

THE INFLUENCE OF ONLINE GAMES ON STUDENT LEARNING CONCENTRATION AT PANCASAKTI UNIVERSITY TEGAL

Muhamad Riki Fahreza¹, Yoga Prihatin², Masfuad ES.³

¹²³*Universitas Pancasakti, Tegal, Indonesia*

**muhamadrikifahreza@gmail.com1*

Abstract

The popularity of online games among college students has grown rapidly due to the quick development of digital technology, which may have an impact on their academic behavior, especially on their ability to concentrate when learning. Nowadays, online games are easily accessible through smartphones, computers, and various digital platforms, making them a common form of entertainment among students. While online games can provide relaxation and enjoyment, excessive engagement may influence students' study habits and academic performance. The purpose of this study is to examine how playing online games affects Pancasakti University Tegal students' ability to focus during class. This study specifically focuses on third-semester students of the English Education Program in the 2025–2026 academic year.

A descriptive quantitative research design was used in this study to obtain objective and measurable results. A closed-ended questionnaire consisting of 24 items measured by a Likert scale was used to gather the data. The questionnaire evaluated several aspects, including students' levels of online gaming intensity, attentiveness during class, study time management, academic focus, self-control, and psychological factors associated with learning motivation. The instrument was distributed to thirty third-semester students who were selected using purposive sampling. To ensure the validity and reliability of the research instrument, the collected data were analyzed using descriptive statistical methods with the assistance of SPSS.

The results show that the majority of students regularly play online games every day. The findings also indicate that excessive online gaming tends to impair students' ability to concentrate during class, particularly when focusing during lectures, organizing study schedules, and completing academic assignments. Many students reported feeling distracted, experiencing shorter attention spans, and showing reduced motivation to study due to excessive gaming activities.

In conclusion, online gaming significantly affects students' ability to maintain concentration while learning. Therefore, students are encouraged to manage their gaming habits responsibly, while lecturers and educators are expected to provide guidance and effective strategies to help students maintain better academic focus and learning discipline.

Keywords: Online Games, Learning Concentration, Academic Behaviour

1 INTRODUCTION

In today's digital era, technological developments have reshaped the daily routines of university students, especially in terms of how they spend their free time. One of the most significant shifts is the increasing use of online games as a form of entertainment and a coping mechanism for stress. According to Anderson et al. (2017), online games offer an engaging experience through reward systems, levels, and interactive challenges, making them attractive and easy to access at any time. The widespread use of smartphones, tablets, and computers allows students to engage in online gaming not only outside of class, but also during academic activities.

While some research suggests that moderate gaming may have benefits, such as improving emotional regulation and cognitive flexibility (Granic et al., 2014), excessive gaming has been consistently associated with negative academic impacts. Gentile et al. (2011) found that students who spent a considerable amount of time playing online games tended to experience lower academic achievement and reduced attention spans. This issue becomes particularly relevant in the context of higher education, where the ability to concentrate and manage time effectively is essential for mastering complex materials and succeeding academically.

At Pancasakti University Tegal, this concern is also evident. In June 2025, a preliminary study involving 20 third-semester students of the English Education Department was conducted through a short survey and informal interviews. The results showed that 70% of the respondents admitted to frequently playing online

games in their free time, while 50% reported occasionally playing games during lectures or while completing academic tasks. Many students stated that they used games as a way to relieve boredom or cope with stress, even when classes were ongoing. Supporting these findings, informal observations by lecturers revealed that around 25 to 30 students from various departments were seen playing mobile games during class, either openly or covertly. These behaviors included switching between gaming apps and academic platforms and showing more excitement for game progress than for lesson content or assignments.

