Utilization of Domino Card Games as Instructional Media for Tenth Graders' Learning Outcomes

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Abstract: Education is the main foundation in shaping a generation that is intelligent and possesses strong character. Education is not only aimed at transferring knowledge, but also at shaping personality, developing students' potential, and instilling moral and social values necessary for life in society, the nation, and the state. One subject that plays a vital role in character formation is Pancasila and Civic Education (PPKn), especially in the topic of rights and obligations. As one of the efforts to foster deep conceptual understanding, engaging and interactive learning is needed to help students more easily grasp the material, participate actively, and demonstrate improved learning outcomes. This study aims to determine the effectiveness of using domino card game media in improving the learning outcomes of Grade X students at SMAN 10 Malang in the topic of rights and obligations. The method used is Classroom Action Research conducted in two cycles, involving 36 students from class X-A. Data were collected through learning outcome tests, observation, questionnaires, and documentation. The results showed an increase in the classical completeness average score from 73 in Cycle I to 83 in Cycle II. In addition, students showed increased motivation and active participation during the learning process. Therefore, the use of domino card game media is considered highly effective in improving student learning outcomes on the topic of rights and obligations.

Keywords: Class action research; domino card game; rights and obligations; learning outcomes

Introduction

Education plays a crucial role in shaping the quality of human resources to be excellent, competitive, and morally upright. According to (Rasyid et al., 2024), education is a conscious and planned process and activity that emerges as a social response when society becomes aware of the importance of efforts to shape, guide, and direct individuals in accordance with the values and goals expected by that society. As a lifelong process, education not only aims to transfer knowledge but also to shape character, develop potential, and instill moral and social values needed for life in society, the nation, and the state.

Civics Education (Pancasila and Civic Education or PPKn) plays an important role in the character formation of students, with the primary aim of instilling moral values, noble character, and adherence to norms and rules (Bramantya, Awaliyah, et al., 2025).

Through this learning, it is expected to create a generation that is not only intellectually capable but also possesses a character aligned with the values of Pancasila and national expectations (Putri, 2024). Therefore, due to its strategic role, PPKn is considered one of the essential subjects in shaping students into intelligent, responsible citizens who are highly aware of their rights and obligations in social, national, and state life.

At the high school level, especially in Grade X, one of the core competencies studied in PPKn is understanding the rights and obligations of citizens. This material is essential as it provides students with the foundational understanding of their position as legal subjects who have the right to protection but are also obligated to help maintain public order and welfare.

In the practice of teaching PPKn, especially regarding the topic of rights and obligations, students tend to perceive the material as merely theoretical. This perception leads to a lack of enthusiasm in learning and eventually results in low academic performance. After conducting an analysis, the researcher found several factors contributing to students' low learning outcomes, including: (1) Frequent assignments that bore students; (2) Lecture-based learning methods that reduce students' enthusiasm; (3) Limited and monotonous learning media.

In PPKn learning practices at SMAN 10 Malang, teachers tend to use simple and less varied media, which fails to attract students' attention and interest. This limited use of media results in a less interactive classroom atmosphere, and students tend to be passive during the learning process. This condition significantly affects students' ability to develop critical, rational, and creative thinking skills, which should ideally be fostered through a dynamic and challenging learning process. Therefore, selecting and utilizing more innovative and engaging learning media is essential to increase student engagement and support optimal competency achievement.

To overcome these issues, teachers are required to be more creative in selecting and developing instructional media that can enhance students' learning interest. One medium that can be used is educational games, such as domino cards. The use of domino card games in PPKn learning can create a more interactive, enjoyable, and stimulating learning environment while helping students understand abstract concepts in a concrete way (Bramantya, Untari, et al., 2025).

According to Poerwadarminta in (Rahman, 2019), domino is a game played with 28 cards, each featuring red dots as number substitutes. Each card is divided into two sides, with each side displaying a number of red dots ranging from zero to six. The game is simple—players must match the numbers on their cards with the open end of the domino chain, and the first player to run out of cards wins. When designed specifically for the topic of citizens' rights and obligations, domino cards can serve as a learning aid that integrates cognitive, affective, and psychomotor aspects. Through structured gameplay, students are trained to think critically, collaborate, and understand the interrelation between rights and obligations in daily life. Thus, this medium is expected to positively contribute to improving students' learning outcomes, both in terms of content comprehension and attitudes toward civic values.

