

Developing Snakes and Ladders Interactive PowerPoint for Civics Bhinneka Tunggal Ika

Erica Suci Rahmandayani*, Linda Ika Mayasari, Nur Hasanah
¹Primary Teacher Education, STKIP Kusuma Negara Jakarta, Indonesia
ericasuci@stkipkusumanegara.ac.id

Abstrak

This study developed an interactive PowerPoint-based Snakes and Ladders game as a learning medium for Civics Education on the topic of Bhinneka Tunggal Ika. The problem at SDN Sumur Batu 12 Pagi was the lack of Civics textbooks, causing students to struggle in understanding the material. The research method used was Research and Development (R&D) with the ADDIE model. Data were collected through observation, interviews, and questionnaires, and validated by subject matter, media, and language experts. The results showed that the media was highly feasible, with validation rates of 91% from subject matter experts, 90% from media experts, and 80% from language experts. Students' responses were very positive, with a practicality score of 91%. This media proved to be effective in increasing students' interest and participation in Civics lessons and is expected to be a fun and interactive alternative for learning Bhinneka Tunggal Ika.

Keywords: Learning Media, Interactive PowerPoint, Snakes and Ladders Game.

1 INTRODUCTION

Civics Education and Pancasila Education (PPKN) in elementary schools play a crucial role in shaping students' character based on national values. One essential topic in PPKN learning is Bhinneka Tunggal Ika, which teaches the concept of unity in diversity. According to Wuryandani (2021), this material prepares students to actively participate in community life while upholding values of tolerance and togetherness. However, PPKN learning in several schools, including SDN Sumur Batu 12 Pagi, faces challenges due to the lack of guiding textbooks, resulting in low student participation in understanding the material. Marini (2022) states that the shortage of conventional teaching materials often causes students to rely entirely on teachers, reducing their learning independence. Therefore, the development of interactive learning media becomes highly relevant (Ardhi et.al 2024; Panduwinata & Az-Zahro, 2024).

In this digital era, the use of technology-based media, such as interactive PowerPoint, is deemed effective in enhancing student participation. Interactive media can present information engagingly, actively involve students, and support various learning styles, including visual, auditory, and kinesthetic (Mayer, 2020; Marshela, 2023; Silaen, et.al., 2023). Gagne and Wager (2021) add that multimedia-based media, such as PowerPoint, can strengthen students' understanding by combining elements of text, images, videos, and animations. Furthermore, educational games have been proven to increase student engagement in learning. Dwijawiyata (2023) emphasizes that educational games like Snakes and Ladders can stimulate students' interest, enhance social skills, and reinforce understanding of the concepts being taught. Fitriana (2023) also demonstrates that games based on moral values, such as Bhinneka Tunggal Ika, are effective in building students' character.

In line with this, research by Brown and Green (2022) shows that integrating games with interactive technology can create a more enjoyable and interactive learning

environment. Smaldino et al. (2022) add that learning media involving games can increase students' motivation to learn, especially at the elementary level, where students tend to be more interested in activities that contain game elements. According to Clark and Mayer (2021), one of the advantages of interactive media is its flexibility for use in various learning contexts and its ability to be tailored to students' needs. However, Reiser and Dempsey (2023) caution that the implementation of this media should be supported by adequate training for teachers to ensure optimal usage.

This study develops an interactive PowerPoint-based Snakes and Ladders game to address these issues. West and Bleiberg (2024) emphasize that well-designed interactive media can enhance the appeal of learning and help students understand abstract materials, such as Bhinneka Tunggal Ika, more easily. Thus, the use of interactive Snakes and Ladders media is expected to provide a solution for increasing student participation and understanding of the Bhinneka Tunggal Ika material at SDN Sumur Batu 12 Pagi, while also serving as an innovation in more interactive and meaningful PPKN learning.

2 RESEARCH METHOD

This research employed the Research and Development (R&D) method. Development research is a process or step to develop a new product or perfecting existing products, which can held accountable (Nugraheny, 2018; Atmazaki, 2003; Vioresa, 2023). According to Puspita, Yudha, & Vioresa (2021) the R&D research method aims to develop a specific product and test its effectiveness. The researcher developed a Snakes and Ladders learning media for the Civics Education (PPKN) subject, focusing on the Bhinneka Tunggal Ika topic. In its development, the researcher applied the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The ADDIE model was chosen for its efficiency, logical structure, and comprehensiveness in each step of development. The research subjects included three experts: a subject matter expert, a language expert, and a media expert. This study was conducted in class II-B of SDN Sumur Batu 12 Pagi, involving 22 students.

