



Digital comics as a communication medium to convey the dangers of mental disorders among victims of bullying and perpetrators of bullying against teenagers at SMK Muhammadiyah 1 Yogyakarta

¹Sabri*, ²Moch.Yordan Rismarinandyo

¹ Faculty of literature, Culture, and Communication, Universitas Ahmad Dahlan, Jl. Ringroad Selatan, Kragilan, Tamanan, Kec Banguntapan, Bantul, Daerah Istimewa Yogyakarta 55191, Indonesia

² Faculty of Teacher Training and Education, Electronics, and Informatics Education Study Program Universitas Ahmad Dahlan, Jl. Ringroad Selatan, Kragilan, Tamanan, Kec Banguntapan, Bantul, Daerah Istimewa Yogyakarta 55191, Indonesia

¹ sabri@comm.uad.ac.id*; ² moch.yordan@pvte.uad.ac.id

*Correspondent email author: sabri@comm.uad.ac.id

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ABSTRACT

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This study aims to investigate the efficacy of digital comics as a communicative medium to convey the potential dangers of mental disorders to adolescent victims and perpetrators of bullying at SMK Muhammadiyah 1 Yogyakarta. Using the Research and Development (R&D) methodology, the development process followed the ADDIE model, which includes the stages of analysis, design, development, implementation, and evaluation. To validate the developed comic, assessments were conducted by media experts, material experts, students, and teachers at SMK Muhammadiyah 1 Yogyakarta. In addition, this study also used pretest and posttest observations, as well as questionnaires. Data analysis involved normality and homogeneity tests. The results showed a high level of validity for the digital comics, with 87% of media experts rating the digital comics as valid, 95% of material experts rating the digital comics as highly valid, and 76% of language experts rating the digital comics as valid. In addition, teacher and student evaluations yielded very high levels of validity, at 90% and 92% respectively. These findings collectively demonstrate the potential of digital comics to effectively communicate the risks associated with mental disorders in the context of bullying, especially among adolescent victims and perpetrators. This research underscores the importance of digital comics as a valuable tool for mental health education and awareness among adolescents, ultimately contributing to the fostering of more supportive and inclusive school environments.

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1. Introduction

Bullying among adolescents constitutes a significant problem with detrimental consequences for mental health. Victims of bullying are at heightened risk of developing mental disorders such as depression, anxiety, and post-traumatic stress disorder (PTSD). Beyond the increasing prevalence of such incidents, bullying poses substantial risks to all involved, particularly victims (Anggraini et



al., 2020). Moreover, bullies themselves may experience negative mental health outcomes, including heightened aggression and diminished empathy.

Data from the Indonesian Youth Protection Committee (KPAI) reveals a concerning trend, with 2,355 cases of violence against adolescents reported in 2023. Similarly, the Ministry of Social Affairs (Kemensos) documented 117 bullying cases in mid-2017. Furthermore, the KPAI recorded approximately 253 bullying incidents between 2011 and 2016, affecting 122 victims and 131 perpetrators (CNN Indonesia, 2017). These statistics underscore the gravity of bullying as a pervasive social issue in Indonesia. These statistics underline how severe bullying is as a significant social problem in Indonesia. In addition to the increasing number of cases, bullying also has negative impacts, especially endangering its victims (Anggraini et al., 2020).

A collaborative study undertaken by Plan Indonesia and the Semai Jiwa Amini (SEJIWA) foundation in 2008 investigated the prevalence of bullying within Indonesian schools. The research encompassed 1,500 junior and senior high school students from Jakarta, Surabaya, and Yogyakarta. Findings revealed a concerning level of violence, with 67.9% of senior high school students and 66.1% of junior high school students reporting exposure to such behaviors. Bullying incidents were documented in 43.7% of senior high schools and 41.2% of junior high schools. Psychological forms of bullying, such as social exclusion, emerged as the most prevalent, followed by verbal intimidation, including teasing. Physical bullying, characterized by physical assaults, was reported least frequently. (Wibowo et al., 2021)

Bullying is an aggressive behavior often rooted in hierarchical dynamics that involve the exertion of power and control over others (Sukmawati et al., 2021). Bullying behavior manifests in various forms. Physical bullying involves direct physical aggression such as hitting, kicking, pinching, or pushing. Verbal bullying entails the use of offensive language, including insults, threats, or verbal intimidation. Social bullying, often referred to as relational aggression, involves manipulating social relationships through tactics like spreading rumors, exclusion, or humiliation. Cyberbullying extends these behaviors to digital platforms, encompassing harassment and intimidation via computers, smartphones, and online networks (Anggraini et al., 2020).