According to Purwaningsih (2022), learning outcomes are obtained after the learning process and become a learning experience that leads to relatively permanent changes. Therefore, it is important to conduct research on the effectiveness of using domino card games as a learning medium in the PPKn learning process for Grade X students at SMAN 10 Malang, particularly on the topic of citizens' rights and obligations. This research is expected to offer an innovative alternative for PPKn teaching methods that are more engaging and meaningful for students, thereby improving their academic achievement.

Based on the aforementioned background, this study focuses on utilizing

domino card games as instructional media to enhance Grade X students' learning outcomes in Civics Education, particularly on the subject of citizens' rights and obligations. In line with this focus, the research question posed in this study is: How does the utilization of domino card games as instructional media influence the learning outcomes of Grade X students in understanding the subject of citizens' rights and obligations in Civics Education at SMAN 10 Malang?

Method

The research method used in this study is the Descriptive-Quantitative method. This is a Classroom Action Research (CAR) aimed at improving student learning outcomes through the use of domino card games as a learning medium. This method was chosen because it provides direct solutions to classroom learning problems and allows the researcher to conduct ongoing reflection and improvements throughout the learning process (Bramantya et al., 2024).

The study was conducted in several cycles, each consisting of the stages of planning, action implementation, observation, and reflection. The results of each cycle were analysed to determine the effectiveness of using domino card games in enhancing learning outcomes. Accordingly, the actions could be improved and refined in the following cycles. This research was carried out at SMAN 10 Malang, with the research subjects being 36 students of Class X-A, consisting of 18 male and 18 female students (Pahleviannur et al., 2022; Utomo et al., 2024).

In this study, the researcher employed several data collection techniques to obtain relevant and in-depth information related to the implementation of learning using domino card games as instructional media. The techniques used included observation, questionnaires, tests, and documentation. Observation was conducted directly in the classroom to monitor student activities and responses during the learning process. Questionnaires were distributed to students

to gather their feedback and perceptions regarding the use of the learning media. Meanwhile, tests served as the primary instrument for measuring the improvement in students' learning outcomes before and after the learning intervention.

Documentation was used to collect secondary data such as activity records, photos, and archives that supported the course of the research. The combination of these four techniques was expected to provide a comprehensive picture of the effectiveness of the domino card game media in improving students' learning outcomes on the topic of rights and responsibilities.

The data analysis in this classroom action research involved both quantitative and qualitative approaches. Quantitative data were obtained from observations of student activities and student learning test results. These quantitative data were further analysed qualitatively by describing the existing data to provide a clear picture related to the research findings. In this study, the researcher used simple statistical analysis techniques. Individual achievement of learning outcomes was analysed by calculating score values, while classical achievement was analysed using the percentage of overall student learning mastery. The formula used for this calculation is as follows (Friantini & Winata, 2019):

$$p = \frac{\sum n1}{\sum n} \; x \; 100\%$$

Explanation:
P : Percentage of classical achievement
$\sum n1$: Total number of students who achieved mastery (≥ 80 in learning outcomes)
$\sum n$: Total number of students

The indicator of success in student learning outcomes can be identified when students achieve a score of ≥ 80 (Minimum Mastery Criteria/KKM). Classical success is considered achieved when 85% of students obtain test scores above the KKM. In such a case, the research cycle can be concluded. However, if the results do not meet this

indicator, the research cycle will continue (Bramantya, Untari, et al., 2024).

