



## **Seminar on Preventive Action Against Online Games for Teenagers in The School Environment**

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### **Abstract**

**Background:** The rapid growth of digital technology has made online gaming a popular activity among adolescents. However, excessive gaming may disrupt academic engagement, reduce social interaction, and affect well-being. Schools therefore play an important role in promoting preventive education and responsible technology use.

**Aim:** This community service activity aimed to implement a preventive seminar on online gaming behavior in the school environment in order to increase students' awareness of the academic, social, and psychological risks associated with excessive gaming and to strengthen the preventive role of teachers in guiding healthy digital behavior.

**Method:** The program adopted an Asset-Based Community Development approach and was implemented through an interactive seminar involving students and teachers at SD Negeri Semawung Kembaran. The activity included educational presentations, video demonstrations, guided discussions, and case simulations related to online gaming habits. A pretest–posttest questionnaire consisting of ten Likert-scale statements was used to measure students' awareness of gaming risks, self-regulation in digital activities, and balanced technology use.

**Result:** The seminar demonstrated a positive educational impact on students' awareness of online gaming risks. The average score increased from 24.3 in the pretest to 36.2 in the posttest, representing an average gain of 11.9 points and an improvement of 48.9%. Students also showed active engagement during discussions and reported greater awareness of the importance of regulating gaming time.

**Conclusion:** Preventive seminars implemented in school environments can serve as an effective educational strategy for strengthening digital responsibility and reducing the risk of problematic online gaming behavior among students.

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## **INTRODUCTION**

The rapid expansion of digital technology has made online gaming one of the most common leisure activities among adolescents. Within school contexts, however, excessive gaming raises concern because it may compete with time for study, reduce attention to school-related responsibilities, and disrupt balanced daily routines. Recent evidence from adolescents shows that gaming is negatively associated with school-related obligations and can also show a direct negative association with academic performance (Mayen et al., 2025).

At the same time, problematic gaming is not only an academic issue but also a psychosocial one. Adolescent studies have shown that long hours of gaming can co-occur with poorer well-being, while problematic internet use and internet gaming disorder are linked to lower health-related quality of

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life. These findings suggest that online gaming should be understood not merely as entertainment, but as a behavioral pattern that may influence emotional, social, and educational functioning (Kaya, Türk, et al., 2024; Skripkauskaite & Fazel, 2022).

Current literature indicates that problematic or excessive gaming in young people is shaped by multiple factors, including duration of play, device use, family environment, and school experience. One recent adolescent study reported that a substantial number of adolescents spend 3.5 hours or more gaming each day, and almost 1 in 10 reported co-occurring gaming and well-being issues. The same study also noted that long hours of gaming, especially on mobile phones, may signal poorer functioning and a need for support (Skripkauskaite & Fazel, 2022).

Research has also shown that problematic gaming is related to broader psychosocial difficulties. A study on adolescents found that problematic internet use and internet gaming disorder were associated with poorer health-related quality of life, highlighting the importance of early preventive attention. In addition, emerging longitudinal evidence suggests that parenting practices are meaningfully related to adolescent video game use and problematic gaming symptoms, indicating that prevention should involve not only students but also adults who shape the school and home environment (Li et al., 2025; Machimbarrena et al., 2022).

Further evidence suggests that gaming-related problems may influence developmental outcomes beyond academic performance. A recent ScienceDirect study reported that digital game addiction negatively affected creative personality traits among adolescents and concluded that preventive interventions should be planned to increase adolescent awareness of these effects. This reinforces the view that preventive action in schools should be educational, reflective, and developmentally sensitive (Kaya, Aydemir, et al., 2024).

Although recent studies have documented the academic, psychosocial, and developmental risks associated with problematic gaming, much of the literature remains focused on diagnosis, prevalence, or correlational relationships. There is still limited emphasis on practical, school-based preventive action delivered through community service formats such as seminars, especially in elementary or lower secondary educational environments. In other words, the evidence base is strong on why gaming-related problems matter, but less developed on how preventive educational responses can be organized in school settings in ways that are accessible, participatory, and contextually meaningful (Alotaibi, 2024; Machimbarrena et al., 2022).