This situation is concerning because concentration is a fundamental aspect of effective learning. According to Schunk (2012), students' ability to absorb, process, and retain information relies heavily on their capacity to stay focused. When students are distracted—especially by immersive gaming experiences—their academic performance may suffer. Furthermore, Wei et al. (2012) emphasize that high involvement in online gaming is closely linked to diminished attention control and poor time management among university students. Considering the growing trend of online game usage at Pancasakti University, particularly among third semester students who are expected to transition from the adjustment phase to a more focused academic routine, it is important to investigate how online gaming affects their learning concentration.

This study seeks to examine whether a significant relationship exists between the intensity of online game use and students' concentration in learning. It also aims to explore the strength of this relationship and identify behavioral patterns related to gaming that may influence academic engagement. By doing so, the research intends to offer a clearer understanding of how digital entertainment habits intersect with academic responsibilities in a university setting.

A number of studies have investigated the impact of online gaming on students' academic engagement and performance. Ip, Jacobs, and Watkins (2008) conducted a study involving 713 undergraduate students in the UK and the US. They found a negative correlation between the frequency of video game usage and academic achievement, suggesting that students who frequently played video games performed worse on exams compared to their peers. Their research emphasized the need for time management and balance in academic life.

In the Indonesian context, Hayati and Roesdiana (2023) studied 250 medical students at Universitas Muhammadiyah statistically significant negative correlation with students' GPA ($p = 0.002$). Their findings supported the notion that frequent gaming may hinder cognitive focus and academic dedication among higher education learners.

Similarly, Sun et al. (2023) examined online gaming behavior among 443 Chinese college students. The study concluded that online game addiction had a detrimental effect on students' learning engagement, which in turn reduced their academic motivation and achievement. The findings also indicated that long gaming hours interfered with the students' attention span and study consistency.

In Nepal, Shahi and Saud (2024) explored both the positive and negative impacts of online gaming among business students at Pokhara University. While some students reported that educational games improved problem-solving and decision-making skills, the majority experienced a decline in academic performance due to recreational and unregulated gaming habits. The study highlighted the importance of differentiating between types of games and their purposes. Furthermore, Manandhar & Timala (2024) conducted a study on 400 BBA students across Kathmandu Valley. Their research found that although the impact of online gaming on academic performance was relatively minor, it still existed and pointed to a need for students to develop better self-control and time regulation strategies when engaging in digital entertainment. To better visualize the thematic focus and findings of these studies, a comparative summary is presented below:

Authors	Context	Sample	Focus	Key Findings
---------	---------	--------	-------	--------------

Ip et al. (2008)	UK and US	713 undergrads	Gaming frequency vs. exam scores	Negative correlation; poor time management among frequent gamers
Hayati & Roesdiana (2023)	Indonesia (Yogyakarta)	250 medical students	Gaming vs. GPA	Significant negative correlation (p = 0.002)
Sun et al. (2023)	China	443 college students	Addiction & learning engagement	Reduced attention span, academic motivation, and achievement
Shahi & Saud (2024)	Nepal	Business students	Positive/negative impacts of gaming	Problem-solving improved; academic performance declined for most participants
Manandhar & Timalsena (2024)	Nepal (Kathmandu Valley)	400 BBA students	Time regulation and gaming impact	Minor but notable negative effect; need for selfdiscipline

Collectively, these studies provide valuable insights into how online gaming affects various aspects of students' academic lives. However, most of the existing literature focuses on general academic performance or psychological well-being. There is still a lack of focused research that specifically examines learning concentration as a cognitive function, especially among third semester university students in Indonesia. This study aims to fill that gap by exploring how online games influence student concentration levels at Pancasakti University Tegal.

Previous studies have examined the impact of online gaming. The second similarity between this study and the five previous studies is the use of quantitative methods. The third similarity between this study and one previous study is the use of a questionnaire instrument. The fourth similarity between this study and the five previous studies is that both examine the impact of online gaming. The fifth similarity between this study and the five previous studies is that both examine the impact of online gaming. There are differences between this study and previous studies. The first difference between this study and the first previous study is that this study uses student learning concentration as its object, while the previous study uses student academic engagement and performance as its object. The second difference is that this study uses third semester students at Pancasakti University in Tegal as its subjects, while the previous study uses students at Muhammadiyah University as its subjects.