Results

This research was conducted at SMA Negeri 10 Malang during the even semester of the 2024/2025 academic year in the Civic Education learning activity, focusing on the topic of Rights and Obligations in class X-A. The research was scheduled in accordance with the weekly timetable for Civic Education, specifically on Mondays, so as not to interfere with other subject lessons. The study was carried out in two cycles, with each cycle consisting of two meetings (4 class hours). Cycle I was held on Monday, February 17, 2025, and Monday, February 24, 2025. Meanwhile, Cycle II took place on Monday, March 3, 2025, and Monday, March 10, 2025. The following are the stages of classroom action implementation:

a. Planning

The planning stage consists of tasks that must be completed by the researcher before conducting the study. This planning includes determining the time of implementation for both cycles, as previously described, with each cycle consisting of two meetings, totalling four class hours. In addition, the planning stage involves preparing teaching materials and instructional tools, such as developing teaching modules, preparing domino game cards, creating test questions to assess the cognitive abilities of each student, creating observation sheets, and preparing questionnaires.

b. Action Implementation

1) Preliminary Activities

The teacher begins the learning activity with a greeting and a joint prayer led by the class leader, takes attendance of the students, and prepares them to engage in the lesson. The teacher then poses questions to help students focus, based on their personal experiences related to the topic of Rights and Obligations to be studied. The teacher introduces the lesson topic along with examples of its application in daily life and the consequences of violating it. Finally, the teacher presents the learning objectives that students are expected to achieve by the end of the lesson.

2) Main Activities

This research consists of six core activities based on the syntax of the Project-Based Learning model, namely: formulating essential questions, designing project plans, creating schedules, monitoring students and project progress, evaluating results, and reflecting on the experience. In the step of formulating essential questions, students are shown visuals in the form of images and short videos. The teacher then poses guiding questions to stimulate critical thinking related to the subject matter. In the project planning step, students respond to the teacher's questions, after which the teacher designs a project aimed at enhancing the students' cognitive abilities based on their responses. In the scheduling step, the teacher divides the students into six groups and distributes domino cards and student worksheets (LKPD). The teacher then explains the rules for playing the domino game, where the objective is to complete the game as quickly as possible. In the step of monitoring students and project progress, the teacher guides each group to discuss the material on the cards, acting as a mentor to assist students in gathering information. In the evaluating results step, each group that successfully completes the domino card arrangement presents their discussion results on the worksheet and shares their findings in front of the class. The teacher provides validation and additional explanations for each group's presentation. The final step is reflecting on the experience, where the teacher and students summarize the

learning activities that have been conducted.

3) Closing Activities

The teacher reflects on the learning activities that have been carried out by asking students questions related to their experiences during the lesson. The teacher then informs the students about the material to be studied in the next meeting. The teacher gives appreciation to the students for their participation throughout the learning process. Finally, the teacher motivates the students and concludes the session with a closing greeting and prayer led by the class leader.

c. Observation

An observer (a peer) observes the ongoing learning activities, including both the teacher's and the students' activities during the classroom session. The observer records the results in an observation sheet for teacher and student activities, based on the pre-designed teaching module, using a rating scale. A score of 1 is given if a learning activity or step is not carried out, a score of 2 if the activity or step is only partially carried out, and a score of 3 if the entire learning activity or step is fully implemented. The observer marks a check in the score column that corresponds to the actual conditions of the learning process in the classroom.

Table 1. Recapitulation of Teacher and Student Activity Observation Results in Cycle I and Cycle II

Implementation of Learning		percentage	
		Teacher Activities	Student Activities
Cycle I	Meeting I	75% (Moderate)	70% (Moderate)
	Meeting II	78% (Moderate)	76% (Moderate)
Cycle II	Meeting I	85% (Good)	80% (Good)
	Meeting II	88% (Good)	83% (Good)

Based on Table 1, it is known that the learning process, which applies the Project-Based Learning model and uses domino card game media, shows an increase in both teacher and student activities at each meeting during Cycle I and Cycle II. In Cycle I, the percentage of teacher and student activities during the learning process increased from 70% to 78%, categorized as moderate. In Cycle II, the percentage also increased from 80% to 88%, categorized as good. Therefore, the teacher has conducted the learning activities according to the designed teaching module in an orderly manner, the learning objectives have been achieved by the students, and the students were able to follow the material delivered by the teacher well.

d. Reflection

The teacher, peers, and researcher conducted a reflection by reviewing the observation sheets completed by the observer. In Cycle I, the reflection indicated that the teacher still needed to pay more attention to students who had difficulty understanding the topic and learning material, encourage and motivate less active students to participate more actively in the learning activities, and provide guidance on how to work cooperatively in groups (Fernandez-Rio et al., 2017). Meanwhile, in Cycle II, students began to pay attention to the teacher's explanations, actively participated during the lessons by answering more questions posed by the teacher and asking questions to both the teacher and classmates. The students' learning outcomes improved compared to Cycle I in terms of their understanding of the material delivered by the teacher (Nanda, 2021).