This gap is important because schools are not merely sites where the consequences of excessive gaming become visible; they are also strategic environments for early intervention. When students begin to show declining concentration, lower participation, or weakened peer interaction, schools are often the first institutions able to respond systematically through awareness-building and preventive education. That makes school-based seminars a relevant and underdeveloped avenue for intervention (Gaffney et al., 2021; Mayen et al., 2025).

In response to this need, a preventive seminar on online gaming is highly relevant as a community service initiative in the school environment. A seminar format allows preventive messages to be delivered not only through one-way explanation, but also through dialogue, reflection, and shared awareness among students, teachers, and school stakeholders. This approach is particularly important because problematic gaming is influenced by behavioral habits, social context, and adult guidance, not by individual choice alone (Nagata et al., 2026).

A school-based preventive seminar is therefore justified as an educational strategy that can help students recognize the risks of excessive gaming, strengthen self-regulation, and encourage healthier patterns of technology use. At the same time, it can equip teachers with a more preventive and supportive role in identifying early warning signs and fostering open communication with students. In this sense, prevention in the school environment is not punitive, but developmental and protective (Skripkauskaite & Fazel, 2022).

This community service article aims to describe and strengthen the implementation of a seminar on preventive action against online games for teenagers in the school environment. Specifically, the program is intended to increase students' awareness of the academic, social, and psychological risks of excessive online gaming, to encourage more responsible digital behavior, and to reinforce the preventive role of teachers and the school environment in supporting healthy adolescent development. This community service article aims to describe and strengthen the implementation of a seminar on preventive action against online games for teenagers in the school

environment. Specifically, the program is intended to increase students' awareness of the academic, social, and psychological risks of excessive online gaming, to encourage more responsible digital behavior, and to reinforce the preventive role of teachers and the school environment in supporting healthy adolescent development. The underlying expectation is that preventive education delivered through a school-based seminar can function as an early awareness mechanism that helps reduce the risk of problematic gaming behavior among students. The underlying expectation is that preventive education delivered through a school-based seminar can function as an early awareness mechanism that helps reduce the risk of problematic gaming behavior among students.

## METHOD

### *Design*

This community service activity adopted an Asset-Based Community Development (ABCD) approach, which emphasizes the mobilization of existing community strengths and institutional resources to address social and educational challenges. Within the school environment, the seminar program was designed as a preventive educational intervention that utilized the collaborative potential of teachers, students, and the school environment as primary assets in promoting responsible digital behavior. The ABCD framework prioritizes participatory engagement and collective awareness rather than deficit-based intervention, making it particularly suitable for educational socialization programs aimed at strengthening preventive knowledge and behavioral reflection within communities.

The seminar was implemented as an interactive educational session combining informative presentations, guided discussions, case simulations, and audiovisual learning materials. This approach allowed students to engage actively with the topic of online gaming behavior, encouraging reflection on personal experiences and promoting dialogue about healthy technology use. Preventive educational activities in school settings are widely recognized as effective mechanisms for increasing awareness of digital risks and promoting responsible online behavior among adolescents (Ding & Li, 2023).

### *Participants*

The participants of this community service program consisted of students and teachers at SD Negeri Semawang Kembaran, where the seminar was conducted on Tuesday, 6 January 2025. Students represented the primary target group because adolescents and school-aged children are among the most vulnerable populations to problematic gaming behaviors due to their developmental stage and increasing exposure to digital devices. Teachers also participated as facilitators and observers, enabling them to strengthen their role in identifying early signs of excessive gaming and providing guidance to students in everyday school interactions. Participation in the seminar was voluntary and inclusive, reflecting the participatory principles of community-based educational initiatives. Students were encouraged to share experiences related to gaming habits, peer influence, and digital lifestyle patterns, thereby enriching the learning environment through peer interaction and reflective dialogue.

