Digital Comic Teaching Materials in Strengthening Character Education to Prevent Bullying Behavior for High School Students

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Abstrak

Penelitian ini mengidentifikasi masalah terkait tingginya prevalensi perilaku bullying yang terjadi di berbagai lingkungan, termasuk media sosial, sekolah, masyarakat, pesan teks, dan rumah. Penelitian ini bertujuan untuk menganalisis efektivitas bahan ajar komik digital dalam penguatan pendidikan karakter untuk mencegah perilaku bullying di kalangan peserta didik. Metode yang digunakan dalam penelitian ini adalah kuasi eksperimen dengan rancangan non-equivalent control group design (pretest-posttest). Subjek penelitian melibatkan 256 peserta didik kelas X dan 6 guru bimbingan konseling. Pengumpulan data dilakukan melalui kuesioner dan observasi terkait pengalaman siswa dalam menyaksikan perilaku bullying. Analisis data menggunakan uji N Gain untuk mengukur perubahan hasil sebelum dan setelah intervensi. Hasil penelitian menunjukkan bahwa bahan ajar komik digital efektif dalam meningkatkan pemahaman peserta didik mengenai pentingnya pendidikan karakter untuk mencegah perilaku bullying, dengan nilai rata-rata N Gain pada kelas eksperimen mencapai 91,04%. Berdasarkan hasil tersebut, dapat disimpulkan bahwa bahan ajar komik digital berperan penting dalam mengurangi perilaku bullying dan meningkatkan kesadaran akan nilai-nilai pendidikan karakter di kalangan siswa.

Kata Kunci: Komik Digital, Pendidikan Karakter, Bullying

Abstract

This study identifies the issue of the high prevalence of bullying behavior occurring in various environments, including social media, schools, communities, text messages, and homes. The study aims to analyze the effectiveness of digital comic teaching materials in strengthening character education to prevent bullying behavior among students. The method used in this study is a quasi-experimental design with a non-equivalent control group design (pretest-posttest). The subjects of the study involved 256 tenth-grade students and 6 guidance counselors. Data collection was conducted through questionnaires and observations related to students' experiences in witnessing bullying behavior. Data analysis utilized the N Gain test to measure the changes in outcomes before and after the intervention. The results show that digital comic teaching materials are effective in enhancing students' understanding of the importance of character education to prevent bullying behavior, with an average N Gain value of 91.04% in the experimental group. Based on these results, it can be concluded that digital comic teaching materials play a significant role in reducing bullying behavior and raising awareness of character education values among students.

Keywords: Digitals Comic, Character Education, Bullying

1. INTRODUCTION

Education is essentially a humanization process for students who are in the process of understanding themselves and their environment. Empirically, there are some schools that have not been able to provide a conducive and enjoyable atmosphere for students because the school climate seems to be a kind of "prison" and even acts of violence, both physical and verbal, often occur. Based on data from the National Assessment of the Ministry of Education and Culture in 2022, it is stated that 34.51% of students have the potential to experience sexual violence, 26.9% of students have the potential to experience physical punishment and 36.31% of students have the potential to experience bullying (Olweus et al., 2019; Samsudi & Muhid, 2020). Phenomenon bullying (bullying) that occurs in the school environment today is very worrying, because it has resulted in death. Case bullying in children in the school environment, it is a serious problem that affects the mental condition of students in participating in the learning process in class (Pratiwi et al., 2021; Serafini et al., 2023).

Bullying can take various forms including insults, intimidation, physical violence, social exclusion and the spread of rumors or derogatory content. Bullying can have a negative impact on children's mental health. Where children are victims Bullying can experience anxiety disorders, depression, decreased self-esteem, and psychological trauma (Pratiwi et al., 2021; Rigby, 2022). These negative impacts affect children's long-term mental health and learning motivation. Where the children experience it bullying at school often feel afraid and anxious when they have to go to school, so they have difficulty concentrating on studying and socializing in the school environment. Case bullying can be very detrimental to children in the long term because it can cause serious mental health disorders such as post-traumatic stress disorder (PTSD), social anxiety, and depression (Barros, 2024; Evans et al., 2018). Victim bullying become less confident and feel unable to complete assignments or face exams. This can impact academic performance and make them lose interest in studying. Apart from that, social media has also become a common place for bullying in children. Content that demeans or embarrasses children can spread quickly and can create great social pressure on children (Aplin-Houtz et al., 2023; Aradhana & Pangaribuan, 2022).