The third difference is that this study uses student learning concentration as its object, while the previous study uses student learning engagement as its object. The fourth difference is that this study examines the impact of online games on student learning concentration, whereas previous studies examined the positive and negative impacts of online games. The fifth difference is that this study examines student learning concentration, whereas previous studies examined students' development of better selfcontrol and regulation strategies.

Online games refer to digital or electronic games that require an internet connection and are played through various electronic devices such as desktop computers, laptops, tablets, smartphones, or gaming consoles. These games are designed to allow interaction between players either in real-time or asynchronously, depending on the game mechanics.

Online games can be played individually (singleplayer), cooperatively (team-based), or competitively (against other players), and are often hosted on cloud servers or gaming platforms such as Steam, PlayStation Network, Xbox Live, or mobile app stores. A distinctive feature of online games is their interactive and immersive environment. Many online games incorporate virtual worlds, avatars, missions, rewards, leaderboards, and chat systems to simulate real-life experiences and foster a sense of social presence and accomplishment. According to Griffiths and Pontes (2014), these characteristics—especially real-time feedback, escalating challenges, and social interaction—make online games particularly engaging and sometimes addictive.

Online games are broadly categorized into several genres, including action games, role-playing games (RPGs), massively multiplayer online role-playing games (MMORPGs), real-time strategy games, simulation games, and casual mobile games. Each type offers different mechanics and engagement styles. For example, MMORPGs allow thousands of players to interact simultaneously in persistent virtual worlds, while mobile games are often quick and goal-oriented with in-app rewards and notifications designed to keep players returning regularly.

The widespread availability of high-speed internet and the rapid development of mobile technology have contributed to the exponential growth of online gaming globally, especially among youth and university students. Online games are not only a source of entertainment but also serve as a platform for social interaction, emotional release, and in some cases, cognitive development. However, their interactive and immersive nature can lead to excessive use, which may interfere with academic, social, and emotional development.

Online games have become a dominant form of digital entertainment among university students, with both positive and negative consequences on various aspects of their psychological, social, and academic life. The effects largely depend on the duration, type of game, individual self-regulation, and the context in which the games are played.

1) Positive Effects

Several studies have reported that online games can offer cognitive, emotional, and social benefits when played in moderation. For instance, Granic et al. (2014) argued that action and strategy-based games can enhance problem-solving skills, spatial awareness, and decision-making abilities. Games that require multitasking and fast responses, such as first-person shooters or MOBAs, have also been linked to improved hand-eye coordination and visual processing speed.

In addition, online games serve as a form of psychological relief, helping players manage stress and anxiety through immersion and distraction from real-life problems (Jones et al., 2022). Multiplayer online games, particularly MMORPGs, offer opportunities for social interaction and team cooperation, fostering a sense of belonging and emotional support, especially during periods of isolation (Domahidi et al., 2014).

Some educational games have also been shown to improve language skills, critical thinking, and engagement in classroom settings (Liu et al., 2023).

2) Negative Effects

Despite these potential benefits, extensive literature has documented various adverse effects associated with excessive or unregulated online gaming. A key concern is time displacement, where time allocated to gaming replaces time meant for academic, social, or physical activities. According to Kuss & Griffiths (2012), students who engage in prolonged gaming sessions often report academic decline, such as missed assignments, poor time management, and decreased motivation to study.

Another major negative effect is sleep disruption, especially among students who play late at night. This can lead to daytime fatigue, attention difficulties, and lower cognitive performance in class (Li et al., 2023).

Moreover, repeated exposure to reward-based gaming environments can lead to psychological dependency or behavioral addiction, characterized by cravings, withdrawal symptoms, and loss of control (Wang et al., 2023).