Learning Outcomes

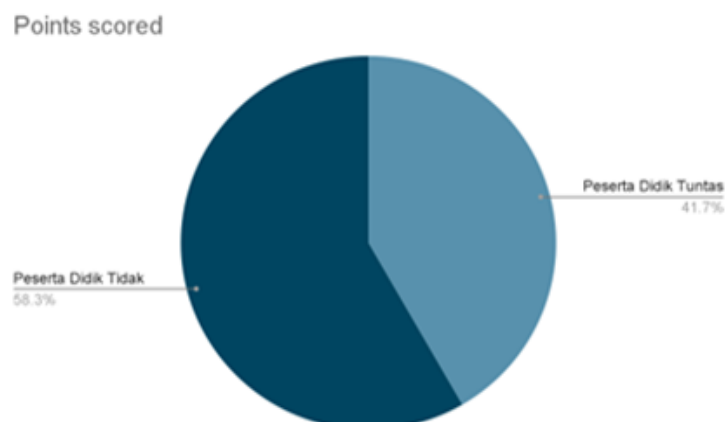*Student Learning Outcomes in Cycle I*

Figure 1. Diagram of Mastery of Student Learning Outcomes in Cycle I
(Source: Researcher's Data, 2025)

The implementation of Classroom Action Research in Cycle I to improve learning outcomes in Civic Education, specifically on the topic of Rights and Obligations, was still unsuccessful. This was because only 41.7% of the 36 students achieved the mastery learning criteria, which had not yet reached the success indicator of more than 80%. The average student learning outcome in Cycle I was 73.3, with 15 students scoring above the Minimum Mastery Criteria (KKM) of 80, while the other 21 students scored below the KKM, meaning their learning outcomes were under 80.

This occurred because during Cycle I, students still faced obstacles that made it difficult for them to fully understand the material delivered. Among these issues were that students had not yet fully understood or followed the steps of the Project-Based Learning model using domino card games as media; many students were still unable to cooperate optimally with their group members; students were often distracted by chatting and communicating about topics unrelated to the lesson; and students had difficulty paying attention to their group members and other groups when discussion results were presented in front of the class.

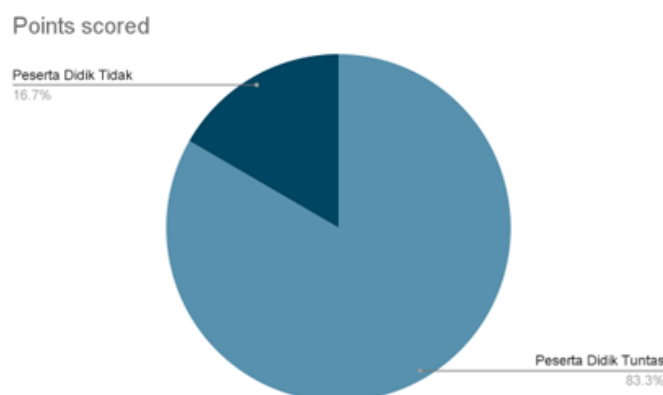*Student Learning Outcomes in Cycle II*

Figure 2. Diagram of Mastery of Student Learning Outcomes in Cycle II
(Source: Researcher's Data, 2025)

Based on Figures 1 and 2, it can be concluded that the learning outcomes in Civic Education on the topic of Rights and Obligations, using the Project-Based Learning model and domino card game as learning media, showed a significant improvement. In the implementation of Classroom Action Research in Cycle II, the percentage of students achieving the Minimum Mastery Criteria (KKM) of 80 reached the success indicator of over 80%, specifically 83.3%. The average learning outcome score obtained by students during Cycle II was 82, with 30 students achieving scores above 80 (mastery), while 16.7%, or six students, still scored below 80 (not yet mastered). Therefore, the implementation of Classroom Action Research can be considered successful, and the cycle was concluded at Cycle II (Herawati, 2017).

