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The Effect of Information Services Delivered Through Powtoon Animation on Students' Anti-Verbal-Violence Attitudes at SMA Negeri 1 Percut Sei Tuan

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ABSTRACT

This study examined the effect of an information service delivered through Powtoon animation on students' anti-verbal-violence attitudes at SMA Negeri 1 Percut Sei Tuan. A quantitative quasi-experimental approach with a pretest-posttest control group design was used. Seventy students from two intact classes participated, with 35 students in the experimental group and 35 in the control group. Total sampling was used. Data were collected using a Likert-type questionnaire measuring anti-verbal-violence attitudes that had undergone validity and reliability testing. Normality was assessed using the Shapiro-Wilk test, within-group changes were examined using paired-samples t tests, and intervention effectiveness was evaluated by comparing gain scores between groups using an independent-samples t test. The experimental group's mean increased from 99.11 to 117.03, while the control group's mean increased from 106.29 to 119.37. The paired-samples tests were significant in both groups ($p < .001$). Importantly, the experimental gain ($M = 17.91$, $SD = 6.84$) was significantly greater than the control gain ($M = 13.09$, $SD = 6.61$), $t(68) = 3.002$, $p = .004$, Cohen's $d = 0.72$. The findings indicate that Powtoon-based information services provide an added benefit in strengthening anti-verbal-violence attitudes. The study supports the use of animation as a preventive medium in school guidance and counseling, while emphasizing the need for sustained, whole-school prevention efforts.

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Introduction

Education is not merely a process of transferring knowledge; it is also a strategic context for developing students' character, social skills, and capacity to build healthy relationships. Schools bring together students with diverse backgrounds, needs, and characteristics, making the quality of interpersonal interaction an important component of the educational environment. One problem that can undermine such interactions is verbal violence, including insults, ridicule, shouting, swearing, degrading labels, threats, and other forms of language that attack another person's dignity. UNESCO identifies school violence and bullying as issues connected to students' rights to education, health, and well-being. Preventing verbal violence should therefore be understood not simply as a disciplinary concern but as part of creating a safe and supportive learning environment (UNESCO, 2019).

At the micro level, verbal violence can occur in everyday conversations and may therefore be difficult to recognize as violence. Language initially framed as a joke can become humiliating or intimidating when it is repeated, intended to demean, or places another student in a powerless position. Reswita and Buulolo (2023) reported that verbal violence in school settings can be associated with lower self-esteem, emotional disturbance, stress, anxiety, learning difficulties, impaired social relationships, and poorer academic performance. Rokhman (2023) likewise emphasized that verbal violence against children can produce psychological consequences that are not always immediately visible. Preventing such behavior is therefore particularly important during adolescence, when peer relationships become increasingly influential in social development.

Verbal violence should also be understood as part of the broader spectrum of aggression and bullying. Evidence indicates that school-based interventions can reduce bullying and improve psychological outcomes, although effectiveness varies across behavioral forms and intervention contexts. Kennedy (2020), for example, found that bullying-prevention programs tended to be more consistent in reducing physical and relational forms than verbal victimization. This finding suggests that verbal violence may require prevention strategies that explicitly address communication, empathy, the consequences of language, and the ability to choose non-harmful responses. General anti-bullying programs may therefore be insufficient when verbal communication is not addressed in a structured manner.

From a guidance and counseling perspective, preventing verbal violence is part of supporting students' personal and social development. School counselors are not only expected to respond after problems occur but also to provide preventive services that help students understand themselves and others, develop social skills, and make responsible decisions. Alam et al. (2023) position guidance and counseling as an important school-based mechanism for preventing and addressing violent behavior through planned services. One relevant service is information service, which provides students with information and understanding needed to make more adaptive decisions.

Media use is important because the effectiveness of an information service depends not only on the content but also on how the content is presented and processed. Soleha et al. (2023) emphasized the importance of media and technology in developing guidance and counseling services in schools. Audiovisual media, including animation, can combine visuals, narration, text, characters, and storylines. Within the Cognitive Theory of Multimedia Learning, learners process information through visual and verbal channels with limited capacity; appropriately designed multimedia can support the selection, organization, and integration of relevant information (Mayer, 2017, 2024). Animation may therefore be particularly useful for making abstract social situations more concrete and imaginable.