Long-term overuse of online games may also contribute to social isolation, increased irritability, and reduced physical activity. These effects can accumulate, particularly among young adults who lack strong selfregulation skills or external monitoring (Anderson et al., 2017).

Online game addiction is a type of behavioral addiction characterized by excessive, compulsive, and persistent involvement in online gaming activities to the extent that it disrupts important areas of life functioning, including academic performance, social relationships, physical health, and psychological well-being. Individuals affected by this condition often continue playing despite being aware of the negative consequences associated with their behavior.

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), published by the American Psychiatric Association (2013), introduced Internet Gaming Disorder (IGD) as a condition warranting further study. IGD is defined as “persistent and recurrent use of the internet to engage in games, often with other players, leading to clinically significant impairment or distress over a 12-month period.” Key criteria include preoccupation with games, withdrawal symptoms, tolerance (needing to spend more time), unsuccessful attempts to control gaming, and continued excessive use despite problems (APA, 2013).

Online game addiction is not limited to a specific type of game but is most commonly associated with immersive and interactive genres such as MMORPGs, MOBAs, and Battle Royale games, which are designed to provide constant rewards, social reinforcement, and escalating challenges (Kuss & Griffiths, 2012). These features increase the risk of psychological dependency, especially in adolescents and young adults.

According to Pontes & Griffiths (2015), game addiction differs from simple overuse or enthusiasm because it is compulsive and negatively impacts the individual's daily life. People with gaming addiction often experience loss of control, conflict with others, relapse, and even symptoms similar to substance-use disorders, such as anxiety, irritability, or depression when not playing.

Therefore, online game addiction is increasingly recognized as a serious public health concern, particularly among students, whose academic and cognitive development may be disrupted due to maladaptive patterns of gaming.

According to Griffiths (2005) and the DSM-5 criteria (American Psychiatric Association, 2013), one of the most common signs is preoccupation with gaming, where individuals are mentally absorbed by the game even when they are not actively playing. This preoccupation often disrupts concentration in academic or occupational settings. In addition, individuals may experience withdrawal symptoms such as irritability, anxiety, sadness, or restlessness when access to the game is restricted. These symptoms mirror those found in substance-related addictions, suggesting that gaming addiction shares similar neurobiological mechanisms (Kuss & Griffiths, 2012).

Another crucial indicator is tolerance, referring to the need to spend increasing amounts of time playing to achieve the same level of satisfaction or excitement. Over time, this can lead to loss of control, where the individual continues to play despite conscious efforts or intentions to reduce gaming time (Young, 1998).

According to Gentile et al. (2011), individuals suffering from game addiction also tend to neglect personal responsibilities, such as studying, maintaining hygiene, or socializing, leading to significant impairment in daily functioning. This aligns with Kuss et al. (2017) who emphasize that the disorder involves both psychological dependence and functional impairment, where gaming becomes a dominant activity that takes precedence over real-life interactions and obligations. Furthermore, Caplan (2003) highlighted that online gaming can serve as an escape mechanism from real-life stress or emotional discomfort.

This “escapism” is a strong predictor of problematic gaming behavior because it reinforces a cycle of avoidance and dependency. Similarly, Billieux et al. (2015) noted that online gaming addiction is often maintained by cognitive distortions such as overvaluation of in-game achievements or social connections, creating a false sense of accomplishment or belonging.

Finally, despite the emergence of negative consequences—such as academic decline, interpersonal conflict, or disrupted sleep patterns—addicted individuals frequently continue gaming excessively. This persistence, even in the face of harm, indicates a compulsive and maladaptive pattern of behavior (Griffiths, 2005; Kuss & Griffiths, 2012).

Schunk (2012) defines concentration as a critical aspect of self-regulated learning, referring to a student's ability to direct and maintain attention on learning tasks. High concentration allows students to absorb, process, and retain information effectively. Conversely, distractions—such as digital media or online games—may reduce this ability.