This developmental research utilized three methods to collect the required data: (1) observation, (2) interviews, and (3) validation questionnaires. The observation aimed to identify needs in designing the Snakes and Ladders learning media. Interviews were conducted with the class teacher to gather information about the strengths, weaknesses, and challenges encountered during the learning process. The questionnaires included validation sheets from the subject matter expert, media expert, language expert, and student responses. Additionally, the researcher prepared a product feasibility assessment sheet involving these experts and students to evaluate and validate the learning media developed.

The data analysis techniques in this development research included both qualitative and quantitative data. Qualitative data were obtained from observations and interviews with the teacher, as well as feedback and suggestions from the subject matter, media, and language experts to improve the learning media. Quantitative data came from the validation questionnaires completed by the subject matter expert, media expert, language expert, and students. The questionnaire analysis for product feasibility assessment used a Likert scale. After the validation process, the quantitative data were calculated and then compared with the product feasibility percentage table.

Phase I of the Research Method

In the first phase of the research, several data collection techniques were used, including observation, interviews, and questionnaires. The observation was non-participant, where the researcher observed from a distance without actively engaging in classroom activities. Interviews were conducted to identify issues requiring further investigation, targeting both teachers and students. Meanwhile, questionnaires served as instruments for product validation assessment by experts. Therefore, the research

instruments used included observation sheets, interview guides, and questionnaires. For data analysis, both qualitative and quantitative methods were employed. Qualitative data were analyzed to process the results of observations and interviews, while quantitative data were used to process the results of the questionnaires.

Before the product could be validated, an initial design plan needed to be developed. The first step began with interviews to analyze needs, followed by observations to reinforce this analysis. Subsequently, material selection, appropriate media selection, media design, and the development of the desired media were carried out. Validation of the media was conducted by experts, including subject matter experts, media experts, and language experts, involving lecturers and teachers with a deep understanding of Civics Education (PPKN), particularly the Bhinneka Tunggal Ika topic, educational media, and appropriate linguistic standards.

Phase II of the Research Method

In the second phase of this research, testing was conducted on the developed product. The study employed a trial design model with a one-to-one test and small group approach. In the one-to-one test, the researcher selected three students to observe and assess the product. Feedback and suggestions from these students were used to improve the product. Following this, a small group trial was conducted with the entire class II-B, consisting of 22 students.

The data collection techniques used in this phase were questionnaires and documentation. Questionnaires were distributed to the students to evaluate the use of the media, which consisted of the game media or product that had been validated by experts and revised by the researcher. Meanwhile, documentation served as supplementary information, including photos taken during the research process.

In the second phase, data analysis was conducted using a quantitative approach, which included expert validation results and student response questionnaires. The quantitative data analysis technique, both in the first and second phases, used the same method, applying the Likert scale to assess the questionnaires. Likert scale can be seen in table 1.

Table 1. Likert Scale

Skor	Feasibility Answer Choices
4	Strongly Agree
3	Agree
2	Disagree
1	Strongly Disagree

The quantitative data analysis technique used is descriptive quantitative analysis with the average calculation method. The average score of product feasibility is calculated using the following formula:

$$P : \frac{\sum x}{\sum xi} \times 100\%$$

Explanation:

P = percentage value obtained

$\sum x$ = frequency of responses obtained

$\sum xi$ = total ideal score

100 = constant value

The feasibility category is based on the criteria according to Pujiyanti and Yusman (2018).

Table 2. Media Feasibility Percentage

Percentage Score (%)	Interpretation	Description
81 – 100	Very Feasible	No Revision
61 -80	Feasible	Minor Revision
41 – 60	Fairly Feasible	Revision

3 RESULTS AND DISCUSSION

This development research resulted in an instructional media in the form of a Snakes and Ladders game integrated into an interactive PowerPoint for Civics Education (PPKN) with the theme of Bhinneka Tunggal Ika for second-grade students. The development of this media followed the ADDIE model, consisting of five stages: (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation. In the analysis stage, a structured assessment was conducted to understand the needs of both teachers and students, identifying factors that support or hinder the learning process, and determining the material to be developed for the Snakes and Ladders game learning media.

The design phase began with the creation of a prototype and initial design of the instructional media, including key components such as the main page, menu, the origin of Bhinneka Tunggal Ika, the meaning of Bhinneka Tunggal Ika, an educational video, and the Snakes and Ladders game. After the media design was completed, the researcher developed a blueprint and validation instruments, which were then used by experts and students for evaluation. In the development phase, the Snakes and Ladders game learning media was filled with content aligned with the teaching module and learning objectives, designed to be as engaging as possible. This media was then validated by a subject matter expert, a media expert, and a language expert to ensure its feasibility before field testing.

