



# Implementation of Problem-Based Learning Using the Quizizz Application to Increase Students' Interest in Learning

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**Abstract:** This study examines the impact of implementing Problem-Based Learning (PBL) with the Quizizz application on students' interest in learning citizenship education for Class X at SMA Negeri 1 Tanjung Palas Tengah during the 2024–2025 academic year. Conducted as Classroom Action Research (CAR) over two cycles, the study follows the stages of planning, implementation, observation, and reflection. Data were collected through observations, questionnaires, and assessments. The findings indicate a significant increase in students' learning interest, as evidenced by a 25% improvement in questionnaire scores measuring engagement and motivation, alongside an increase in daily assessment scores from an average of 70 in the first cycle to 85 in the second cycle. Students exhibited greater enthusiasm, active participation, and positive responses toward the learning process. These results suggest that integrating PBL with the Quizizz application effectively enhances student engagement and motivation in citizenship education. The study highlights the potential of interactive digital tools to support innovative teaching strategies and improve learning outcomes.

**Keywords:** Citizenship education; Problem-Based Learning; Quizizz; Students' interest.

## Introduction

Pancasila education in the independent curriculum places emphasis on the formation of national character and values that reflect the identity of the Indonesian nation (Salim et al., 2023). In this increasingly fast-paced era of globalization, Pancasila education is expected to become the main foundation for strengthening students' identity, fostering a sense of love for the country, and forming a generation that is intelligent, has social and emotional empathy, however, the implementation of Pancasila education is currently still facing obstacles. needs a solution (Aulia et al., 2023).

The independent curriculum provides wider space for students to better understand and apply the noble values of Pancasila in everyday life. Students are invited

to play an active role in the learning activities carried out (Ayub et al., 2019). For example, problem solving activities through discussions, group projects, or even exploring various kinds of learning resources around students. So that students are expected to be able to understand the importance of important values such as mutual cooperation, tolerance and justice. This is of course in line with the mandate of educational objectives stated in Law Number 20 of 2003, namely: "National education functions to develop abilities and shape the character and civilization of a dignified nation in order to educate the life of the nation, aiming to develop the potential of students so that they become human beings who believe and are devoted to God Almighty, have noble character, are healthy, knowledgeable, capable,

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creative, independent, and are democratic and responsible citizens."

However, in implementing the current curriculum, students have not been able to show high interest in Pancasila education subjects, especially at SMA Negeri 1 Tanjung Palas Tengah. This is because learning Pancasila education is considered a complementary subject, not a science subject that has concrete knowledge. Apart from that, Pancasila education subjects place a lot of emphasis on theoretical approaches so they are deemed less interesting, and in learning there are still very few practical and innovative activities in the use of learning technology that attract students (Febrina & Setiawan, 2024).

This is demonstrated by various forms of research carried out previously as an effort to increase students' interest in learning in Pancasila education subjects by using various forms of learning methods and models (Anita et al., 2024). However, every research conducted still requires improvement. This is usually caused by differences in cultural backgrounds, student characteristics and various levels of understanding of the material by students. Apart from that, the factors that cause learning to be less attractive to students are because learning is still conventional, there is a lack of use of interesting learning media and the sophistication of internet technology as the main source that is close to students in everyday life.

As a generation that grew up in the digital era, current students called generation Z are very familiar with technology in everyday life, especially the internet. Technology provides very broad access to information, making it easier for students to find learning resources, facilitate communication and find interesting and innovative learning resources according to students' interests. Citizenship education functions as values, morals and norms (affective) education, as political education and as scientific education. This is as stated by Hargreaves (1996) "active citizens are as political as they are moral, moral sensibility derives in part from political understanding, political apathy spawns moral apathy". Citizenship education has an important role in character formation, more precisely as character education for good citizens. As in England, citizenship has become a basic subject of the national curriculum (National Curriculum in England) for students aged 11-16 years (Pao-Jing & Chang, 2017), since August 2001 and has become a framework within the framework of Personal Social and Health Education for students aged 5-11 years with the aim that students can learn the knowledge and understanding of citizens who understand information; develop inquiry and communication skills; and developing participation skills and responsible action (Davies et al., 2005).