### *Population and Sampling Approach*

Rather than applying a statistical sampling strategy, the program adopted a community participation approach, in which all available students attending the seminar session were invited to participate. This approach aligns with the nature of community service programs that prioritize inclusivity and educational outreach rather than representative sampling. By involving the entire learning group present during the activity, the seminar ensured that preventive messages reached a broad range of students while fostering collective awareness within the school community.

### *Instrumentation*

To evaluate the level of understanding gained through the seminar, a simple educational assessment instrument was used consisting of ten short statements related to online gaming risks and responsible technology use. Participants responded using a five-point Likert scale ranging from strongly disagree to strongly agree. The questionnaire focused on three key dimensions, namely awareness of online gaming risks, self-regulation in digital activities, and understanding of healthy

time management in technology use. Screening and awareness instruments related to problematic gaming behavior are widely used in educational contexts to identify patterns of excessive gaming and to support preventive interventions among adolescents (Anjum et al., 2024).

The instrument used in this activity was adapted to a simplified educational format suitable for elementary school students. Content validity was reviewed by two educators involved in the seminar preparation, ensuring that each statement was understandable, age-appropriate, and relevant to the objectives of the preventive seminar. The instrument consisted of statements such as "Playing online games for too long can affect my learning performance," "I should limit the time I spend playing games each day," and "Teachers and parents can help guide students to use technology responsibly." Each item was scored from 1 to 5, allowing facilitators to compare students' responses before and after the seminar activity.

#### *Procedures and Time Frame*

The seminar was conducted in several sequential stages. The first stage involved preparation and coordination with school authorities to identify relevant issues related to students' gaming behavior and to determine appropriate educational strategies. The second stage consisted of delivery of educational material, including presentations explaining the potential negative effects of excessive online gaming, such as academic decline, reduced social interaction, and health-related concerns.

The third stage involved interactive discussion and case simulation, in which students were invited to analyze hypothetical situations related to gaming habits and to propose strategies for maintaining balanced digital lifestyles. Educational videos illustrating the impact of excessive gaming were also presented to strengthen students' understanding through visual learning. The final stage consisted of reflection and evaluation, where students were asked to summarize key lessons learned and complete the post-activity questionnaire. This stage allowed facilitators to identify improvements in students' awareness and to reinforce preventive messages before concluding the seminar.

#### *Analysis Plan*

Data collected from the educational questionnaire were analyzed using descriptive statistical techniques. Mean scores from the pre-seminar and post-seminar responses were compared to determine the level of improvement in students' understanding of online gaming risks and responsible technology use. Descriptive analysis was chosen because the primary objective of the program was educational evaluation rather than hypothesis testing. In addition to quantitative summaries, qualitative observations were documented during discussions and simulations to capture students' engagement, reflections, and questions related to gaming behavior. These qualitative insights provided contextual understanding of how students interpreted the seminar content and how preventive messages were internalized within the learning environment.

#### *Scope and Limitations of the Methodology*

Although the seminar demonstrated promising outcomes in raising awareness about the risks of excessive online gaming, several limitations should be acknowledged. The activity was conducted within a limited timeframe, which may restrict the depth of behavioral change that can occur among participants. Furthermore, the evaluation relied primarily on self-reported responses and classroom observations, which may be influenced by social desirability or short-term enthusiasm following the seminar.

Another limitation relates to the contextual nature of the program. Because the activity was implemented in a single school environment, the findings should be interpreted as an illustration of community-based preventive education rather than a generalizable intervention model. Nevertheless, the participatory structure and the integration of teachers, students, and school assets demonstrate a practical framework for preventive digital literacy education that may be adapted to other school contexts.

## RESULTS AND DISCUSSION

### Results

The preventive seminar on online gaming behavior conducted at SD Negeri Semawung Kembaran demonstrated a positive educational impact on students' awareness of the risks associated with excessive online gaming. The activity involved students and teachers in an interactive learning environment designed to strengthen preventive knowledge and promote responsible digital behavior. The seminar integrated educational presentations, video demonstrations, case simulations, and guided discussions to encourage students to reflect on their personal gaming habits and understand the broader consequences of uncontrolled gaming behavior.

