the work of (Kao, 2023) emphasizes the potential consequences of gadget addiction, particularly smartphones, on students' attention during English as a Foreign Language (EFL) classes. It posits that an addiction to gadgets might lead to attention lapses during EFL classes, making it challenging for students to focus on the class material.

Moreover, research conducted by (Chu et al., 2021) underlines the potential adverse consequences of mobile phone usage on cognitive capacity and psychological well-being. Research by (Lodge & Harrison, 2019) also shows that as students increasingly participated in various activities within digital environments, their academic performance deteriorated. Their work suggests that when mobile phone usage restrains cognitive capacity, it hinders the ability to concentrate on daily tasks, ultimately resulting in adverse psychological well-being. This resonates with the findings of this study, emphasizing the necessity of addressing gadget usage intensity for the overall well-being of students.

In conclusion, the study's findings reveal a compelling relationship between students' gadget usage intensity and their concentration during English language learning. They highlight the need for effective strategies and policies to mitigate the adverse effects of gadget dependency and provide students with a conducive environment for learning. Recognizing the significance of this relationship is essential for educational institutions and policymakers seeking to improve students' learning experiences and academic performance.

b. Factors Contribute Students' Low Concentration in Learning English Related to Gadget Usage Intensity

Regarding these factors from gadget usage intensity, it offers a comprehensive

analysis of the factors, including gadget dependency, distraction, late-night sleep quality, and scrolling habits, and their impacts on students' ability to concentrate during English language learning. The following discussion aims to highlight the significance of these factors and their implications for improving English language education while addressing the existing research gaps.

Gadget dependency is the first and foremost factor under scrutiny. The findings of the research show that a considerable number of students are concerned about the impact of gadget dependency on their ability to concentrate during English language lessons. Specifically, 27 students believe that their dependency on gadgets negatively influences their focus during the learning process. This concern indicates a prevalent issue among students, emphasizing the need for addressing gadget dependency within educational settings. These findings align with previous research by (Skowronek et al., 2023) and (Rashid et al., 2020), highlighting the significant role of smartphone dependency in hindering students' ability to concentrate on academic matters. The implications of gadget dependency are clear, as it poses a substantial challenge to students' concentration during English language learning.

Distraction is another vital factor in the hierarchy of issues. A significant number of students acknowledge that distractions arising from gadgets can hinder their learning and concentration. These distractions are primarily attributed to smartphone usage, which creates challenges for students in terms of following instructions and accomplishing tasks during their English as a Foreign Language (EFL) classes, as observed in (Kao, 2023). This factor emphasizes the need for minimizing gadget-related distractions to enhance students' ability to concentrate during lessons.

The impact of late-night gadget usage on students' sleep quality and their learning concentration is another critical aspect explored in the research. The results indicate that a substantial number of students believe that playing with gadgets late at night adversely affects both their sleep quality and their ability to concentrate during lessons. These findings align with the observations made by (Hegde et al., 2019), who identified the link between late-night gadget usage and adverse effects such as morning headaches, challenges in maintaining concentration during classes, and ultimately, a decline in academic performance. These results underscore the need for promoting healthy gadget usage habits among students to ensure their well-being and academic success.

The last factor addressed in the hierarchy is scrolling habits through social media or other platforms on gadgets, which poses a significant challenge to students' concentration during English language lessons. A substantial number of students

find this habit to be a hindrance to their ability to concentrate on the learning process. These findings corroborate the research by (Cardoso-Leite et al., 2021), Engaging in media scrolling and multitasking has been associated with adverse effects on academic performance and other educational factors. For example, certain research studies suggest that individuals who heavily engage in media multitasking tend to be less effective in their academic learning. This highlights the importance of addressing scrolling habits to improve students' ability to focus on English language learning.

In conclusion, the hierarchy of factors contributing to students' low concentration in learning English related to gadget usage intensity is a multifaceted issue with significant implications. Gadget dependency, distraction, late-night sleep quality, and scrolling habits collectively hinder students' ability to concentrate during English language lessons. The research findings emphasize the need for educational institutions and policymakers to develop strategies that address these issues comprehensively. This includes promoting responsible gadget usage, minimizing distractions, ensuring good sleep hygiene, and encouraging healthy digital habits. By addressing these factors, English language education can be enhanced, and students can achieve improved learning outcomes and well-being.

CONCLUSION

This research has illuminated a robust relationship between the intensity of students' gadget usage and their capacity to maintain concentration while engaging in English language learning. The data demonstrate that the struggle to sustain attention during English lessons is a common challenge faced by a majority of students. This sheds light on a notable issue concerning students' attentiveness, a matter that should be urgently addressed in the educational context. Specifically, the pivotal role of gadget dependency, particularly smartphones, is underscored in the context of these difficulties. These findings indicate that students' reliance on these devices significantly hampers their ability to concentrate during English language classes, highlighting a substantial interconnection between gadget usage intensity and concentration.

Within this context, the analysis has uncovered a hierarchy of factors contributing to the overarching issue of reduced concentration. At the core of this challenge lies gadget dependency, with students heavily reliant on smartphones and other electronic devices for various purposes. Furthermore, students grapple with distractions stemming from the allure of these gadgets, disruptions brought about by late-night gadget use, and the challenges associated with scrolling through social media platforms. Each of these factors has a distinct impact on students' ability to concentrate during English language learning. The prevalence of gadget

dependency, coupled with the insidious nature of distractions and disruptions, indicates that a multifaceted approach is required to address these challenges comprehensively. By acknowledging and addressing these contributing factors, educators and institutions can take meaningful steps toward improving the learning experience for students.

These findings have significant implications for both education and the students themselves. For educators, it underscores the necessity of adopting pedagogical approaches that consider the prevalence of gadget usage and its effects on student concentration. It challenges schools to develop strategies to mitigate the distractions created by these devices and to emphasize the importance of focus during English language learning. Additionally, for students, the research serves as a wake-up call to be mindful of their gadget usage and its potential impact on their academic performance. It encourages them to adopt healthier gadget habits, which could lead to improved learning outcomes.

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