Bullying is associated with a range of negative mental health outcomes. According Ningrum & Bahri (2020), several psychological impacts of bullying are particularly concerning. Firstly, social dysfunction can arise from bullying experiences. This manifests as difficulties in fulfilling societal roles, characterized by impaired task completion, job dissatisfaction, and decreased engagement in activities (Bojsen-Møller et al., 2023). Previous negative interactions hinder victims' ability to form healthy interpersonal relationships, contributing to social dysfunction (Jessica, 2019). Secondly, bullying can lead to feelings of inferiority and low self-esteem. These negative self-perceptions

often stem from physical or psychological vulnerabilities. Victims may exhibit withdrawal, fear, social isolation, low self-confidence, and a tendency to give up easily (Hapsari & Purwoko, 2016).

Anxiety Disorder: Anxiety is a prevalent consequence of bullying. Individuals with anxiety disorders experience excessive worry and impaired cognitive function. This condition can elicit behavioral, emotional, physical, and cognitive responses to both internal and external stimuli. Aggression and irritability are common manifestations of anxiety disorders (Utami et al., 2019). **Insomnia:** Insomnia is characterized by difficulties initiating, maintaining, or consolidating sleep, despite adequate sleep opportunities. It can manifest as a symptom, syndrome, or clinical disorder. Individuals experiencing depression often report feelings of excessive disappointment or unhappiness (Jessica, 2019). **Depression:** Depression is a medical condition characterized by mood disturbances. It can present as a collection of symptoms (syndrome), a clinical disorder, or specific emotional states (Shah et al., 2022). Depressed individuals commonly report feelings of extreme disappointment or misery. Bullying contributes to feelings of discomfort and insecurity among victims. Reduced social support and unmet acceptance needs exacerbate these experiences, leading to increased feelings of helplessness (Faizah & Amna, 2017). **Suicide:** Suicide often represents a desperate act of rebellion stemming from depression intensified by bullying. Depressed adolescents may exhibit social withdrawal and self-blame, culminating in suicidal ideation triggered by feelings of hopelessness and worthlessness (Wahyudi & Burnamajaya, 2020).

The data presented indicates a pressing need for comprehensive education regarding the detrimental mental health consequences of bullying among both victims and perpetrators within the younger generation. Effective education is paramount in addressing the bullying epidemic by fostering a deeper understanding of its negative impacts (Budiwan, 2021). To achieve this, the utilization of media capable of conveying the harmful effects of bullying behavior to students is essential. Media serves as a conduit for transmitting information and promoting comprehension (Rahayu & Wicaksono, 2021). Comics emerge as a suitable medium for this purpose. Experts advocate for innovative approaches to bullying prevention, including comic-based interventions (Kurniawan, 2022). Aligning with this perspective, Jeff and Anggoro (2021) emphasize the importance of creative methods for disseminating crucial mental health information. The unique blend of visual and narrative elements within comics has proven effective in crafting persuasive health messages (Papathanasiou & Sciences, 2023). As a widely popular reading material among students, comics constitute a valuable educational tool (Radeswandri et al., 2021).

Employing comics to educate the public about bullying offers a strategic and engaging approach. For adolescents and young adults, comics can effectively communicate the adverse consequences of bullying in a comprehensible and captivating manner. The clarity of storytelling and illustrative elements in comics render them potent instruments for conveying the dangers of bullying (Laili

oktaviana & Rusnilawati, 2022). Comics have been widely acknowledged as a potent pedagogical tool for conveying complex ideas and lessons. Beyond serving as visual aids, comics also function as a source of entertainment. Their impact extends to readers' behavior, psychology, and thought processes on both conscious and subconscious levels. This influence stems from comics' ability to evoke sensory and emotional responses (Nurinayati et al., 2018). The interplay of text, visuals, and humor effectively captures reader attention and elicits strong emotional engagement (Ahmad et al., 2012). Consequently, comics emerge as an ideal medium for educational purposes.