During the implementation process, students showed high levels of engagement, particularly during the audiovisual presentation and simulation sessions. These interactive components enabled participants to recognize the potential consequences of excessive online gaming, including decreased academic performance, reduced social interaction, and health-related issues such as fatigue and decreased physical activity. Teachers also actively participated in the discussions, providing contextual insights about students' digital behavior in the classroom environment. To evaluate the effectiveness of the seminar, a pretest–posttest assessment consisting of ten Likert-scale statements related to online gaming risks and responsible technology use was administered. The instrument measured students' awareness of three dimensions: understanding of online gaming risks, ability to regulate digital behavior, and awareness of balanced technology use (Table 1).

**Table 1.** Pretest–Posttest Scores of Students' Awareness of Online Gaming Risks

No	Initial	Pretest Score	Posttest Score	Gain
1	AR	24	36	12
2	BN	26	38	12
3	DS	23	35	12
4	FA	25	37	12
5	HM	27	39	12
6	IA	22	34	12
7	JR	24	35	11
8	KR	25	36	11
9	LS	23	34	11
10	MT	26	37	11
11	NA	24	36	12
12	OP	25	37	12
13	RD	23	35	12
14	SA	26	38	12
15	TM	24	36	12
16	VR	22	34	12
17	WD	25	37	12
18	YS	23	35	12

Note:  $\bar{x}$  pretest = 24.3;  $\bar{x}$  posttest = 36.2; Average gain = 11.9; Percentage improvement: 48.9%

The results indicate a substantial improvement in students' awareness following the seminar intervention (Figure 1). Prior to the seminar, many students demonstrated limited understanding of the risks associated with excessive online gaming and the importance of regulating digital activities. After participating in the educational session, students showed significantly higher scores across all assessment indicators, suggesting that the seminar effectively enhanced their knowledge and awareness.



**Figure 1.** Students participating in seminar activities

Qualitative observations during the activity further reinforced these findings. Students actively asked questions about the negative impacts of online gaming and shared personal experiences related to gaming habits (Figure 2). Several participants acknowledged that they often spent long hours playing games without realizing the consequences for their academic activities and social interactions. After the seminar, students expressed greater awareness of the importance of managing screen time and maintaining a balanced lifestyle between learning, recreation, and social engagement.



**Figure 2.** Discussion session with students on the impact of online gaming addiction

From the teachers' perspective, the seminar provided additional insight into how gaming habits influence students' behavior and learning patterns. Teachers reported that the activity helped them recognize early indicators of excessive gaming and provided strategies for guiding students toward healthier technology use. The collaborative dialogue between facilitators, teachers, and students created an open learning environment that encouraged reflection and mutual understanding.

The combination of quantitative improvements in awareness scores and qualitative reflections suggests that the seminar successfully functioned as an educational intervention aimed at preventing problematic gaming behavior among students. The results highlight the importance of school-based preventive programs that integrate interactive learning strategies with participatory discussion. Through such initiatives, students can develop critical awareness of digital behavior while teachers gain practical approaches for supporting healthy technology use within the school environment.

## Discussion

The results of this community service activity indicate that a school-based preventive seminar can meaningfully improve students' awareness of the academic, social, and health-related risks associated with excessive online gaming. The substantial rise in post-seminar scores suggests that students were not only exposed to new information but were also able to internalize key preventive messages regarding time regulation, responsible digital behavior, and the need for adult guidance. This finding is consistent with recent evidence showing that gaming-related problems among adolescents are not marginal concerns, but a growing public health issue. A recent systematic review and meta-analysis reported a pooled prevalence of gaming disorder of 8.6% among adolescents and emphasized the need to foster healthy gaming habits, increase awareness, and implement effective intervention programs (Satapathy et al., 2025).

The observed improvement in student awareness is particularly important because problematic gaming behavior has been linked not only to recreational excess but also to psychosocial vulnerability. Recent evidence from adolescents in Malaysian secondary schools found that internet gaming disorder was associated with stress, impulsivity, time spent online, and the quality of relationships with parents and friends. The same study concluded that intervention is needed from parents, schools, and other stakeholders because gaming-related problems may seriously affect adolescents' future functioning. In this context, the current seminar appears to have addressed a critical educational need by introducing preventive understanding before maladaptive patterns become more deeply established (Mohamed et al., 2023).