Based on data from the 2021 and 2022 National Assessment (AN) results from the Ministry of Education and Culture, 24.4 percent of students experienced various types of bullying (bullying) such as physical, verbal, relational or online bullying *cyber*bullying (Andrews et al., 2023; Kowalski et al., 2014). Apart from that, the Federation of Indonesian Teachers' Unions (FSGI) has also released case data bullying in schools in 2023. From January to September, there were 23 cases recorded bullying. Of the 23 cases, 50% occurred at the junior high school level, 23% at the elementary school level, 13.5% at the high school level, and 13.5% at the vocational school level which were carried out by fellow students or educators (Thomassen et al., 2024). Apart from that, the characteristics of students faced by teachers today are very different from those of previous generations. The current generation is growing up in an environment that has an increasingly individualistic culture and a lack of attention from parents, which influences the way they deal with situations and problems. The increasingly rapid development of technology also has an impact on the way the younger generation interacts with the world around them (Kristianti et al., 2018; Sumandya & Widana, 2022). Excessive use of social media and easy access to information makes the younger generation less accustomed to dealing with interpersonal conflict and find it difficult to overcome negative emotions. Today's young generation lives in a highly competitive and results-oriented society. The pressure to succeed in school, college, or a career can make them feel stressed and find it difficult to deal with failure (Brunsdon & Layne, 2024; Duana Sutika, 2019).

Educators today are facing a generation Strawberry to describe Indonesia's young generation who are considered to tend to be spoiled, find it difficult to withstand pressure and are unwilling to work hard to achieve success. Named "strawberry" because they are considered to have smooth skin, but it is easily damaged and rots under pressure. They are also considered too dependent on technology and social media, and lack strong interpersonal skills (Mataputun & Saud, 2020; Sakti et al., 2024). In addition, this generation Strawberry is a generation that is full of creative ideas but gives up easily, gets hurt easily and is vulnerable bullying. So it is necessary to strengthen character education. An education system that focuses too much on academic achievement without paying attention to character formation can cause the younger generation to lose opportunities to develop moral values, ethics and social skills. Apart from that, the occurrence of a value crisis in society can also affect the character of the younger generation. Cultural changes and values that are more materialistic, individualistic and hedonistic can shift the focus from moral and ethical values in forming good character (Li et al., 2023; Menin et al., 2021).

Character education is an important foundation in the formation of individuals who are responsible, have integrity and are able to contribute positively to society. One of the big

challenges in creating a safe and inclusive school environment is problems bullying (Gusfre et al., 2023; Tambunan & Mulkiyan, 2021). The negative impact of a lack of character education is the emergence of behavior bullying in the school environment. Strengthening character education in the school environment is the key to overcoming the phenomenon bullying. Through strong character education, students are taught to understand and internalize values such as justice, honesty, empathy and respect for others (He et al., 2023; Umar et al., 2023). By strengthening the character of students in this regard, it is hoped that they will be able to develop attitudes that respect diversity, respect differences and become pioneers of peace in the school environment. Effective character education in warding off bullying not only happens in the classroom, but also through various extracurricular activities, collaborative projects and daily interactions at school. Teachers and school staff play an important role in providing role models and guiding students to act with integrity and empathy in all their interactions.

Strategy for reduction bullying must be preventive, that is, to prevent problems from occurring. Comics can be presented as teaching material to reduce behavior bullying with images of cartoon characters, simple shapes, easy presentation and contains messages in the story (Anggito et al., 2023; Van Ryzin & Roseth, 2018). Comic media is suitable for use as a medium for guidance and counseling services in the personal and social fields. Focuses on Senior High Schools (SMA) in Denpasar City, especially on strengthening character education to prevent behavior bullying Some schools have limitations in developing teaching materials to strengthen character education to prevent behavior bullying and the condition of the existing teaching materials so far only focuses on the cognitive and psychomotor domains, while the teaching materials are in the affective domain, especially strengthening character education and education bullying very limited (Aslamzai et al., 2023; Nur et al., 2022). The lack of teaching materials is due to the limited competence of teachers in developing teaching materials. Development of digital comic teaching materials to strengthen character education to prevent behavior bullying is indispensable.

This research focuses on class bullying by students due to differences in background, environment, culture, parenting patterns, individual characteristics and so on, so that they require special provision. The age of children who are most vulnerable to doing so bullying to his friends is mid-adolescence, namely at the age of 11 – 17 (Haltigan & Vaillancourt, 2014; Nasti et al., 2023). Digital comics can be used as teaching material to strengthen character education to prevent behavior bullying because it can reach various groups, including the younger generation who are more familiar with digital technology. Digital comics also have the ability to present complex and abstract information in a form that is easy to understand and interesting so that they can help increase understanding and awareness about bullying (Bentri et al., 2023; Purba, 2023).