The educational literature also supports the use of animation. Mayer and Moreno (2002) explained that animation can facilitate understanding when combined with narration and designed according to multimedia principles. Moreno and Mayer (2007) emphasized the importance of interactive and multimodal designs that support meaningful learning. Nazmi (2017) reported that animation can increase students' attention and interest, while Yusuf et al. (2021) found increased learning motivation following the use of Powtoon audiovisual media. These studies do not directly establish that Powtoon changes attitudes toward verbal violence, but they provide a theoretical basis for expecting animation to enhance the attention and engagement needed in information services.

Several previous studies have linked animation-based information services with bullying-related outcomes. Pratiwi (2018) reported that information services using animation media were effective in reducing bullying behavior among junior high school students. Tiarasani (2021) found improved understanding of bullying behavior after an animation-based information service. These studies demonstrate the potential of animation within guidance and counseling, but they addressed different outcomes: Pratiwi focused on bullying behavior and Tiarasani on understanding of bullying. Empirical evidence concerning changes in anti-verbal-violence attitudes among high school students following a Powtoon-based information service remains limited.

The current state of the art lies at the intersection of three domains: school-based violence and bullying prevention, information services in guidance and counseling, and animation as a multimodal medium. International evidence indicates that school anti-bullying interventions produce positive effects, although average effects are often small to moderate and depend on program and contextual characteristics (Gaffney et al., 2021; George et al., 2024). A meta-analysis of adolescent aggression interventions also found that psychosocial interventions can reduce aggression, with problem-solving and behavioral practice among the more effective techniques (Castillo-Eito et al., 2020). These findings support interventions that move beyond information delivery and help students develop more adaptive social responses.

The research gap addressed in this study is the limited empirical evidence specifically examining information services delivered through Powtoon animation as an intervention for anti-verbal-violence attitudes among high school students within the Indonesian guidance and counseling context. Earlier studies have tended to measure bullying in general, understanding of

bullying, or learning outcomes associated with animation. Some also relied on one-group designs without a control condition. The present study addresses this gap through a quasi-experimental pretest-posttest control group design. It therefore examines not only whether scores change after the service, but whether the improvement among students receiving the Powtoon-based service exceeds the change observed in a control group.

The study's novel contribution is the integration of a guidance and counseling information service with Powtoon animation to deliver targeted prevention messages about verbal violence, followed by an empirical test of changes in anti-verbal-violence attitudes using a controlled pretest-posttest design. The novelty is therefore contextual and applied: it connects animation-based multimedia communication with a specific counseling-service objective and a specific social-attitude outcome among high school students. The study aimed to examine the effect of information services using animation media on students' anti-verbal-violence attitudes at SMA Negeri 1 Percut Sei Tuan. The hypothesis was that students receiving the animation-based information service would demonstrate greater improvement in anti-verbal-violence attitudes than students in the control group.

Method

Research design and setting

This study employed a quantitative approach with a quasi-experimental method and a pretest-posttest control group design. Two groups of students were assessed before and after the study period. The experimental group received an information service delivered through Powtoon animation, whereas the control group did not receive the specific intervention under investigation and continued with routine learning/services. Because the groups were formed from intact classes rather than through individual randomization, the design is more precisely described as a quasi-experiment using nonequivalent groups.

The study was conducted at SMA Negeri 1 Percut Sei Tuan, Jalan Irian Barat No. 37, Sampali, Percut Sei Tuan District, Deli Serdang Regency, North Sumatra. Data collection took place over three months during the first semester of the 2025/2026 academic year, from November 2025 to January 2026. The participants were 70 students from two classes: XI-Matlansos (35 students) and XI-Inglanfor (35 students). The source manuscript states that saturated or total sampling was used because all available population members met the respondent criteria. Accordingly, all 70 students in the accessible population were included in the sample.