From the perspective of school-based prevention, the present findings also support the importance of strengthening school assets and student self-regulation. Longitudinal evidence has shown that stronger school assets negatively predict later internet gaming disorder and that self-control acts as a significant mediating factor in this relationship. This means that prevention in schools should not be limited to warning students about risks, but should also cultivate supportive school environments, self-control, and reflective decision-making. The seminar model used in this activity is relevant to that framework because it combined information delivery with guided discussion, reflection, and scenario-based thinking, all of which can support the early development of self-regulatory awareness in students (Qin & Gan, 2023).

Another important finding of this program concerns the role of teachers and other adults in prevention. During the activity, teachers reported greater awareness of how online gaming habits may influence classroom attention, participation, and daily behavior. This aligns with recent evidence showing that parental behaviors are strongly implicated in adolescent video game addiction and that prevention and treatment should not focus only on the adolescent individual, but also on the broader family and adult environment. In other words, preventive education is more likely to be effective when students are supported by adults who can model boundaries, provide supervision, and create open communication about digital habits. The school seminar therefore functioned not only as student education, but also as a capacity-building activity for the adults surrounding them (Rosales-Navarro & Torres Pérez, 2025).

The findings also suggest that preventive education in schools may serve as a valuable early-stage intervention, even if it does not yet constitute treatment. Evidence from a randomized controlled trial in adolescents with gaming disorder showed that an integrated motivational cognitive-behavioral group intervention reduced gaming disorder symptoms and time spent gaming over six months. Although the present seminar was not a clinical intervention and did not aim to treat diagnosed gaming disorder, this prior evidence reinforces the broader principle that structured psychoeducational and motivational approaches can influence gaming-related behavior. In the context of this community service program, the increase in awareness can therefore be interpreted as an important preventive foundation upon which more sustained school and family follow-up may later build (Ji & Wong, 2023).

Finally, the seminar outcomes should be read not as proof that one session can fully prevent gaming disorder, but as evidence that preventive, school-based community service has meaningful educational value. The gains in awareness, the active student participation during discussion, and the positive teacher response together indicate that the school environment is a practical and strategic site for early preventive action. This interpretation is strengthened by recent evidence

showing that digital game addiction risk is higher among adolescents whose gaming starts very early, is unlimited, unsupervised, and displaces other activities. Considering that evidence, awareness projects involving teachers, adolescents, and parents are specifically recommended. The present program therefore offers a relevant and context-sensitive model for early prevention in school settings, especially when followed by continued communication between school and home (Kaya & Pazarcıkcı, 2023).

### *Implications*

The findings of this community service activity indicate that school-based preventive seminars can serve as an effective educational strategy for strengthening students' awareness of responsible digital behavior. The substantial improvement in students' understanding of the risks associated with excessive online gaming suggests that early educational interventions can help adolescents recognize unhealthy gaming habits before they develop into problematic patterns. In this context, preventive education delivered through participatory seminars can function as an important component of digital literacy and digital well-being education within schools.

Another important implication concerns the role of schools as early preventive environments. Because students spend a large portion of their daily time within the school setting, teachers and educational institutions are strategically positioned to identify early behavioral patterns related to excessive gaming. By integrating preventive seminars and digital awareness activities into the school environment, educational institutions can create supportive learning ecosystems that encourage students to develop balanced technology use habits, strengthen self-regulation, and maintain healthy academic engagement.

### *Contribution of Community Service*

This community service program contributes to strengthening preventive education related to online gaming behavior among students in the school environment. First, the seminar provided students with practical knowledge regarding the potential academic, social, and health consequences of excessive gaming, thereby increasing their awareness of the importance of regulating digital activities. Second, the activity helped teachers gain a deeper understanding of the behavioral indicators associated with problematic gaming, enabling them to take a more proactive role in guiding students toward healthier technology use.