Storytelling through images, commonly known as comics, offers several advantages in message delivery (Pramesti et al., 2020). The benefits of utilizing comics as an educational tool include: (1) clear and direct presentation; (2) effective conveyance of essential messages through narrative elements in a concise and accessible format; (3) employment of dialogical language; (4) enhanced reader comprehension through the integration of verbal and nonverbal communication; (5) cultivation of emotional engagement through visual expression, motivating readers to persist; and (6) dual function as both a learning medium and a valuable educational resource (Rahiem, 2021). The development of technology, especially gadgets and the internet, has influenced human habits in viewing literacy, so that books and comics are made digital. So that they are easily accessible anywhere. According to McCloud (2006), Digital comics have many advantages over printed comics, including being cheaper, more durable, interactive, more dynamic, and easily accessible. Digital comics have emerged as a promising medium for conveying complex information, including mental health issues.

This study aims to determine the effectiveness of digital comics in conveying the dangers of mental disorders to victims and perpetrators of bullying among adolescents at SMK Muhammadiyah 1 Yogyakarta. Other benefits related to the use of digital comics in education. is by using interesting and fun methods, encouraging students to think creatively, thus creating an emotional environment that supports increased understanding of the material presented. In addition, audio elements can be included in digital comics, which allows the use of multimedia to improve students' understanding of the material. Digital comics are special because they are cheap and easy to market and distribute. Other advantages of digital comics are able to attract the attention of readers in general, the way comics are delivered is light and liked by readers, and are suitable for all audiences (Kusuma Putra & Yasa, 2019). Attractive visual design also encourages a more participatory learning environment. Therefore, the integration of digital comics into the classroom provides significant potential to improve student competency and increase the effectiveness of the overall teaching process and the understanding of bullying behavior can be suppressed.

2. Method

Before This study employs a Research and Development (R&D) methodology, a research approach focused on the development and feasibility testing of new products (sugiyono, 2015). The development phase of this research adheres to the ADDIE model, encompassing Analysis, Design, Development, Implementation, and Evaluation (Nasrulloh et al., 2020). The ADDIE research model is favored for its simplicity, measurability, and systematic structure, facilitating its application (Amalia et al., 2021).

This study employed a mixed-methods approach to collect data from a sample of 28 eleventh-grade animation students at SMK Muhammadiyah 1 Yogyakarta. Data collection methods included pre- and post-test observations and questionnaires. Data analysis involved normality and homogeneity tests, as well as hypothesis testing for knowledge acquisition. The researcher engaged in participant observation, actively participating in the delivery of bullying prevention services to the target population of eleventh-grade animation students at SMK Muhammadiyah 1 Yogyakarta. A questionnaire was administered to assess students' bullying behaviors, both as perpetrators and victims. The sample consisted of 28 students, comprising 22 males and 6 females. Data collected were both qualitative and quantitative. Qualitative data were derived from user feedback on the comic's quality and feasibility, while quantitative data were obtained from validation questionnaires completed by material experts, media experts, students, and teachers. The research design is visually represented in Fig 1.

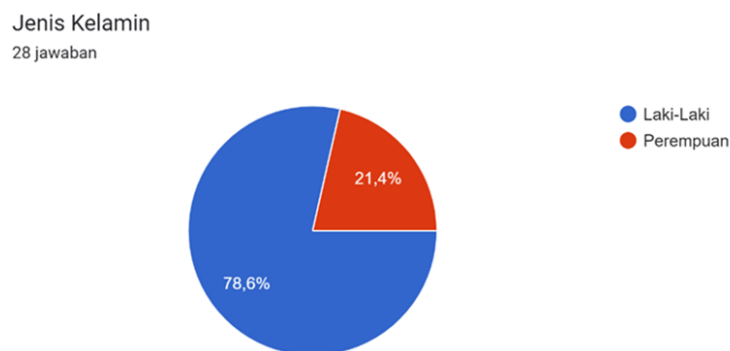


Fig. 1. The total of the samples

Source: Author (2024)

Table 1 indicates that three students admitted to engaging in bullying behaviors, while the remaining 25 students expressed disapproval of such actions. Additionally, four students reported being frequent targets of bullying, whereas 24 students denied having experienced bullying. The data further reveals that 26 students disapprove of witnessing bullying among peers, while two students admitted to deriving pleasure from such incidents. Regarding responses to peer victimization, 20 students reported defending.

