

Digital Comics Based on Don Bosco Values for Elementary School Students

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Abstract

This study aimed to develop a digital comic based on Don Bosco values and examine its validity, practicality, and effectiveness for third-grade elementary school students. The study used a research and development approach with the ADDIE model. It was conducted at Santo Petrus Private Elementary School, Medan, during the second semester of the 2025/2026 academic year. Five experts participated in product validation, two teachers and 25 students completed practicality questionnaires, and 31 students completed the pretest and posttest. Data were collected through observation, interviews, document analysis, expert validation sheets, response questionnaires, and learning outcome tests. The data were analyzed using percentage scores, mean scores, and normalized gain. The findings showed that the digital comic met highly feasible criteria, with media validation scores of 88.6% and 100%, material validation scores of 89.4% and 100%, and a language validation score of 90%. Teacher practicality scores were 91.67 and 89.00, while the students' mean response was 4.27, categorized as highly practical. The mean learning score increased from 61.11 on the pretest to 88.90 on the posttest. The N-Gain score was 0.71 or 71%, categorized as high. The study concludes that digital comics can provide a valid, practical, and effective medium for presenting Don Bosco values through visual, contextual, and student-friendly learning experiences.

Keywords

Character Education; Digital Comics; Don Bosco Values; Elementary Education; Learning Media



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INTRODUCTION

Digital technology has changed how elementary school students access information, communicate, and participate in learning. Students are increasingly familiar with smartphones, online content, audiovisual communication, and interactive platforms. Elementary schools consequently need learning media that match students' developmental characteristics and digital experiences without reducing the teacher's pedagogical role. Digital media can make abstract information more concrete, broaden access to learning resources, and provide opportunities for active participation when the content, interface, and activities are designed according to the learning objectives (Arynata et al., 2025; Hidayat et al., 2025; Mudiana et al., 2022).

Learning media serve as a bridge between instructional objectives, subject matter, and students' understanding. Textbooks and verbal explanations remain important, but their exclusive use can limit attention and interaction, especially when students are expected to understand abstract moral or cultural values. Interactive worksheets, web-based resources, electronic books, and audiovisual media have demonstrated that technology integration can improve learning engagement and outcomes when it is supported by appropriate instructional design (Amalia et al., 2022; Murtadlo & Farisi, 2023; Paramita et al., 2025; Restiani et al., 2022).

Digital comics are relevant to elementary education because they combine sequential illustrations, short dialogues, characters, and contextual conflicts. The visual narrative allows students to interpret information through the relationship between images and text rather than through long explanations alone. Digital formats also enable comics to be accessed through smartphones, computers, websites, or downloadable files. Previous development studies have reported that digital comics can support literacy, writing, conceptual understanding, motivation, and classroom involvement (Artanegara et al., 2024; Ramadhani et al., 2022; Ranting & Wibawa, 2022; Riyanti et al., 2024; Udayani et al., 2021; Zakiyah & Sayekti, 2022).

Character education requires more than definitions of desirable behavior. Elementary students need examples that show how values are practiced in relationships, decisions, and everyday school situations. Visual stories can represent moral problems, consequences, and appropriate responses through situations that are close to children's experiences. Studies on digital comics for unity, cultural diversity, and bullying prevention indicate that narrative media can help students recognize social problems and discuss expected behavior in a concrete manner (Lestari et al., 2024; Sholihah et al., 2022; Trisiantari & Diputra, 2024; Yuanita, 2024).

Santo Petrus Private Elementary School Medan implements a Christian humanist school culture inspired by Don Bosco's preventive educational values. School routines include prayer, classroom duties, collaborative work, mutual assistance, reflection, and teacher guidance. The values emphasized in the school include reason, religion, loving-kindness, joy, honesty, responsibility, gratitude, politeness, friendliness, care, and respect for each person. Preliminary observations and interviews showed that teachers had introduced these values through verbal explanations, printed materials, stories, songs, posters, and school routines. Students nevertheless showed limited attention when learning relied on long texts and one-way explanation. The values were also difficult for some students to connect with concrete behavior in daily school life.

