Integrating Active Visual Storytelling and Green Constitution Values: A Learning Model for Disaster Preparedness Education

Program PPMI 2026 Skema Penelitian

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Abstract

Indonesia's high vulnerability to natural disasters affects students' lives. This study integrated Green Constitution (GC) values into disaster preparedness education by designing an active visual storytelling learning model. Employing a mixed-methods design, the research involved 30 students at SMA Negeri 1 Ciparay, Indonesia. The research procedure comprised classroom observations, model development, pre- and post-intervention assessments, experimental implementation, and model evaluation. Initial observations revealed the need for a tactile, gadget-free learning strategy to sustain student engagement. The resulting model effectively integrated the "Pancasila in Real Action" sub-topic with constitutional environmental ideals. Although quantitative pre- and post-test scores exhibited a ceiling effect, qualitative analysis of the visual works demonstrated that the model effectively bridged theoretical knowledge with students' lived experiences.

Keyword: Active Visual Storytelling, Green Constitution, Disaster Preparedness.

Introduction

Indonesia is a country with high disaster risk. Consequently, every segment of society is required to possess the competence and awareness to respond to disasters. Students represent one of the most vulnerable groups. Therefore, disaster education and environmental awareness must be implemented across various sectors and approaches, including through learning models that integrate Green Constitution (GC) values.

Indonesia has established the GC idea to tackle disaster challenges, building on environmental protection aligned with the Sustainable Development Goals. GC emerged within environmental and constitutional law, highlighting that environmental protection has been integrated into individuals' constitutional rights across numerous nations. Previous research concentrated on portraying students as passive entities influenced by the effects of educational media interventions. Consequently, it is essential to create a learning model that integrates environmental consciousness with disaster preparedness skill while ensuring students actively participate in the educational process.

The study aims to develop an active visual storytelling-based learning model for disaster and environmental education that fosters GC awareness among students. Specifically, the study aims to address:

1. How can GC values be integrated into disaster preparedness materials through active visual storytelling?
2. How effective is the implementation of this model in enhancing students' understanding of disaster preparedness and GC values?
3. What are the evaluation outcomes and projected design improvements for this learning model?

Research Method

This research employs a mixed-methods approach based on the Design-Based Research (DBR) framework that encompassed identifiy learning issues, designing model, and tested a model intervention and conducting evaluation.

This study involved 10th-grade high school students at SMA N 1 Ciparay (N=30), selected through purposive sampling, who were taking the Civic Education subject linked to environmental and disaster education. The data collection was conducted through observation methods, student questionnaires (pretest and post-test), module review, and interviews with teachers in July and August 2026.

Model Design and Integration: After determining the results of the needs analysis through data collection, the first step in this stage involved reviewing materials on Disaster Risk Reduction (DDR) education, including risk knowledge, preparedness, disaster mitigation, and ecosystem recovery. GC values encompassed environmental human rights, ecological responsibility, intergenerational justice, the precautionary principle, public participation, and environmental restoration. These values were embedded in disaster mitigation and ecosystem recovery. The following is the proposed learning model (see Figure 1).