Table 1. OVERVIEW OF BULLYING EXPERIENCES AMONG ELEVENTH-GRADE STUDENTS AT MUHAMMADIYAH 1 VOCATIONAL SCHOOL (N=50)

Question Item	f	%
Bullies Peers	3	11
Frequently Victimized by Peers	4	14
Disapproves of Peer Bullying	26	93
Defends Victims of Bullying	20	71

SOURCE: AUTHOR (2024)

The study revealed that 1 student (4%) reported being bullied within the past few days, while 5 students (18%) indicated experiencing bullying within the past few months. Furthermore, 7 students (25%) disclosed having been bullied within the past year.

Table 2. FREQUENCY OF BULLYING AMONG ELEVENTH-GRADE STUDENTS AT MUHAMMADIYAH 1 VOCATIONAL SCHOOL (N=50)

Question Item	f	%
Past Few Days	1	4
Past Few Months	5	18
Past Year	7	25

SOURCE: AUTHOR (2024)

Table 3 presents findings on bullying types among students. Non-physical or verbal bullying, encompassing threats and insults, was the most prevalent form, affecting 7 individuals (25% of the sample). Physical bullying, involving actions such as hitting or kicking, was notably absent. Cyberbullying impacted 7 students (25%), while 2 students (7%) admitted to being cyberbullying perpetrators.

Table 3. TYPES OF BULLYING AMONG ELEVENTH-GRADE STUDENTS AT MUHAMMADIYAH 1 VOCATIONAL SCHOOL (N=50)

Question Item	f	%
Non-physical Bullying/Verbal Bullying: Threats, Insults, Curses	7	25
Ever Experienced	0	0
Never Experienced	7	25
Physical Bullying: Hit, Kicked	2	7

SOURCE: AUTHOR (2024)

Table 4 presents the attitudes of bullying perpetrators among students at SMK Muhammadiyah 1 Yogyakarta. One student (4%) admitted to deriving satisfaction from teasing peers with perceived shortcomings. Another student (4%) reported feeling more competent and respected after engaging in bullying behavior. Additionally, one student (4%) indicated a tendency to identify peers' weaknesses as potential targets for bullying, while one student (4%) expressed a desire for retribution due to previous victimization.

Table 4. ATTITUDES OF BULLYING PERPETRATORS AMONG ELEVENTH-GRADE STUDENTS AT MUHAMMADIYAH 1 VOCATIONAL SCHOOL (N=50)

Question Item	f	%
Derives Satisfaction from Teasing Peers		
Yes	1	4
No		
Feels More Competent and Respected After Bullying Peers		
Yes		
No	1	4
Seeks Out Peer Weaknesses to Use as Bullying Material		
Yes		
No	1	4
Bullies Peers as Revenge for Previous Victimization		
Yes		
No	1	4

SOURCE: AUTHOR (2024)

Table 5 identifies the most frequent emotional impacts experienced by bullying victims. Two students (7%) reported feeling fear or reluctance to attend school due to peer bullying. One student (4%) indicated experiencing anxiety disorders as a result of bullying. Additionally, one student (4%) reported insomnia related to bullying. No students reported experiencing depression or suicidal ideation due to bullying.

Table 5. EMOTIONAL IMPACT ON BULLYING VICTIMS AT MUHAMMADIYAH 1 VOCATIONAL SCHOOL, GRADE 11 (N=50)

Question Item	f	%
Experienced Fear or Avoidance of School Due to Bullying		
Yes		
No	2	7
Felt Inferior Due to Bullying		
Yes		
No	15	54
Experienced Anxiety Disorder Due to Bullying		
Yes		
No	1	4
Experienced Insomnia Due to Bullying		
Yes		
No	1	4
Experienced Depression Due to Bullying		
Yes		
No	0	0
Experienced Suicidal Ideation Due to Bullying		
Yes		
No	0	0

SOURCE: AUTHOR (2024)

In table 6, bullying prevention actions that have been carried out by students include; Reporting to parents, 9 students or 32%, followed by reporting to the school, 9 students or 32% and none reported to the authorities.

Table 6. BULLYING PREVENTION ACTIONS IMPLEMENTED BY ELEVENTH-GRADE STUDENTS AT MUHAMMADIYAH 1 VOCATIONAL SCHOOL (N=50)

Question Item	f	%
Reported to Parents	9	32
Reported to School Authorities	9	32
Reported to Law Enforcement	0	0

SOURCE: AUTHOR (2024)

Table 7 indicates that all students (100%) demonstrated knowledge of bullying prevention strategies when questioned about educational initiatives, media literacy, and comic-based approaches. These results suggest that students possess a sufficient understanding of the consequences of bullying.