The school possessed basic digital facilities, including projectors, internet access, and several digital devices, but the use of these facilities had not been fully integrated into learning about Don Bosco values. Third-grade students were described as active and familiar with digital devices, although their attention was easily diverted. They responded more positively to visual examples and stories than to abstract explanations. The condition indicated a need for concise, attractive, contextual, and flexible media that could be used online or offline with teacher guidance.

Earlier studies have developed digital comics for academic topics, literacy, cultural diversity, and general character education. The available evidence supports the feasibility and educational potential of comics, but limited research has focused on a school-specific Christian humanist culture based on Don Bosco values. The present study addresses that gap by translating the three pillars of the Don Bosco preventive system - reason, religion, and loving-kindness - into illustrated episodes, student dialogue, everyday conflicts, moral reflection, and digital exercises. The novelty lies not merely in using a digital comic, but in designing a values-based narrative medium that is aligned with the school's culture and the learning needs of third-grade students.

This study aimed to develop a digital comic based on Don Bosco values and determine its validity, practicality, and effectiveness. The study is theoretically significant because it extends digital comic development from academic content and general character themes to a specific school-value system. Its practical significance lies in providing teachers with a reusable resource for introducing, discussing, and reinforcing Don Bosco values through contextual stories and interactive activities.

METHOD

The study employed a research and development design using the ADDIE model: Analyze, Design, Develop, Implement, and Evaluate (Branch & Varank, 2009). The study was conducted at Santo Petrus Private Elementary School Medan, located in Medan Johor, Medan City, North Sumatra, during the second semester of the 2025/2026 academic year. The product was developed for learning about Christian humanist school culture and Don Bosco values in grade III.

Participants were organized according to the development stage. Product validation involved two media experts, two material experts, and one language expert. The implementation was conducted in class III-D, which consisted of 31 students. Twenty-five students who completed the full product-use session and response questionnaire were included in the student practicality analysis, together with two grade III teachers. All 31 students in class III-D completed the pretest and posttest for the effectiveness analysis. A separate group of 36 students was used to try out the learning test before the effectiveness study. The broader thesis study also identified class III-C as a comparison class, but this article focuses on the development trial and within-class effectiveness results of the digital comic.

The target students were active learners whose attention was easily diverted during prolonged verbal explanation. Teacher interviews indicated that students understood moral values more easily through visual examples, storytelling, and situations related to their daily lives. Their initial understanding of the Don Bosco pillars was generally limited to basic recognition of school rules and symbols. Students were familiar with digital devices, while the school environment provided projectors, internet access, and several shared devices. These characteristics informed the selection of a visual, narrative, and flexible medium that could be accessed through Google Sites or downloaded as a PDF.

The Analyze stage included non-participant classroom observation, unstructured teacher interviews, and document analysis. Observation examined learning activities, student involvement, available media, and the technological environment. Interviews explored student characteristics, initial understanding, instructional difficulties, and media needs. Document analysis examined the curriculum, learning objectives, school materials, and the Don Bosco value framework. The Design stage transformed the findings into learning objectives, a content outline, a media program outline, characters, story conflicts, dialogue, visual specifications, and assessment activities.

The Develop stage involved producing the digital comic with Canva, generative artificial

intelligence tools, Google Sites, and supporting visual resources. The product contained a cover, user guidance, an introduction to Don Bosco values, ten story episodes, reflection prompts, moral messages, and QR-linked exercises. The initial version was validated by media, material, and language experts. Validator comments were used to revise visual consistency, readability, content accuracy, language, navigation, and the contextual relevance of the exercises before classroom use.

The Implement stage involved teacher-guided use of the comic during learning about Don Bosco values. Students accessed the stories, discussed the characters' decisions, answered questions, and completed the embedded or QR-linked activities. Teachers and students completed practicality questionnaires after the lesson. The Evaluate stage included formative evaluation throughout the ADDIE process and summative evaluation through the learning test. Twenty test items were tried out, and ten valid items were retained after item-validity, difficulty, discrimination, and reliability analysis for the pretest and posttest.

Data were collected through observation notes, interview records, document-analysis results, expert validation sheets, teacher and student response questionnaires, and learning outcome tests. Expert and teacher scores were converted into percentages. A score within 81%-100% was interpreted as highly feasible. Student practicality was calculated as a mean on a five-point scale, with a mean above 4.20 interpreted as highly practical. Effectiveness was determined by comparing the mean pretest and posttest scores and calculating normalized gain, expressed as $(\text{posttest} - \text{pretest}) / (\text{maximum score} - \text{pretest})$. An N-Gain of at least 0.70 was categorized as high.