Digital comics that educate about bullying Stories or tales can be presented that illustrate various problems bullying commonly experienced such as bullying which has an impact on depression, anxiety, stress and trauma (Aini, 2018; Dardiri et al., 2020). Through these stories, readers can understand more deeply the characteristics and symptoms of each problem bullying and how to manage it. In addition, the novelty of this study offers digital comics can present various strategies or techniques that can help overcome problems bullying, such as relaxation techniques, meditation or cognitive behavioral therapy. The study aims to analyze the effectiveness of digital comic teaching materials in strengthening character education to prevent bullying behavior among students. With digital comic teaching materials to prevent bullying behavior, it is hoped that it can increase students' awareness and knowledge regarding the importance of maintaining good behavior.

2. METHODS

The method used in this research is quasi-experimental using a non-equivalent control group design (pretest-posttest). This research was conducted in the period October 2023 – April 2024. The subjects of this research were 256 class of 78 women and 50 men. The experimental class was given treatment in the form of digital comic teaching materials, while the control class was given treatment in the form of learning videos. Non-equivalent control group design is show in Table 1.

Table 1. Non-Equivalent Control Group Design (Pretest-Posttest)

Group		Pre-test	Treatment	Post-test
Experimental Class	R	O_1	X	O_2
Control Class	R	O_3	-	O_4

Data collection techniques in this research were observation and questionnaires. The data sources in this research are primary data which was carried out by observation, interviews and distributing questionnaires and secondary data was carried out by collecting data through journal articles and books. Data analysis was carried out to identify the urgency and analysis of the need for developing digital comic teaching materials to strengthen character education to prevent bullying behavior in Denpasar City High Schools. Data analysis was carried out using an interactive analysis model according to Miles & Huberman which consists of 4 stages, namely 1) data collection was carried out by observation, interviews and questionnaires, 2) data reduction was carried out to map data that was relevant and in accordance with the problems in the research, 3) presentation The data in this research was carried out to process data through questionnaire results and 4) drawing conclusions is the final stage to answer problems related to the urgency of digital comic teaching materials (Lê & Schmid, 2022). Measuring the effectiveness of digital comic teaching materials was carried out using the N Gain Test with the interpretation category which can be seen in Table 2.

Table 2. N Gain Effectiveness Interpretation Categories

Presentase%	Interpretation
< 40	Ineffective
40 - 50	Less effective
56 - 75	Effective enough
>76	Effective

3. RESULTS AND DISCUSSION

Results

This research was conducted involving 256 high school student respondents in Denpasar City. The research results show that digital comic teaching materials are needed to strengthen character education to prevent student bullying behavior. Based on the results of the questionnaire is show in Figure 1.
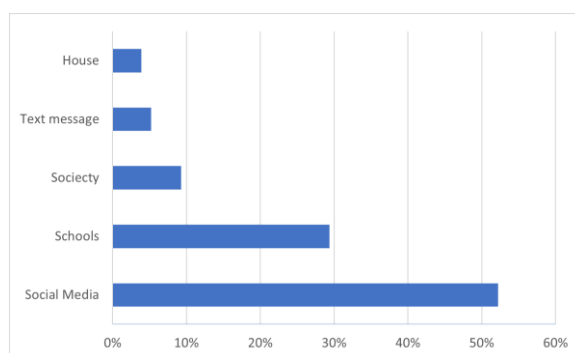
Figure 1. The Environment where Bullying Occurs

Base on Figure 1 shows that student most often witness bullying behavior occurring on social media as much as 52.2%, 29.4% in the school environment, 9.3% in the community, 5.2% in text messages and 3.9 % At home. This shows that the level of bullying that occurs on social media is very high. So, when using social media for students, control from parents or teachers is also required. Furthermore, in the school environment, schools are supposed to provide a safe and comfortable learning environment for students, but tend to become places of violence. Based on the results of interviews with Guidance Counseling Teachers, it was stated that bullying that occurs at school tends to be in verbal form such as teasing each other, using harsh words and so on. Bullying tends to occur in students who are weak or lack self-confidence. And students who bully tend not to realize that their behavior hurts other people.

Strengthening character education is carried out in schools using digital comic teaching materials with bullying educational materials that have been developed and are suitable for use. Before implementing digital comic teaching materials, pretests were first carried out with material about bullying to find out how far students understand about bullying. After that, digital comic teaching materials were implemented in the experimental class and video teaching materials in the control class. Next, a posttest is carried out to measure students' learning outcomes in using these teaching materials so that they can find out which digital comic teaching materials or video teaching materials are more effective. The pretest and posttest are arranged in the form of a questionnaire using a 1-5 Likert scale because what is measured is the student's character. The data obtained through the pretest and posttest was followed by statistical analysis which can be seen in Table 2.