Table 2. Recapitulation of Civic Education Learning Outcomes of Students in Cycle I and Cycle II

No	Implementation of Learning	Average Score	Percentage
1	Cycle I	73,3	41,7
2	Cycle II	83	82,3

Discussion

To achieve the designed learning objectives during effective learning activities, teachers need optimal strategies and learning plans, such as selecting the appropriate learning model that suits each student's characteristics and choosing learning media that can enhance both learning outcomes and student engagement throughout the lesson, making the learning process more lively and students more active.

Besides having the obligation to provide knowledge, insights, and new theories to students, teachers also have the responsibility to impart understanding and instill values and skills in students. One way to do this is by creating a safe, enjoyable, and interesting learning environment for every student, so that students are more prepared to receive lessons and find it easier to understand the material delivered by the teacher.

One method, teachers can use is to design learning activities using the Project-Based Learning model and interactive learning media, such as the domino card game. This learning media actively involves students in small groups, where each group works collaboratively and independently to solve questions (Gillies, 2016; Lumpkin et al., 2015).

After implementing the Project-Based Learning model and using domino card game media during learning activities across two cycles, the learning outcomes of the students were measured and assessed through student experience response questionnaires related to the learning process and by having students complete test questions on the material studied.

The data collected in the study on the learning outcomes of Civic Education on the topic of Rights and Obligations showed that applying the Project-Based Learning model along with the domino card game media improved the learning outcomes of Grade X students at SMA Negeri 10 Malang.

The improvement in student learning outcomes is evident from the ability of students to improve and raise their scores above the established Minimum Mastery Criteria (KKM) of 80, with 30 out of 36 students achieving scores above 80 in Cycle II, compared to only 15 out of 36 students in Cycle I. This increase in scores occurred because students became more active and able to collaborate well in groups during the learning process. Although at the beginning of the study in Cycle I, many students had relatively low scores and the majority scored below the KKM, the implementation of this learning strategy significantly improved students' learning outcomes, with most students scoring above the KKM and the classroom learning environment becoming more active and comfortable for every student (Putri, 2024; Rahmawati & Saputro, 2024).

The results of this classroom action

research are considered relevant to the study conducted by Muhammad Taufiqur Rahman et al. (2019) entitled "The Use of Domino Card Media to Improve Student Learning Outcomes on the Topic of Recognizing Symbols and Meanings of Pancasila in Theme My Aspirations for Grade V at SDN Babatan 1 Surabaya." Their research showed that by using domino card learning media during lessons, both teacher and student activities improved in each cycle. Student learning outcomes also increased in each cycle, as evidenced by the rising activity levels of students during the learning process. This was accompanied by increased interest, attention, and active involvement of students during the Civic Education lessons for Grade V on the topic of Recognizing Symbols and Meanings of Pancasila (Muthoharoh & Cholifah, 2020).

Conclusions

Based on the results of the research conducted, it can be concluded that the use of domino card game media is proven effective in improving the learning outcomes of Grade X-A students on the topic of rights and obligations at SMAN 10 Malang. The implementation of engaging and interactive learning media, such as the domino card game, can increase students' active involvement in the learning process, boost learning motivation, and facilitate concept understanding. This is evidenced by the increase in the classical completeness average score from 73 in Cycle I to 83 in Cycle II. Furthermore, students' responses to the use of this game media also showed positive attitudes and high enthusiasm. Thus, the domino card game media can be used as an alternative, enjoyable, and effective learning strategy, especially in Civic Education subjects focusing on rights and obligations. However, despite the positive correlation between the implementation of this method and learning outcomes, improvements in its application are necessary to maximize its effectiveness.

Suggestion and Recommendation

Based on the research findings, it is recommended that teachers use innovative and interactive learning media, such as domino card games, to enhance student engagement and understanding of the material, particularly on the topic of rights and responsibilities in Civic Education.

Schools are also expected to support the implementation of creative learning strategies by providing adequate facilities and

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