Figure 1. ADDIE Development Framework

FINDINGS AND DISCUSSION

Findings

Analyze

The analysis stage identified a mismatch between the abstract nature of Don Bosco values and the learning experiences commonly available to students. Classroom instruction relied mainly on teacher explanation, textbooks, and written exercises. Students were generally orderly, but their participation declined when explanations were lengthy and one-directional. Visual examples

immediately increased attention, indicating that students needed concrete representations of moral situations rather than definitions alone.

Teacher interviews showed that students were active and responsive to stories, images, and group interaction, but they had difficulty relating values such as reason, religion, and loving-kindness to everyday decisions. Students recognized Don Bosco as part of the school's identity, yet their understanding of the values underlying school rules remained incomplete. The school had basic technological support, but digital resources specifically designed for Don Bosco value education were not available. These findings established the need for a visual narrative medium that could connect value concepts with familiar school and home situations.

Table 1. Summary of Needs Analysis

Aspect	Main finding	Design implication
Learning process	Teacher explanation, textbooks, and individual exercises dominated learning.	Use short narrative episodes and guided discussion.
Student characteristics	Students were active, easily distracted, and responsive to concrete visual examples.	Present values through images, dialogue, and familiar conflicts.
Initial understanding	Students recognized school rules but had limited understanding of the Don Bosco pillars.	Introduce each pillar gradually and connect it to behavior.
Technology environment	Projectors, internet access, and shared devices were available but not optimally used.	Provide online and downloadable formats.
Media need	No specific interactive medium presented Don Bosco values systematically.	Develop a digital comic with reflection and evaluation activities.

Design

The design stage organized the content around the three principal pillars of the Don Bosco preventive system. Reason was represented through responsible decision-making, honesty, and understanding rules. Religion was presented through gratitude, prayer, joyful learning, and awareness of God's presence in daily activities. Loving-kindness was represented through gentleness, friendliness, politeness, empathy, care, and respect. Service and joy were integrated across the episodes as observable expressions of the three pillars.

Learning objectives, storylines, characters, dialogue, panel sequences, visual identity, and evaluation activities were mapped in a media program outline. The stories used school-based conflicts such as welcoming a new student, helping a classmate, responding to teasing, completing classroom duties, admitting mistakes, sharing, and making responsible choices. Each episode ended

with a short message or question that invited students to identify the value and relate it to their own behavior.

Table 2. Content Structure of the Digital Comic

Pillar or Value Focus	Narrative Emphasis	Learning Activity
Reason	Honest and responsible choices, understanding the purpose of rules, and considering consequences.	Identify the problem, compare choices, and explain a responsible decision.
Religion	Gratitude, simple daily spirituality, prayer, and joyful participation in learning.	Connect the story with prayer, gratitude, or a reflective response.
Loving-kindness	Gentleness, friendliness, care, empathy, politeness, and respect for others.	Recognize feelings, propose supportive actions, and practice respectful dialogue.
Service and joy	Helping others willingly and creating a positive school atmosphere.	Plan a simple action that can be practiced at school or at home.

Develop

The development stage produced a digital comic that could be accessed through Google Sites and downloaded in PDF format. The product included a cover, introductory information, thematic value pages, ten illustrated story episodes, moral messages, and QR-linked exercises. Canva supported layout and page design, while generative tools supported the creation of characters and backgrounds. Revisions focused on consistency between characters and settings, font readability, the proportion of text and images, clarity of instructions, and the relationship between story conflicts and the intended values.

Expert validation was conducted after the initial product was completed. Both media validators placed the product in the highly feasible category, with scores of 88.6% and 100%. Material validators gave scores of 89.4% and 100%, indicating that the content, examples, exercises, and learning objectives were appropriate. The language validator gave a score of 90%, confirming that the vocabulary, sentence structure, punctuation, and text-image relationship were suitable for third-grade students.