Participants and sampling

The research instrument was a Likert-type questionnaire measuring anti-verbal-violence attitudes. The source manuscript states that the questionnaire underwent validity and reliability testing before use. The reported theoretical score range was 40 to 160, with higher scores indicating stronger attitudes supporting the prevention of verbal violence. Because the source manuscript does not provide the number of items, indicators, item-level validity coefficients, or reliability coefficient in sufficient detail, those values have not been reconstructed or invented in this revision.

Instrument and data collection

Data collection consisted of three stages: pretest, intervention, and posttest. The pretest was administered to both groups to establish baseline anti-verbal-violence attitudes. The experimental group then received the information service using Powtoon animation, while the control group did not receive the specific intervention being tested. After the intervention period, both groups completed the same posttest instrument. The data were coded, checked for completeness, and analyzed using SPSS version 29. The source manuscript does not report the number of sessions, duration of each session, or detailed structure of the Powtoon materials; these details have therefore not been added speculatively.

Data analysis

Data analysis proceeded in several stages. First, descriptive statistics were used to compare pretest and posttest scores. Second, the Shapiro-Wilk test was used to assess normality. All Shapiro-Wilk p values exceeded .05: control pretest = .173, control posttest = .598, experimental pretest = .432, and experimental posttest = .619. Third, paired-samples t tests were conducted to examine within-group changes. However, because the research question concerns intervention effectiveness relative to the control condition, an additional between-group analysis was conducted

on gain scores (posttest minus pretest) using an independent-samples t test. This analysis is important because the control group also improved and that improvement must be taken into account before attributing the between-group difference to the intervention.

The mean gain was 13.09 (SD = 6.61) in the control group and 17.91 (SD = 6.84) in the experimental group. The 4.83-point difference in gain was tested using an independent-samples t test assuming equal variances. The result was t(68) = 3.002, p = .004, with Cohen's d = 0.72 and a 95% confidence interval for the mean gain difference of [1.62, 8.04]. This gain-score analysis provides the principal statistical basis for concluding that the experimental group improved more than the control group. The significance level was set at α = .05.

Result and Discussion

Result

Table 1. Shapiro-Wilk normality test.

Data	Shapiro-Wilk W	df	p
Control pretest	0.956	35	.173
Control posttest	0.975	35	.598
Experimental pretest	0.970	35	.432
Experimental posttest	0.976	35	.619

The Shapiro-Wilk tests indicated that all pretest and posttest scores were normally distributed. The p values were .173 for the control pretest, .598 for the control posttest, .432 for the experimental pretest, and .619 for the experimental posttest. Because all p values were greater than .05, the normality assumption was satisfied and parametric analyses were appropriate.

Table 2. Descriptive comparison of pretest and posttest scores.

Statistic	Control	Experimental
n	35	35
Pretest total	3,720	3,469
Posttest total	4,178	4,096
Gain	458	627
Percentage change	12.31%	18.08%
Pretest mean	106.29	99.11
Posttest mean	119.37	117.03
Pretest SD	3.72	5.97
Posttest SD	6.07	4.66

In the control group, the total score increased from 3,720 at pretest to 4,178 at posttest, representing a gain of 458 points or 12.31%. The mean increased from 106.29 (SD = 3.72) to 119.37 (SD = 6.07). The paired-samples t test indicated a statistically significant difference, t(34) = −11.707, p < .001. Thus, anti-verbal-violence attitudes improved in the control group even though it did not receive the specific intervention under investigation.

In the experimental group, the total score increased from 3,469 to 4,096, representing a gain of 627 points or 18.08%. The mean increased from 99.11 (SD = 5.97) to 117.03 (SD = 4.66). The paired-samples t test also indicated a statistically significant difference, t(34) = −15.485, p < .001. Descriptively, the improvement was greater in the experimental group than in the control group.

Table 3. Inferential test results.