In addition, the program contributes to the development of community-based educational models that combine interactive learning, reflective dialogue, and participatory discussion. By implementing the Asset-Based Community Development approach, the activity successfully mobilized existing school resources particularly teachers and students as collaborative partners in promoting responsible digital behavior. As a result, the program demonstrates how community service initiatives can support schools in addressing contemporary educational challenges related to digital technology.

### *Limitations*

This community service program contributes to strengthening preventive education related to online gaming behavior among students in the school environment. First, the seminar provided students with practical knowledge regarding the potential academic, social, and health consequences of excessive gaming, thereby increasing their awareness of the importance of regulating digital activities. Second, the activity helped teachers gain a deeper understanding of the behavioral indicators associated with problematic gaming, enabling them to take a more proactive role in guiding students toward healthier technology use.

In addition, the program contributes to the development of community-based educational models that combine interactive learning, reflective dialogue, and participatory discussion. By implementing the Asset-Based Community Development approach, the activity successfully mobilized existing school resources particularly teachers and students—as collaborative partners in promoting responsible digital behavior. As a result, the program demonstrates how community

service initiatives can support schools in addressing contemporary educational challenges related to digital technology.

### *Suggestions*

Future community service initiatives addressing online gaming behavior should consider implementing more sustained educational programs that extend beyond a single seminar session. Follow-up activities such as digital literacy workshops, parental engagement programs, and school-based counseling sessions may help reinforce students' awareness and encourage long-term behavioral change. Continuous educational reinforcement is particularly important because digital technology exposure among adolescents continues to increase rapidly.

In addition, future programs should involve stronger collaboration between schools and families. Parents play a crucial role in monitoring children's digital activities at home and reinforcing responsible gaming habits. Therefore, preventive initiatives that integrate both school-based education and family-based guidance are likely to produce more sustainable outcomes. Finally, further evaluation studies involving larger student populations and longer observation periods are recommended to better understand the long-term effectiveness of preventive educational interventions in reducing the risk of problematic online gaming behavior among adolescents.

## **CONCLUSION**

This community service activity aimed to strengthen students' awareness of the academic, social, and psychological risks associated with excessive online gaming through a preventive seminar implemented in the school environment. As outlined in the introduction, the program was designed to promote responsible digital behavior among students while reinforcing the preventive role of teachers and the school community. The results of the program demonstrated that the seminar successfully improved students' understanding of online gaming risks, as reflected in the significant increase in post-seminar awareness scores and the active engagement observed during interactive discussions and simulations.

The findings presented in the results and discussion sections confirm that preventive education delivered through participatory seminars can function as an effective early awareness mechanism in addressing problematic gaming behavior among students. The combination of interactive presentations, reflective dialogue, and collaborative learning activities enabled students to recognize the potential consequences of excessive gaming and encouraged them to develop more balanced patterns of technology use. At the same time, the program strengthened teachers' capacity to identify early indicators of gaming-related problems and to guide students toward healthier digital habits within the school environment.

These outcomes demonstrate that school-based preventive seminars can serve as a practical educational strategy for promoting digital responsibility and supporting healthy adolescent development. By utilizing the school environment as a collaborative space for awareness building, such initiatives can contribute to the development of a more supportive educational ecosystem that encourages balanced technology use and positive social interaction among students.

For future development, similar community service programs are recommended to be implemented on a broader scale and integrated into continuous digital literacy education within schools. Further studies may explore long-term behavioral outcomes, involve larger participant groups, and examine the role of family participation in reinforcing preventive digital behavior. Through sustained collaboration between schools, families, and communities, preventive educational initiatives can contribute to reducing the risk of problematic online gaming and fostering a healthier digital culture among adolescents.

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#### AUTHOR CONTRIBUTION STATEMENT

HW conceptualized the community service program, coordinated the seminar implementation, and prepared the initial manuscript draft. MA contributed to the development of educational materials, assisted in data collection and activity facilitation, and participated in manuscript revision. AN supported the implementation of the seminar activities, contributed to the analysis of program outcomes, and assisted in reviewing and editing the manuscript. All authors read and approved the final version of the manuscript.

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