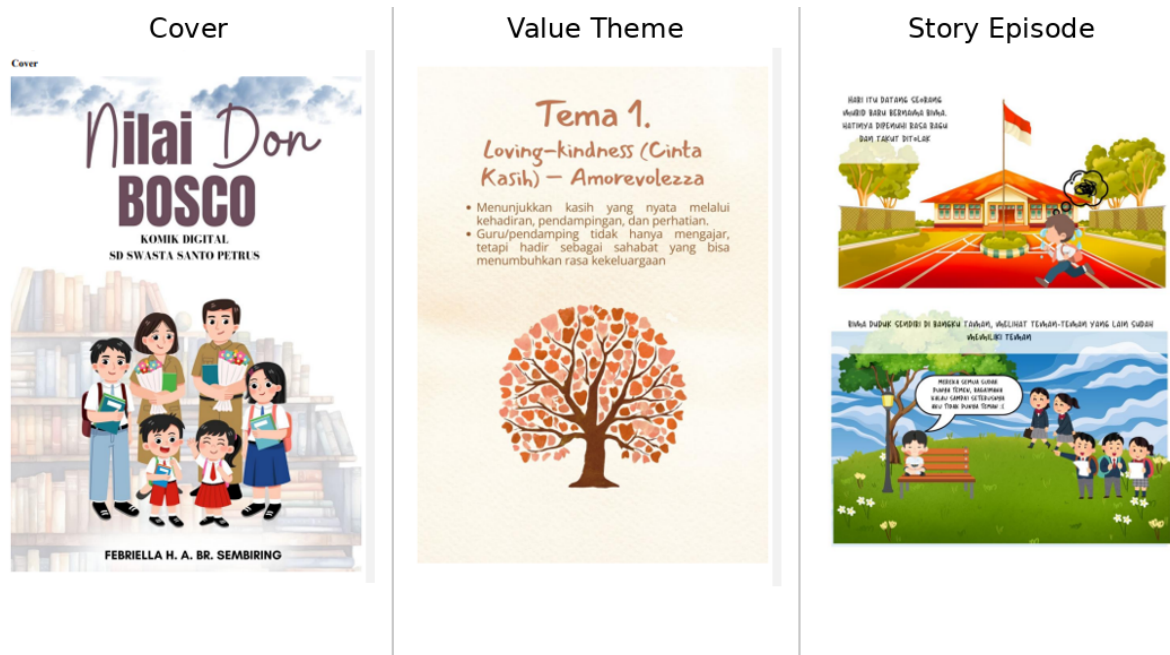


Figure 2. Selected Displays of the Digital Comic Based on Don Bosco Values

Table 3. Expert Validation Results

Validation component	Validator	Score	Category
Media	Validator 1	88.6%	Highly feasible
Media	Validator 2	100%	Highly feasible
Material	Validator 1	89.4%	Highly feasible
Material	Validator 2	100%	Highly feasible
Language	Validator 1	90%	Highly feasible

Implement

The implementation stage placed the revised comic in an actual classroom learning activity. Teachers introduced the purpose of the lesson, guided students through the selected episodes, facilitated discussion, and connected the characters' actions with school routines. Students read the comic, observed the illustrations, answered oral questions, and completed the evaluation activities. The online and offline formats allowed the teacher to adapt the media to the available devices and classroom conditions.

Teacher and student responses showed that the product was easy to use and relevant to the lesson. The first teacher gave a score of 91.67, and the second teacher gave a score of 89.00. Teachers particularly valued the attractive presentation, the relationship between the stories and daily life, and the ability of the illustrations to support explanation. The student response mean was 4.27 on a five-point scale, categorized as highly practical. Students responded positively to the appearance, story clarity, illustrations, and opportunity to learn at an appropriate pace.

Table 4. Practicality Results

Respondent group	Result	Category
Teacher 1	91.67%	Highly practical
Teacher 2	89.00%	Highly practical
Students (n = 25)	Mean = 4.27 of 5	Highly practical

Evaluate

Evaluation occurred throughout the development process. Formative evaluation led to revisions after needs analysis, design review, expert validation, and classroom feedback. The learning test was also examined before use. Ten of the twenty trial items met the validity requirements and were retained for the pretest and posttest, providing a focused measure of students' understanding of the values and situations presented in the comic.