Table 7. OVERVIEW OF BULLYING PREVENTION KNOWLEDGE AMONG ELEVENTH-GRADE STUDENTS AT SMK MUHAMMADIYAH 1 (N=50)

Question Item	f	%
Through Education and Religious Instruction	28	100
Through Media Literacy	28	100
Through Comic-Based Approaches	28	100

SOURCE: AUTHOR (2024)

Based on the aforementioned data, the researcher proceeded to the subsequent phase, employing the ADDIE Model to analyze the collected information and subsequently transform it into a tangible product.

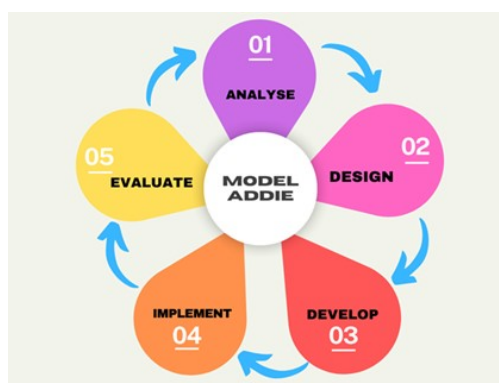


Fig. 2. Model ADDIE
Source: Author (2024)

The stages of the ADDIE development model are as follows: Analysis, The analysis phase involved conducting field observations and environmental assessments to identify the root causes and primary manifestations of bullying behavior. This data informed the development of a conceptual framework for the comic story, Design;

Building upon the findings from the analysis phase, the design phase focused on crafting the comic narrative and character development. To effectively engage the target audience of students, the story integrated emotionally resonant elements while conveying the detrimental mental health consequences of bullying. Development; The comic medium was produced according to the established design. The format of the media was finalized through expert validation.

Subsequently, a pilot test was conducted among students and teachers of SMK Muhammadiyah 1 Yogyakarta. Implementation; The implementation phase aimed to evaluate the efficacy of the digital comic, particularly in raising student awareness about bullying. Validation experts assessed the comic's effectiveness, and their feedback was incorporated into refining the material. Additionally, media and content specialists provided evaluations using predetermined criteria, Evaluation; The final stage involved a comprehensive assessment of the developed product to determine its overall value. Necessary revisions were made based on expert feedback until the educational digital comic on bullying was deemed suitable for public dissemination.

3. Result and Discussion

This research culminated in the development of a digital comic medium designed as an educational tool to address bullying among students, specifically targeting ninth-grade animation students at SMK Muhammadiyah 1 Yogyakarta. The digital comic also functions as an educational game (APE) intended to facilitate teachers' efforts in conveying bullying-related knowledge within the school environment. The production process adhered to the ADDIE development model, as outlined below:

Analysis; The initial phase of the study involved conducting observational research at SMK Muhammadiyah 1 Yogyakarta. The primary objective of this observation was to gather data for the development of a learning media product aligned with the specific needs of the school. Based on the analysis of observational findings, the researcher proceeded to develop a digital comic focused on bullying prevention for SMK Muhammadiyah 1 Yogyakarta. Design; The design phase commenced with the creation of a comic script encompassing basic ideas, plotlines, character development, and conflicts. The script was grounded in the everyday experiences of school students. While maintaining simplicity, the storyline effectively conveyed key messages about bullying. Upon script completion, character design and layout development ensued. The written narrative was visually interpreted through character design and cinematic elements to enhance aesthetic appeal and overall visual impact.