Learning concentration is the psychological and cognitive ability of a learner to direct and maintain focused attention on a specific academic task or subject matter over a sustained period. It involves the integration of mental alertness, self-regulation, and goal-directed behavior that enables a student to absorb, process, and retain new information effectively while minimizing internal and external distractions (Slameto, 2010; Santrock, 2011).

Concentration is not merely passive attention but an active engagement of the mind that requires effort, discipline, and motivation. According to Schunk (2012), effective concentration occurs when students channel their cognitive resources purposefully toward learning objectives, which facilitates deep understanding, problem-solving, and memory consolidation. In contrast, a lack of concentration often leads to fragmented thinking, decreased academic performance, and reduced retention of material.

Furthermore, learning concentration is influenced by multiple factors, including interest in the subject matter, emotional state, cognitive load, physical well-being, and the surrounding environment (Woolfolk, 2016). Students who can sustain attention over longer periods tend to achieve higher learning outcomes, as they are more likely to complete tasks efficiently and engage in higher-order thinking processes such as analysis, synthesis, and evaluation (Anastasi & Urbina, 1997).

2 METHODOLOGY

The case study approach is chosen in this research because the phenomenon of online gaming among third-semester students at Pancasakti University Tegal has become increasingly noticeable, both through informal observations by faculty and preliminary survey results indicating a high prevalence of gaming habits. This context presents a unique and relevant opportunity to explore how online gaming may influence students' learning concentration within this specific academic environment.

The subjects of this study are third-semester students at Pancasakti University Tegal during the 2024–2025 academic year. Participants are selected using purposive sampling, focusing on students known to engage regularly in online gaming. To capture varied perspectives, the sample includes both male and female students from the English Education Department, reflecting the diversity of experiences within the group.

The participants are selected through purposive sampling, specifically targeting students from the English Department who are known—based on informal observations and preliminary surveys—to engage in online gaming on a regular basis.

The selection process involves identifying students who reported frequent gaming (at least three to five times a week) through an initial survey and informal conversations with academic advisors. From this group, 30 students are chosen for in-depth interviews based on their willingness to participate and the variation of their gaming habits.

This sampling is based on the consideration that students who frequently play online games may show distinct patterns in learning concentration, particularly in language-based academic tasks that require sustained attention and cognitive effort. By focusing on this specific group, the research aims to explore both the behavioral tendencies associated with online gaming and how these behaviors may influence students' academic focus and classroom engagement.

The selected participants allow the researcher to gain deeper insights into the manifestation of gaming habits within an English language learning context and their possible impact on students' concentration and learning outcomes.

Both male and female students are included in the sample to provide a diverse range of perspectives regarding the impact of online gaming habits. The chosen sample allows the researcher to gain a deeper understanding of how gaming behavior manifests within an English learning context and how it might influence concentration during language acquisition activities.

The data used in this study is qualitative data derived from questionnaires conducted by third-semester students at Pancasakti University Tegal. A total of 80 questionnaires were administered to determine the impact of students' concentration on online gaming.

The researcher collects data through the use of an online questionnaire. The purpose of the questionnaire is to collect the information required for the respondent to respond to the purpose of the survey. The researcher in this case employs Google Forms to generate the questionnaire or survey for the respondents. The researcher considers to test the questionnaire using SPSS 22 to ensure its validity and reliability. The number of invalid and untrustworthy questions is reduced.

3 RESULTS

The data collected was analyzed to determine students' perceptions of the Impact of Online Games on Student Concentration. The results of the students' answers were coded in a table and inserted in the appendix, where they were classified based on what was explained in the previous chapter.