Table 2. Summary of Statistic Test

Description	Pre-test		Post-test	
	Experiment	**Control**	**Experiment**	**Control**
Minimum	77	72	83	80
Maximum	86	83	90	85
Sum	1.230	1.173	1272	1250
Mean	83.73	80.47	91.13	85.33
SD	4.383	8.518	4.580	10.31
Homogeneity	0.339		0.625	
Normality	0.60	0.200	0.200	0.200

Based on Table 2, the pretest significance value in the experimental class is 0.60 while for the control class it is 0.20. Meanwhile, the posttest significance value in the experimental class was 0.200, while in the control class it was 0.200. The significance level for the control and experimental classes in the Kolmogorov-Smirnov test in the pretest and

posttest showed more than 0.05. This shows that the research data from the control and experimental classes is normally distributed. After the data was declared normal, the next step was to carry out a homogeneity test. In the pretest for the control and experimental classes, the homogeneity value was 0.339, while in the posttest it was 0.625. This shows that the data population group is the same or homogeneous. Because the normality test has a normal distribution and the N Gain test has a homogeneous distribution, it can be continued to carry out the N Gain test. In the experimental class students obtained a pretest score with an average score of 80.47, the lowest score was 77 and the highest score was 86. Meanwhile, in the control class they obtained a pretest score with an average of 80.47, the lowest score was 72 and the highest score was 83. Class students Experiments on the posttest obtained an average score of 91.13, the lowest score was 83 and the highest score was 90. Meanwhile the control class obtained an average score of 85.33, the lowest score was 80 and the highest score was 85. Results of the effectiveness test of the control class and experimental class can be seen in Figure 2.
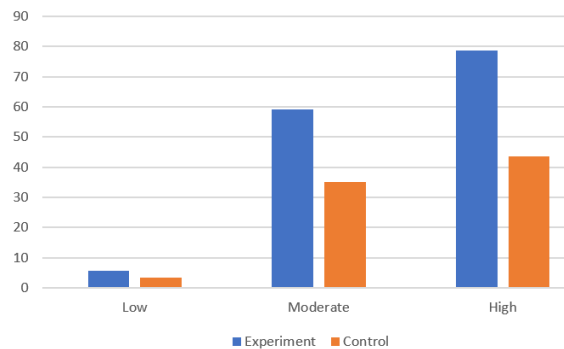

Figure 2. N Gain Score

Based on Figure 2, the results of the N Gain score test calculation, it shows that the average score for the experimental class using digital comic teaching materials is 91.04%, which is included in the effective category. With a minimum N Gain value of 5.56% and a maximum of 78.57%. So it can be concluded that the use of digital comic teaching materials in strengthening character education to prevent bullying behavior in Denpasar city high schools is in the effective category. Meanwhile, the average N Gain score in the control class using video material was 74.2%, which is included in the quite effective category. With a minimum N Gain value of 3.25% and a maximum of 43.48%. So it can be concluded that the use of video teaching materials in strengthening character education to prevent bullying behavior in high schools in the city of Denpasar is quite effective. The results show that the experimental class shows an increase so that digital comic teaching materials in strengthening character education to prevent bullying behavior in Denpasar City High School show effectiveness based on the average posttest and pretest scores and calculating the N Gain value.

Discussion

Officially, schools are charged with cultivating skills and forming the moral fiber and culture of a respectable country in order to raise the general level of knowledge among its populace. In light of this, education must be implemented in schools in a democratic, equitable, and nondiscriminatory manner while respecting national diversity, religious and cultural values, and human rights (Irsyadiah et al., 2024; Rahmawati et al., 2021). In this way, the school actually becomes a place to develop a culture of politeness, democracy, acting fairly and non-discriminatorily towards all school members, especially students. A phenomenon that can be found in several schools today is that the teaching materials developed only focus on developing the cognitive and psychomotor domains. The problem of

the lack of teaching materials in the affective domain, especially in strengthening character education to prevent bullying behavior in schools, is one problem that needs attention (Nolastname et al., 2021; Res & Sireli, 2024). Several factors that influence the lack of teaching materials in strengthening character education in schools are due to the perception that the affective domain is an attitude that is taught directly through the learning process so that it does not require teaching materials, a lack of resources, media and facilities and a lack of qualified teaching staff have competence in developing teaching materials in the affective domain.