Table 8. COMIC SCRIPT: STOP BULLYING

1	Page 1 Panel 1	The narrative commences with the introduction of the protagonist, Andi, as he embarks on his daily commute to school.
2	Panel 2	Upon reaching the school entrance, Andi encountered a group of four acquaintances notorious for their bullying behavior. The group stood near the school entrance, engaged in hushed conversations and exhibiting signs of surprise. The narrative interjects, emphasizing their unexpected
3	Panel 3	Andi's facial expression conveyed a sense of fear as he silently contemplated the potential danger of the situation
4	Panel 4	A group of four individuals clad in school uniforms displayed subtle facial expressions, accompanied by hushed whispers among themselves.
5	Panel 5	One of the individuals issued a taunting call, addressing Andi with a derogatory nickname.
6	Panel 6	The group engaged in bullying behavior towards Andi, making derogatory remarks about his appearance and accompanying their words with laughter.
7	Page 2 Panel 1	Andi proceeded to walk away as the group persisted in their laughter directed at him
8	Panel 2	Andi's facial expression reflected profound sadness as he silently contemplated his innocence in the matter.
9	Panel 3	Suddenly, a hand appeared, affixing a piece of paper to Andi's bag.
10	Panel 4	Unaware of the incident, Andi continued his journey. The paper contained a threatening message reading, "Beware of Crazy People."
11	Panel 5	Andi continued walking as the four individuals erupted in laughter.
12	Panel 6	Andi's facial expression conveyed sadness and profound depression.
13	Page 3 Panel 1	Andi's feet were observed walking.
14	Panel 2	Andi entered the classroom, becoming the immediate focus of his friends' derisive laughter. As they pointed at a piece of paper affixed to his shoulder, their figures transformed into shadowy silhouettes, amplifying the emotional impact on Andi.
15	Panel 3	Andi's sadness intensified.
16	Panel 4	Andi began to run.
17	Panel 5	Andi ran, tears streaming down his face.
18	Panel 6	Nirmala turned to observe Andi running past her.
19	Panel 7	Nirmala called out, "Andi, wait!" However, Andi continued to run without stopping.
20	Panel 8	Nirmala turned to her friends with an angry expression.
21	Page 4 Panel 1	His friends hung their heads in silence, their guilt evident as they queried, "Do you truly enjoy insulting others?"
22	Panel 2	The visual focus shifted to a corner of the school. .

23	Panel 3	Nirmala gazed at Andi, quietly expressing her concern, "He seems so depressed."
24	Panel 4	Andi appears to be crying.
25	Panel 5	Nirmala's voice called out to Andi, eliciting a surprised reaction from him.
26	Panel 6	Visual: Nirmala and Andi are portrayed together. Nirmala: "I hope you can be patient and strong. I understand how you feel..." Andi (with a sorrowful expression): "Thank you for your support."
27	Panel 7	Nirmala: "Let's inform the teacher about what happened to you, Andi. Come on."
28	Page 5 Panel 1	The visualization is moved to another location
29	Panel 2	Footsteps were heard, accompanied by a voice muttering, "Darn it, we got scolded by the teacher earlier."
30	Panel 3	Close-ups of two characters' faces, previously identified as bullies of Andi. Character 1: "We're at fault too, aren't we?" Character 2: "What do you mean?"
31	Panel 4	Visual karakter tiga karakter, karakter 1; Kasihan siandi karena kita
33	Panel 5	Visual: Three characters are visible. Character 1: "Poor Andi, it's our fault..."
34	Panel 6	Three characters are depicted. Characters 2 and 3: "I feel guilty towards Andi too."
35	Panel 7	Visual: Four characters walking together. Character 2: "We are all responsible for what happened to Andi. Let's apologize to him."

SOURCE: AUTHOR (2024)

Character design constitutes a pivotal element in the construction of a narrative (Widy et al., 2015). Aligned with this assertion, the character design in this comic is centered around six characters: a protagonist and three supporting characters, one of whom is female. To effectively convey the story's concept, the supporting characters complement the protagonist, bringing the narrative to life and facilitating interactions. Character designs were developed through a combination of field observations, script analysis, and imaginative interpretation to achieve an artistic and aesthetically pleasing outcome. In essence, character design can be defined as a process, methodology, and exploration of crafting and developing the visual attributes of characters (Ayoeningsih et al., 2020).



Fig. 3. Character Design for "Stop Bullying" Comic
Source: Author (2024)

The layout phase involves determining the arrangement of panels and the visual representation of the developed script. This process was executed digitally by hand utilizing Krita software. This "manual digital" approach signifies that the sketching process was performed manually, akin to traditional drawing, but facilitated by a pen tablet on a computer. Each script sentence was transformed into a visual language, imbuing it with visual narrative power and establishing a coherent flow between panels to create a unified story. According to Jennings, storytelling is a timeless and culturally universal art form. Moreover, it serves as a medium for conveying knowledge, emotions, thoughts, and ideas (Khairoes & Taufina, 2019). Aligned with this perspective, this comic endeavors to communicate information, feelings, and thoughts to both victims and perpetrators of bullying through a simple yet impactful narrative that directly addresses the core issue. The comic employs a visually compelling storytelling approach that is readily comprehensible. Visual storytelling is defined as the narrative delivery of a story through a sequence of static or moving images and graphics (Prasetyo et al., 2019).