This study used a questionnaire with closed-ended questions based on markers of online gaming behavior and learning concentration. The questionnaire included 24 items about the intensity of online gaming, attention issues while learning, trouble keeping focus, study time management, and the likelihood to become distracted by online gaming activities. To assist data collection, processing, and analysis of respondents' responses, the researchers distributed the questionnaire via Google Forms. The questionnaire was distributed to 30 third-semester English Language Education Study Program students at Pancasakti University in Tegal

RESULT AND DISCUSSION

The general result of the questionnaire can we read in the table and chart bellow:

Table 3.1 General Result of Questionnaires

NO	CRITERIA	QUESTIONS	ANSWER				TOTAL	
			SA	A	N	D	SD	
1	Intensity of Playing Online Games	I play online games more than once a day	7	12	7	4	0	30
		I spend more than 2 hours per day playing online games	8	9	9	4	0	30
		I play online games during school/college days.	16	6	4	4	0	30
		I play online games until late at night	16	9	3	2	0	30
	TOTAL PRECENTAGE		39%	30%	19%	12%	0	100%
2	Concentration While Studying	I have difficulty focusing while studying after playing online games	8	8	9	5	0	30
		My mind is still thinking about games while studying.	9	8	9	4	0	30
		I often lose concentration while studying	13	8	6	3	0	30
		I am easily distracted by my phone while studying.	10	9	8	3	0	30

	TOTAL PRECENTAGE		33%	27%	27%	13%	0	100%
3	Impact on Study Time and Activities	My study time is reduced because of playing online games	9	7	6	7	1	30
		I often procrastinate studying because I want to play online games.	7	12	8	3	0	30
		I prefer playing games to studying	14	10	4	2	0	30
		I often rush through assignments because of playing online games	8	10	10	2	0	30
	TOTAL PRECENTAGE		32%	33%	23%	12%	0	100%
4	Impact on Academic Achievement	I often fall asleep in class because of playing online games	7	12	7	4	0	30
		I feel like my academic performance has worsened since I frequently play online games	11	8	10	1	0	30
		Playing online games has negatively impacted my academic performance	7	8	9	6	0	30
		Online games make studying feel boring	14	4	8	4	0	30
	TOTAL PRECENTAGE		33%	27%	28%	12%	0	100%
5	Self-Control and Time Management	I am able to limit the time I spend playing online games	11	6	6	7	0	30
		I am disciplined about my study time even though I enjoy online games	13	7	3	7	0	30
		I don't feel addicted to playing online games	9	8	7	5	1	30
		I often check gaming-related content while studying	11	7	6	4	2	30
	TOTAL PRECENTAGE		37%	23%	18%	19%	3%	100%
6	Psychological Impact & Learning Motivation	I feel less motivated to study because of playing online games	9	10	5	5	1	30
		I feel lazy about studying after playing online games	15	10	2	2	1	30
		I am more enthusiastic about playing games than studying	14	6	8	2	0	30
		Playing online games makes me neglect my study obligations	12	9	6	3	0	30

	TOTAL PRECENTAGE	42%	29%	17%	10%	2%	100%
--	-------------------------	-----	-----	-----	-----	----	------

NB: SA (Strongly Agree), A (Agree), N (Neutral), D (Disagree), SD (Strongly Disagree)

As seen in the general results above, the majority of respondents (69%) stated that they spend a significant amount of time playing online games in one day. Then, 19% of respondents chose neutral (between agree and disagree) when asked if they always play games in one day, while the remaining 12% disagreed.

Meanwhile, in criterion 2, more than half of respondents (60%) agreed that playing online games interferes with concentration in studying or other activities, while 13% disagreed. The remaining 27% of total respondents chose neutral.

In criteria 3, more than half of respondents (65%) agreed that excessive gaming disrupts other activities. The remaining 10% disagreed that severe gaming disrupts other activities, while 23% were neutral.

In criteria 4, over half of respondents (33%) strongly agreed, whereas 27% agreed that gaming has a detrimental impact on academic attainment. Meanwhile, 28% of respondents were ambivalent, with 12% disagreeing that gaming has a negative impact on academic attainment.

Meanwhile, 37% of respondents strongly agreed with criterion 5, while 23% believed that they could control themselves and their time while playing games, even if they were slightly preoccupied. 19% disagreed, with 3% strongly disagreeing. Meanwhile, 18% remained neutral.