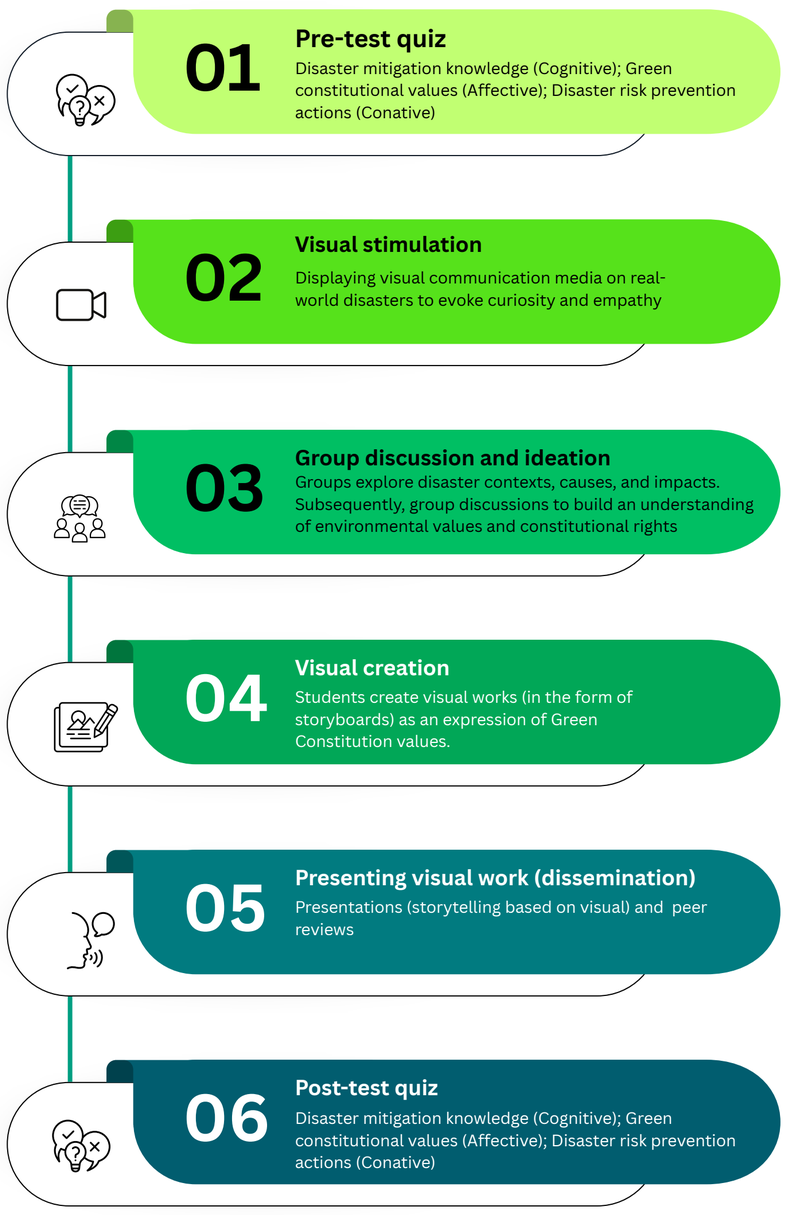


Figure 1. Active Visual Storytelling Learning Model

Discussion & Result

Initial observations suggest a contextual disaster and environmental education learning strategy that can accommodate Strawberry Generation students without distracting gadgets. In this model, the ideation process encourages students to collaborate and actively engage without electronic device distractions (see Figure 2).

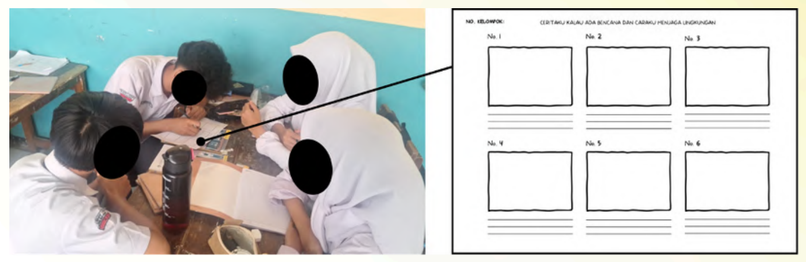


Figure 2. Discussion and ideation process

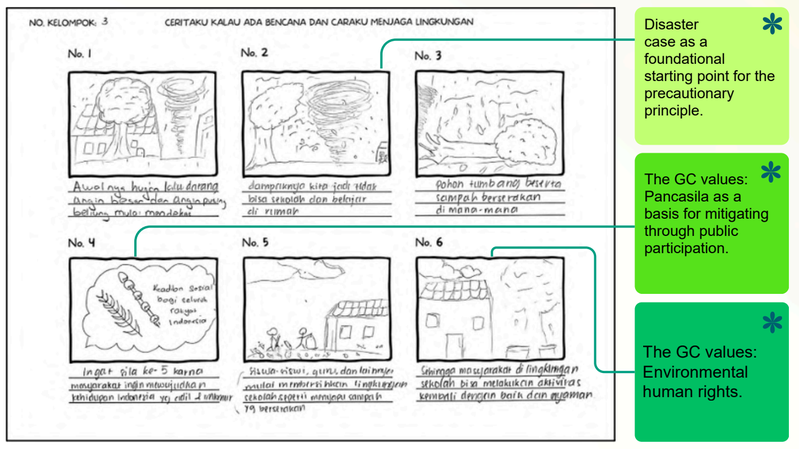


Figure 3. Visual work of Group 3 of 10 groups

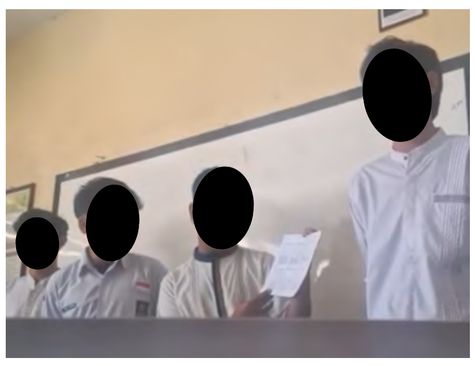


Figure 4. Students present their visual story to peer groups

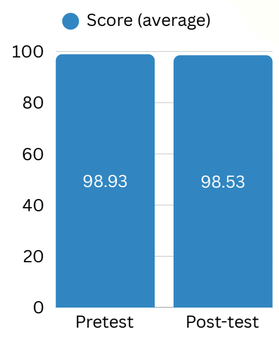


Figure 5. Score results

This study's learning methodology blends Pancasila and Civic Education, specifically the sub-topic "*Pancasila* and Real Action," with GC values and disaster preparedness. This integration is reflected in a student group's visual works depicting a disaster mitigation initiative (see Figure 3). Thereafter, students present their stories to peer groups as a means of sharing experiences and disseminating knowledge (see Figure 4). Although the model effectively integrates GC values into visual storytelling, the assessment instrument requires refinement due to a ceiling effect observed in the pre- and post-test results (Figure 5).

Conclusion

IIn practice, the active visual storytelling model provides an inclusive, non-digital alternative for integrating GC values into school-based environmental and disaster preparedness education. By engaging in visual creation, students are trained to critically reflect on ecological and disaster challenges. Consequently, this model functions not only as a space for visual expression but also as a practical demonstration of Pancasila-rooted constitutional literacy, directly responding to the pressing disaster-related issues that occurred in Indonesia.