Fig. 4. Comic Layout for "Stop Bullying"

Source: Author (2024)

Development

The third phase of this process is product development. Following the creation of the comic layout, the researcher proceeded with the inking stage, also executed digitally by hand using Krita software. This phase involved refining the pencil sketches on the layout by applying black ink within the Krita application. The color palette for this comic was limited to three tones: black, gray, and white. Black was employed to outline all objects within each panel, while gray provided shadows to establish dimensionality for characters and objects. The white color of the paper served as the base color for all elements in the comic panels. Upon completion of all stages, the final comic was saved in Portable Document Format (PDF) for output.



Fig. 5. "Stop Bullying" Comic
Source: Author (2024)

Implementation

Subsequently, during the implementation phase, the researcher conducted a pilot study involving validators comprised of media experts, subject matter experts, language experts, teachers from MK Muhammadiyah 1 Yogyakarta, and ninth-grade animation students. The outcomes derived from each validator are detailed in the table presenting the feasibility test results of the learning media, as illustrated in Table 9.

Table 9. EXPERT ASSESSMENT OF COMIC MEDIA FEASIBILITY

Respondent	Presentation	Overview
Media Expert	87%	valid
Material Expert	95%	Very valid
Language Expert	76 %	valid
Teacher of SMK 1 Muhammadiyah 1 Yogyakarta	90%	Very valid
9th grade students majoring in animation	92%	Very valid

SOURCE: AUTHOR (2024)

Media experts assessed the digital comic's presentation and overall aesthetic appeal, assigning a validity score of 87%. This indicates its suitability for educational use at the school level. Subject matter experts were consulted to determine the comic's alignment with student learning objectives, its potential as an educational medium for student groups, and its overall effectiveness. A questionnaire elicited expert opinions, resulting in a validity score of 95%, strongly supporting the use of digital comics as a valuable educational resource. Language experts evaluated the comic's language appropriateness for student comprehension and adherence to Standard Indonesian Spelling (EYD) guidelines. They assigned a validity score of 76%, confirming its suitability for student learning. Teachers from SMK Muhammadiyah 1 Yogyakarta assessed the comic's content clarity, usability as a teaching tool, and overall educational benefits. The resulting validity score of

90% indicates high suitability. Finally, ninth-grade animation students from SMK Muhammadiyah 1 Yogyakarta evaluated the comic's engagement, comprehensibility, and effectiveness in understanding bullying. Their score of 92% demonstrates excellent suitability.

Evaluation

The final phase of this research involves the evaluation of the developed educational digital comic on bullying. This stage aims to assess the product's validity, feasibility, strengths, and limitations. Based on the evaluation results, with media experts assigning a validity score of 87%, subject matter experts rating it at 95%, language specialists approving it at 76%, teachers validating it at 90%, and students endorsing it at 90%, the development of an educational digital comic addressing bullying is deemed feasible.

4. Conclusion

This study underscores the potential of digital comics as a communicative medium for conveying the risks of mental health disorders among students involved in bullying incidents at SMK Muhammadiyah 1 Yogyakarta. Findings indicate that digital comics effectively communicate the mental health consequences associated with bullying, particularly for victims and perpetrators. With media experts assigning a validity score of 87%, subject matter experts rating it as highly valid at 95%, language specialists approving it with a score of 76%, teachers validating it at a high level with a score of 90%, and students strongly supporting it with a score of 92%, this study emphasizes the significance of digital comics as a tool for mental health education and awareness among students. Ultimately, this contributes to a more supportive and inclusive school environment.

For future research, it is recommended that the effectiveness of digital comics be examined within a broader context, including various types of schools and socio-economic backgrounds. Such research would offer valuable insights into the adaptability and acceptance of this medium among students with diverse characteristics. Additionally, further studies should investigate the long-term effects of using digital comics to enhance students' awareness and understanding of mental health. This would help determine whether the intervention not only achieves short-term effectiveness but also fosters sustained positive behavioral and attitudinal changes in students over time.

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