The mean pretest score was 61.11, showing that students had an initial but incomplete understanding of the material. After learning with the digital comic, the mean posttest score increased to 88.90. The normalized gain was 0.71, equivalent to 71%, and was classified as high. The result indicates that the comic effectively supported improvement in students' cognitive understanding of Don Bosco values during the implementation period.

Table 5. Effectiveness Results

Assessment	Mean or score	Interpretation
Pretest	61.11	Initial understanding
Posttest	88.90	Improved understanding
N-Gain	0.71 (71%)	High

Discussion

Validity of the Digital Comic

The validity results show that the product met the quality requirements for instructional use. Media scores of 88.6% and 100% indicate that the visual presentation, page organization, accessibility, typography, and media functions were suitable for the intended users. The result supports the principle that digital learning resources must combine attractive design with clear instructional functions. Visual appeal alone is insufficient when navigation, readability, and content structure do not guide students toward the learning objectives. Research on electronic and web-based media similarly emphasizes the need for alignment among design, accessibility, and learning activities (Arynata et al., 2025; Hidayat et al., 2025; Restiani et al., 2022).

Material validation scores of 89.4% and 100% demonstrate that the Don Bosco values were translated into appropriate objectives, examples, narratives, exercises, and summaries. The product

did not present values merely as lists of moral terms. Each value appeared through a character's action, a conflict, and a consequence, which enabled students to interpret the meaning of the value in a recognizable situation. This finding is consistent with character-oriented digital comic studies showing that contextual stories can make moral messages more concrete and open to discussion (Sholihah et al., 2022; Trisiantari & Diputra, 2024). The result also extends previous digital comic development by integrating a specific institutional value system rather than a general character theme.

The language validation score of 90% confirms that the sentences, vocabulary, dialogue, and punctuation were appropriate for third-grade students. The relationship between images and short text was particularly important because the illustrations provided contextual cues for meaning. Digital comics operate as multimodal media in which students interpret information through the interaction of visual sequence, written dialogue, and narrative events. Similar studies have found that comics support comprehension when verbal information is concise and reinforced by relevant illustrations (Ramadhani et al., 2022; Ranting & Wibawa, 2022; Udayani et al., 2021; Zakiyah & Sayekti, 2022).

Practicality of the Digital Comic

The teacher practicality scores show that the digital comic could be used in the classroom without complex procedures. The online Google Sites format and downloadable PDF gave teachers alternatives when devices or internet access were limited. Practicality is essential in development research because a theoretically sound product may fail in practice when it demands excessive preparation, specialized equipment, or complicated navigation. The teachers' positive responses indicate that the product was compatible with existing classroom routines and could be used for explanation, discussion, reflection, and evaluation.

The student mean response of 4.27 demonstrates that the product was not only technically accessible but also attractive and understandable. Students valued the illustrations, short stories, and the connection between the material and daily life. These features reduced reliance on lengthy verbal instruction and provided a clear narrative context for each value. Studies of digital comics and web-based learning resources report similar positive responses when students can follow a coherent story, see concrete visual examples, and interact with activities that correspond to their learning preferences (İlhan et al., 2021; Murtadlo & Farisi, 2023; Paramita et al., 2025; Riyanti et al., 2024).

Practicality in this study should be understood as the combined result of instructional simplicity, visual clarity, flexible access, and teacher mediation. The digital comic did not replace the teacher. Teachers directed attention to important panels, asked students to explain the characters' choices, and connected the episodes with actual school routines. Teacher guidance helped transform the comic from an entertainment resource into a structured learning medium. The finding suggests that successful digital media implementation depends on both product design and the quality of classroom facilitation.

Effectiveness of the Digital Comic

The effectiveness findings show a meaningful improvement in students' understanding. The mean score increased from 61.11 to 88.90, and the N-Gain of 0.71 was classified as high. The increase indicates that students were better able to recognize the values, interpret situations, and identify appropriate actions after using the comic. The result is consistent with earlier findings that digital comics can improve learning outcomes because sequential images and narratives help students organize information, recall key events, and connect concepts with concrete examples (Artanegara et al., 2024; Ranting & Wibawa, 2022; Udayani et al., 2021).