Regarding criteria 6, 71% of respondents agreed that it interferes with learning, whereas 17% were neutral, 10% disagreed, and 2% strongly disagreed.

It can be inferred from the data results that Pancasakti University Tegal third-semester students engage in intense online gaming. According to the data, 69% of respondents said they play online games regularly throughout the day. Many of them play for more than two hours every day, either late at night or throughout their college days. Specifically, 83% of students acknowledged playing games until late at night, demonstrating a high degree of involvement. These numbers demonstrate that for a sizable percentage of pupils, playing video games online has taken over as their primary daily activity.

The results show that excessive gaming has a discernible detrimental effect on learning concentration. About 70% of respondents acknowledged that they frequently lose attention when doing academic tasks, and 60% of respondents agreed that playing online games disrupts their ability to concentrate while studying. Additionally, 64% of respondents admitted that playing online games regularly has negatively impacted their academic performance, and 65% said that gaming interferes with their study time and academic activities. According to 71% of respondents, gaming lowers learning motivation and increases enthusiasm for playing games over studying in the psychological dimension. These percentages unmistakably demonstrate a trend that suggests increased gaming intensity is associated with decreased academic engagement and concentration.

Even while some students claimed to be able to regulate their gaming habits, general statistical trends show that excessive online gaming has a major negative impact on students' academic performance, time management, and learning concentration. Thus, this study shows that although online games can be a source of amusement and stress release, regular and uncontrolled use of them has quantifiable hazards to students' academic responsibility and cognitive attention. Reducing the detrimental academic effects found in this study requires fostering healthy digital habits and improving self-regulation abilities

REFERENCES

- [1] Schunk, D. H. (2012). *Learning Theories: An Educational Perspective* (6th ed.). Boston: Pearson.
- [2] Griffiths, M. D., & Pontes, H. M. (2014). Internet addiction disorder and internet gaming disorder are not the same. *Journal of Addiction Research & Therapy*, 5(4)..
- [3] Gentile, D. A. (2011). The multiple dimensions of video game effects. *Child Development Perspectives*, 5(2), 75–81..
- [4] Granic, I., Lobel, A., & Engels, R. C. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66–78.
- [5] A.A. Author, "Online Article Title," Periodical Title, vol. Volume, no. Issue, pp.-pp., Publication Year. Retrieved from URL.

- [6] American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. Washington DC: APA.
- [7] Kuss, D. J., & Griffiths, M. D. (2012). Online gaming addiction in children and adolescents: A review of empirical research. *Journal of Behavioral Addictions*, 1(1), 3–22.
<https://doi.org/10.1556/JBA.1.2012.1.1>
- [8] Slameto. (2010). *Belajar dan faktor-faktor yang mempengaruhinya*. Rineka Cipta.
- [9] Stavropoulos, V., Anderson, E. E., Beard, C., Latifi, M. Q., Kuss, D., & Griffiths, M. (2019). A preliminary study of Hikikomori and internet gaming disorder: Moderating effects of game-playing time and living situation. *Addictive Behaviors Reports*, 9, 100137.
<https://doi.org/10.1016/j.abrep.2019.100137>
- [10] Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. SAGE
- [11] Anderson, J. R. (2010). *Cognitive psychology and its implications*. Worth Publishers
- [12] Hayati & Roesdiana. (2023). Penelitian mengenai hubungan *gaming* dengan IPK pada mahasiswa kedokteran di Indonesia.
- [13] Ip, B., Jacobs, J., & Watkins, A. (2008). *Gaming frequency vs. exam scores*. Menunjukkan korelasi negatif antara frekuensi bermain game dengan hasil ujian
- [14] Santrock, J. W. (2011). *Educational Psychology* (5th ed.). McGraw-Hill
- [15] Wei, H. T., et al. (2012). *The association between online gaming, social phobia, and depression*.