Based on the validation results from the subject matter expert, the Snakes and Ladders instructional media in interactive PowerPoint received a score of 91, classified as "highly feasible" in terms of material presentation. The media expert gave a score of 90, also rated as "highly feasible" based on aspects such as visual design, ease of use, question integration, and visual communication. Meanwhile, the language expert provided a score of 80, classified as "feasible," based on the appropriateness of language usage. Overall, the validation results from the experts and student responses regarding the feasibility of the product are presented in Table 3.

Table 3. Results of the Validation of the Snake and Ladder Game in Interactive PowerPoint

NO	Test Subjects	Percentage	Description
1.	Ahli Materi	91	Highly Feasible
2.	Ahli Media	90	Highly Feasible
3.	Ahli Bahasa	80	Feasible
4.	Respon Peserta didik	91	Highly Feasible

The fourth stage, implementation, was carried out at SDN Sumur Batu 12 Pagi, Central Jakarta, involving 22 students in a face-to-face setting. The fifth stage, evaluation, was conducted after all stages of product development were completed, including validation and revisions. This evaluation aimed to assess the feasibility and practicality of the product based on student responses, as well as to identify any aspects of the media that might require improvement. Below is a display of the menu, instructions, rules, and media in the development of the Snakes and Ladders game in interactive PowerPoint, as shown in Figure 1.

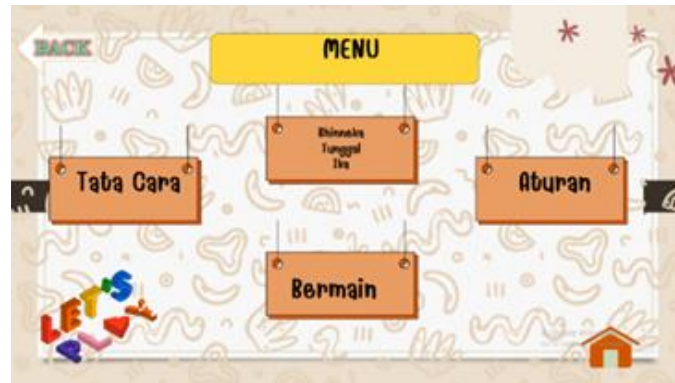


Figure 1. Menu Display

In the Figure 1, the menu display from the development of the Snakes and Ladders game in the interactive presentation media is shown. This display is equipped with various essential elements, including usage instructions, game rules, and engaging illustrations designed to enhance user understanding. Additionally, there is a navigation button in the shape of an arrow labeled "BACK," allowing users to quickly return to the main page.

The next display is the instructions page, which presents content on the procedures and rules developed by the researcher. The display of the instructions and rules is shown in Figure 2.



Figure 2. Procedures & Rules

The Figure 2 presents the content regarding procedures and rules. In conveying information, the researcher used simple language to ensure that users could clearly and effectively understand the information without diminishing the substance of the material presented.

Once the procedures and rules have been displayed and understood by the students, the next step is to begin the game. The game to be played is Snakes and Ladders. The display of the media is shown in Figure 3.



Figure 3. Snakes and Ladders Game

The Figure 3 displays the Snakes and Ladders game, designed with various visual and functional elements that align with the desired concept. The researcher used the Canva application to design each square on the game board, considering the ease of using this application for arranging layouts and adding visual elements. The design of the squares represents challenges and rewards within the game, creating a playing experience that is both educational and entertaining. This development process was conducted systematically and meticulously to produce engaging and effective instructional media.

Based on the data analysis from the overall validation by experts, the Snakes and Ladders instructional media in interactive PowerPoint falls into the "feasible" category. This analysis indicates that the media meets quality standards suitable for implementation in the learning process. Validation from experts and student responses provided positive evaluations of the media. Therefore, the development of the Snakes and Ladders instructional media in interactive PowerPoint for Civics Education (PPKN) with the theme of Bhinneka Tunggal Ika for second-grade students at SDN Sumur Batu 12 Pagi, Central Jakarta, is deemed appropriate. This assessment indicates that the instructional media meets the criteria for use in the learning process.

4 CONCLUSION

The Snakes and Ladders instructional media in interactive PowerPoint for Civics Education (PPKN) with the theme of Bhinneka Tunggal Ika for second-grade students at SDN Sumur Batu 12 Pagi, Central Jakarta, has met the feasibility criteria for implementation based on validation questionnaires from experts. The scores obtained are 91 from the content expert, 90 from the media expert, and 80 from the language expert, while the student response questionnaire indicates a percentage of 91%. All these scores and percentages fall into the "very feasible" category. Additionally, the Snakes and Ladders instructional media in interactive PowerPoint can enhance student engagement in learning and provide a fun and interactive learning experience.

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