Several features may explain the improvement. The stories provided repeated exposure to the values across different situations. Dialogue made the values visible through social interaction, while conflicts required students to distinguish appropriate and inappropriate choices. Reflection prompts and exercises encouraged retrieval and application rather than passive reading. The combination of visual narrative and active response created a learning sequence that moved from recognition to interpretation and simple application. Interactive digital media have similarly been associated with increased engagement and learning outcomes when activities require students to process information rather than merely view it (Amalia et al., 2022; Mudiana et al., 2022).

The effectiveness result also supports the use of digital comics for values education, an area that receives less attention than academic subjects. Previous research has used comics to strengthen unity, cultural understanding, and anti-bullying behavior (Lestari et al., 2024; Sholihah et al., 2022; Trisiantari & Diputra, 2024). The present study adds evidence that a comic can be tailored to a Christian humanist school culture and the Don Bosco preventive system. A school-specific value framework can therefore be converted into a structured digital resource without losing its contextual meaning.

The measured outcome was students' cognitive understanding during the study period. The

results do not by themselves prove long-term internalization or stable behavioral change. Value internalization requires repeated practice, teacher modeling, family support, school routines, and opportunities to act. The digital comic is best positioned as a supporting medium that provides common stories and language for discussion, reflection, and reinforcement. Long-term claims should be tested through observation and follow-up measurement rather than inferred solely from posttest scores.

Theoretical and Practical Implications

Theoretical implications arise from the integration of visual narrative, digital media, and school-based character education. The findings indicate that abstract institutional values can be operationalized into observable actions through characters, conflicts, and consequences. This design approach broadens digital comic development beyond subject-matter explanation. It shows that a value system can be represented through narrative structures that allow students to examine decisions and interpersonal relationships.

Practical implications concern teachers and schools. Teachers can use the comic as an introduction to a value, a stimulus for group discussion, a reflection resource after a school event, or reinforcement during character habituation programs. Schools can integrate selected episodes into orientation activities, pastoral programs, classroom guidance, and parent-supported learning. The offline version is important for classrooms with uneven connectivity, while the web version facilitates access and distribution. Digital infrastructure remains necessary, but pedagogical planning and teacher guidance determine how effectively the resource is used.

The product also offers a reusable development model for other values-based schools. Schools can identify their core values, translate each value into specific behaviors, design realistic conflicts, and validate the resulting stories with content, media, and language experts. Such adaptation should preserve the local meaning of the values and avoid merely changing labels on a generic comic.

Limitations and Recommendations for Future Research

The study has several limitations. The trial was conducted in one school and focused on third-grade students, limiting generalization to other age groups and school settings. Practicality data were obtained from two teachers and 25 students, while effectiveness was measured in one implementation class. The effectiveness design reported in this article emphasizes within-class pretest-posttest improvement and does not provide a full comparison with the class identified as a comparison group in the broader thesis study. The outcome also focused on cognitive

understanding rather than long-term behavior.

Future research should test the comic in multiple schools with more diverse students, use a controlled or quasi-experimental design, and include delayed posttests. Behavioral indicators such as helping, honesty, respectful communication, and responsibility should be observed across several weeks to examine value internalization. Further development can add audio narration, accessibility features, adaptive feedback, and more varied interactive tasks. Comparative studies may also examine whether teacher-guided digital comics, printed comics, and conventional instruction produce different levels of understanding, engagement, and behavioral application.

CONCLUSION

The digital comic based on Don Bosco values was successfully developed through the ADDIE stages and met the criteria of validity, practicality, and effectiveness for third-grade students at Santo Petrus Private Elementary School Medan. The product transformed reason, religion, loving-kindness, service, and joy into illustrated stories, dialogue, reflection, and evaluation activities that were appropriate for students' learning characteristics. Expert review confirmed the quality of the media, material, and language, while teacher and student responses demonstrated that the comic was accessible and suitable for classroom use.

The improvement from pretest to posttest and the high normalized gain show that the comic supported students' understanding of Don Bosco values during the implementation period. Its educational contribution lies in connecting abstract school values with concrete social situations through a flexible digital format. The product should be used together with teacher guidance, school routines, and opportunities for students to practice the values. Broader and longer-term studies are required to determine its effects on sustained behavior and value internalization.

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