Analysis	Group/comparison	Statistic	p	Effect
Paired t test	Control	t(34) = -11.707	< .001	—
Paired t test	Experimental	t(34) = -15.485	< .001	—
Independent t test	Gain: experimental vs. control	t(68) = 3.002	.004	d = 0.72

The direct comparison of gain scores provides the more informative test of intervention effectiveness. The experimental group had a mean gain of 17.91 (SD = 6.84), compared with 13.09 (SD = 6.61) in the control group. The independent-samples t test yielded t(68) = 3.002, p = .004. The mean gain difference was 4.83 points, with a 95% CI of [1.62, 8.04], and Cohen's d = 0.72, indicating a moderate-to-large effect. Thus, after accounting for improvement in the control group, students who received the Powtoon-based information service demonstrated significantly greater improvement in anti-verbal-violence attitudes.

Discussion

The principal finding is that the Powtoon-based information service was associated with a greater improvement in anti-verbal-violence attitudes in the experimental group than in the control group. The experimental group's mean gain was 17.91 points, compared with 13.09 points in the control group. The independent-samples t test on gain scores, $t(68) = 3.002$, $p = .004$, provides stronger evidence of an intervention-related difference than paired t tests alone. The effect size, Cohen's $d = 0.72$, indicates that the between-group difference was not only statistically significant but also practically meaningful in an educational context.

The significant improvement in the control group is also important. It indicates that the observed change cannot be attributed entirely to Powtoon. The control-group increase may reflect routine learning experiences, social interactions during the study period, exposure to other information, or repeated measurement. This finding demonstrates why a control group matters. If the study had used only a one-group pretest-posttest design, the 18.08% increase in the experimental group could have been overinterpreted as a treatment effect. The controlled comparison instead shows that the experimental improvement exceeded the change occurring without the specific intervention.

Psychologically, the change in attitudes can be understood through attention, comprehension, and social evaluation. Verbal violence often occurs in situations that are normalized as jokes or ordinary peer interactions. Animation can make the consequences of language more concrete through characters, situations, facial expressions, causal sequences, and examples of alternative responses. Within the Cognitive Theory of Multimedia Learning, messages combining words and visuals can support selection and organization of information when they are coherent and appropriately designed (Mayer, 2017, 2024). In a counseling-service context, this mechanism may help students move beyond knowing a definition of verbal violence to recognizing it in everyday interactions.

The finding is consistent with Mayer and Moreno (2002), who argued that animation can facilitate understanding when combined with narration and designed according to multimedia principles. Mayer (2017) similarly reported evidence that multimedia instruction combining words and graphics can outperform words alone under appropriate conditions. Those findings largely concern academic learning, whereas the present study extends the application to guidance and counseling and social-attitude change. The contribution is therefore not simply that animation is engaging, but that an animation medium can serve as a vehicle for preventive psychosocial messages within a counseling service.

The findings also correspond with previous studies of information services and animation. Pratiwi (2018) reported that animation-based information services could reduce bullying behavior among junior high school students, whereas Tiarasani (2021) found improved understanding of bullying following an animation-based information service. The present study shows a similar direction but focuses specifically on anti-verbal-violence attitudes among high school students. This distinction matters because knowledge change is not necessarily equivalent to attitudinal or behavioral change. The current findings provide evidence that animation-based information services may contribute to an attitude outcome relevant to verbal-violence prevention.

From the broader bullying-prevention literature, the findings are also consistent with evidence that school interventions can improve behavior, attitudes, and mental-health outcomes, although average effects are often modest (Gaffney et al., 2021; George et al., 2024). Castillo-Eito et al. (2020) found that psychosocial interventions can reduce adolescent aggression, with problem-solving and behavioral practice among relatively effective techniques. This evidence suggests that information services should ideally go beyond lecture-style delivery by incorporating scenarios, reflection, response selection, and discussion of consequences. Animation can provide a concrete vehicle for presenting such situations.