Based on the results of this research, it shows that 29.4% of students witnessed or saw bullying behavior occurring in the school environment. This indirectly shows that the school environment is less safe. Although based on the results of observations and interviews, bullying that occurs in the school environment tends to be in the form of verbal (taunted, harsh words) and emotional bullying (ignored, ostracized, malicious gossip). Bullying behavior is repeated aggressive actions, which are carried out intentionally and with the aim of injuring or humiliating other people (Brewer & Kerslake, 2015; Tambunan & Mulkiyan, 2021). Bullying not only has a negative impact on the victim, but also on the perpetrator and the surrounding environment. Bullying behavior has become a disturbing global issue, especially among children and teenagers. Bullying can occur in various forms, such as physical, verbal, or even cyberbullying (Agustiningsih et al., 2024; Cvancara et al., 2024). The impact of bullying can be long-term and affect the victim's mental and emotional well-being, as well as creating an environment that is unsafe and not conducive to learning (Purwandari et al., 2024).

Therefore, preventing bullying needs to be carried out through a holistic approach, including through education that promotes the values of equality, cooperation and respect for diversity. Based on the results of this research, it shows that 29% of students have witnessed bullying behavior in the school environment and its surroundings. The development of digital comics as teaching materials is an important step in efforts to prevent bullying behavior among children and teenagers (Evans et al., 2018; Wu et al., 2024). Digital comics have the potential to convey anti-bullying messages in a way that is interesting and easy to understand by the target audience (students). In the school environment, bullying may occur in school hallways, classrooms, or other areas where teacher supervision is not very strict, but sometimes students, for joking reasons, carry out bullying in public (McCloud, 2022; Oktaviana & Rusnilawati, 2022). Meanwhile, based on students' perceptions compared to those in the school environment, they witness and see bullying behavior occurring on social media more often as much as 52.2%. Bullying that occurs on social media shows the need for digital literacy for students so that they can use social media wisely. Where today's students' lives cannot be separated from the use of technology, the role of teachers and parents is very important in monitoring students' use of social media.

The implementation of digital comic teaching materials in strengthening character education in the experimental class has increased, with a score of 83.73 in the pretest and 90 in the posttest. This shows that there is an increase in students' understanding of bullying before and after using digital comic teaching materials. Meanwhile, in the control class using video teaching materials, the average pretest score was 80.47 and posttest was 84. Teaching materials digital comics has its own appeal for students. Comics designed using attractive images and text can convey complex messages in a way that is easy for students to understand and remember (Candrayani & Sujana, 2023; Kadek et al., 2021). In addition, advances in digital technology have made it easier to distribute comics both through online platforms and mobile applications. This allows anti-bullying messages to be delivered to the target audience more widely and effectively. Through these stories, readers can understand more deeply the characteristics and symptoms of each problem bullying, and how to manage it. In addition, digital comics can present various strategies or techniques that can help

overcome problems bullying, such as relaxation techniques, meditation, or cognitive behavioral therapy (Fernández-Batanero et al., 2022; Rahma et al., 2023).

This study has significant implications in the context of character education in high schools. The use of digital comic teaching materials can serve as an innovative and engaging tool to enhance students' understanding of moral and ethical values, particularly in preventing bullying behavior. Through the visualization of stories and characters relevant to students' daily lives, they can more easily grasp the negative impacts of bullying while being motivated to exhibit positive behaviors such as empathy and tolerance. Furthermore, this approach supports more inclusive learning strategies, as digital comics can be tailored to various learning needs, including students with limited verbal literacy. The implementation of digital comics also fosters collaboration among teachers, students, and parents in creating a safe school environment that promotes sustainable character education.

However, this study also has several limitations that need to be addressed. First, the effectiveness of digital comic teaching materials heavily relies on the accessibility of technological devices in the school environment. Not all students have adequate access to electronic devices or stable internet connections, which may hinder the optimal utilization of these teaching materials. Second, the acceptance and effectiveness of digital comics in teaching character values are influenced by the quality of their design and story content, which require significant time and resources to develop optimally. Third, this study does not examine the long-term impact of using digital comic teaching materials on students' behavior changes, necessitating further research to evaluate the sustainability of the achieved outcomes. Lastly, cultural and social context limitations may affect the relevance of these teaching materials in different environments, requiring content adaptation to align with the characteristics of each community.

4. CONCLUSION

These results show that in the experimental class there has been an increase so that digital comic teaching materials in strengthening character education to prevent bullying behavior in Denpasar City High Schools have shown to be effective based on the average posttest and pretest scores and calculating the N Gain value. The development of digital comics as teaching materials to prevent bullying behavior offers an innovative approach in increasing students' awareness and understanding of bullying behavior. By utilizing the advantages of teaching materials in conveying moral and social messages, digital comics can be a powerful tool in efforts to prevent bullying in high school environments.

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