At the same time, Kennedy (2020) reported that bullying-prevention programs were less consistent in reducing verbal victimization than physical and relational forms. Verbal aggression may be particularly difficult to identify because it can be normalized as humor or everyday peer communication. The stronger gain observed in the present study may therefore be partly related to its explicit focus on verbal violence and anti-verbal-violence attitudes. A targeted intervention can make the social meaning and consequences of harmful language more salient than a general anti-bullying message.

Powtoon also offers features that are relevant to information services: characters, text, narration, transitions, and social scenarios can be combined into a single audiovisual message. Nazmi (2017) reported that animation can attract students' attention and concentration, while Yusuf et al. (2021) found increased motivation following the use of Powtoon audiovisual media. However, media attractiveness should not be treated as a mechanism in itself. The medium can only support change when its content, narrative, and service activities are aligned with clear psychological objectives. Because the present study did not isolate visual, auditory, and narrative components, the improvement cannot be attributed to any single Powtoon feature.

Theoretically, the study strengthens the position of guidance and counseling information services as preventive, media-supported interventions for social-attitude development. It also connects multimedia-learning theory with counseling practice by showing how multimodal messages may be used to make abstract psychosocial concepts concrete. The effectiveness of an information service therefore depends not only on counselor delivery skills but also on the fit between the medium, the message, and the learner. This interpretation is consistent with Soleha et al. (2023), who emphasized the role of media and technology in innovating school counseling services.

Practically, school counselors can use animation as part of preventive information services addressing healthy communication, empathy, bullying, cyberbullying, and conflict management. Content can be organized around short scenarios showing harmful language, consequences for recipients, assertive alternatives, and help-seeking pathways. The service should not end with video viewing; counselors should facilitate reflection and discussion so that students connect the message to their own social experiences. The present findings suggest that this approach can provide added value beyond routine services.

A further practical implication is the need for sustained anti-verbal-violence programming. The present findings do not demonstrate that one intervention eliminates verbal violence permanently. Attitudinal change should instead be reinforced through classroom norms, teacher modeling, prosocial reinforcement, safe reporting mechanisms, and counseling follow-up. International evidence indicates that school-based prevention is generally more effective when embedded within broader approaches rather than delivered as isolated activities (Gaffney et al., 2021; George et al., 2024). Powtoon should therefore be regarded as one component of a prevention strategy rather than a stand-alone solution.

Several limitations should be considered. First, the sample included only 70 students from one school and two intact classes, limiting generalizability. Second, the classes were not randomly assigned, so baseline group differences cannot be completely ruled out. Third, the study relied on self-report data, which may be influenced by social desirability. Fourth, the source manuscript does not report the instrument's number of items, indicators, validity coefficients, reliability coefficient, or detailed intervention duration and session structure. Fifth, no long-term follow-up was available, so the durability of the attitudinal change remains unknown.

Future research should use larger samples across multiple schools to improve external validity. Class-level randomization or cluster randomization could be considered when feasible. Subsequent studies should report full psychometric properties and include behavioral outcomes rather than relying solely on attitudes. Follow-up assessments one to three months after the intervention could test whether change is sustained. Comparative studies could examine Powtoon against live-action video, role-play, case discussion, or combinations of multimedia and behavioral practice. Factorial or mixed-method designs could further identify which intervention components contribute most strongly to change.

Conclusion

This study demonstrates that an information service delivered through Powtoon animation can improve anti-verbal-violence attitudes among students at SMA Negeri 1 Percut Sei Tuan. The experimental group's mean increased from 99.11 to 117.03, with an average gain of 17.91 points, whereas the control group increased from 106.29 to 119.37, with a gain of 13.09 points. Although paired-samples t tests indicated significant pretest-posttest changes in both groups, the independent-samples t test of gain scores showed that the experimental improvement was significantly greater than the control improvement, $t(68) = 3.002$, $p = .004$, Cohen's $d = 0.72$. The

findings therefore provide evidence that an animation-based information service can add value to the prevention of verbal violence. Nevertheless, the intervention should not be interpreted as a permanent solution. Sustained counseling programs, positive school climate initiatives, communication literacy, and follow-up support remain necessary.

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