The big goal of education according to Lickona (1992) is to develop individuals and society that are "smart and good". The younger generation needs to learn a lot to become good citizens, especially to become active citizens. The younger generation must know about the history of their country, the laws and regulations of society, the diversity of citizens, as well as about constitutional government and popular sovereignty (including the separation of legislative, executive and judicial powers, as well as checks and balances on these three powers). However, citizens must also be active in the realities of political life in a country. In this case, sensitivity to political events in the country is required without forgetting the history of one's own country and the legal and political systems are essential to being an effective citizen (Najili et al., 2022).

Citizenship education can foster citizens to participate in public life and exercise their rights and carry out their obligations with knowledge and skills. This is as stated by Branson (2003), "Civic Education is an important component of education that cultivates citizens to participate in the public life of a democracy, to use their rights and to discharge their responsibilities with the necessary knowledge and skills"

Citizens who have democratic values must also have critical thinking skills in responding to all information and be able to make decisions independently. A very essential part of citizenship education is developing students' ability to think critically and logically, analyze arguments, be able to distinguish facts and opinions, recognize errors in reasoning (Zuchdi et al., 2009). Being an effective citizen requires good communication skills. Expressing attitudes, beliefs and values effectively will be more likely to influence other people so that the values held become part of the values held by society at large.

Pancasila and Citizenship Education subjects are considered to be one of the most effective subjects in conveying democratic concepts, because the material focuses on values and norms that are integrated with everyday life, making them easier to apply in practice (Barsky, 2019). Pancasila education plays an important role in forming students' awareness, values and national identity in Indonesia. In the foundation of national education, Pancasila education is considered a subject that not only teaches the basic values of Pancasila, but also about the meaning of being a good and responsible citizen. The use of learning models really determines the success of Pancasila education learning itself.

However, in the context of pre-research observations carried out at SMAN Negeri 1 Tanjung Palas Tengah, it showed that there were still low levels of student involvement in learning. Students tend to be passive in class because learning is still conventional

using limited learning resources such as textbooks and learning methods that are still teacher-centred.

Learning activities in the educational process are the most important activities. The success or failure of the educational process really depends on how the learning process is carried out by teachers and students. Apart from that, the teacher's habits, creativity and ability to manage the learning process play a significant role in forming students' habits in following lessons.

The choice of learning model can determine the success or failure of the learning process. The learning model chosen must be in accordance with the learning objectives to be achieved. In line with the opinion of Huda & Rokhman (2021), the choice of learning model should depend on the school environment, available resources and desired outcomes. When planning to incorporate one or several models into a lesson, teachers should use a curriculum framework which contains learning principles that guide student learning, as well as assessments to see the academic results that students have obtained.

One alternative learning model that can increase students' interest in learning about Pancasila education subjects is the problem-based learning model or also known as Problem Based Learning (PBL). This learning model can provide students with experience in solving problems related to everyday life and students can be more active in interpreting the learning material they are facing. Problem-based learning emphasizes that students actively build knowledge collaboratively in groups. The roles of students and teachers are changed to teachers are no longer considered the main source of knowledge, but teachers are facilitators of collaborative learning. The teacher helps guide learning through open questions designed to make students think and get all students involved in the group process (Wulandari & Suparno, 2020).

The researcher chose problem-based learning (Problem Based Learning) to be applied in teaching Pancasila education because the researcher wanted to increase learning demand, critical thinking skills, train students in solving problems systematically and help students understand the role of the surrounding environment in real life. able to be applied in learning and encourage students to become independent and responsible individuals. In order to have maximum impact in implementing problem-based learning methods in increasing students' interest in learning, it is necessary to use learning media that are interesting to students.

The use of technology in learning can be used to help achieve learning goals, one of which is through using the quizizz application. The quizizz application is a very suitable alternative to support increasing student

interest in the learning being carried out because learning using quizizz media has the advantage of being able to support student involvement to make it more interactive, fun, competitive and increase student participation. Through the Quizizz application, teachers are able to provide stimulating questions related to the material and learning objectives but in a form that is more enjoyable for students.

Based on the results of observations on learning activities and student learning outcomes in Pancasila education subjects in class So the researcher intends to apply these learning models and media in an effort to increase students' interest in learning. The researcher carried out problem-based learning activities assisted by the Quizizz application media in the Pancasila education subject in class and the country of Indonesia, and 1.3 explains the values of Pancasila in everyday life.

## Method

This research is classroom action research (Classroom Action Research) and is carried out in cycles, which consist of stages: planning, implementation, observation and reflection (Arikunto, 2013).

### *Planning (Planning)*

Action planning starts from the process of identifying the problem to be researched, including pre-research results. Next, plan the actions to be taken, including compiling the necessary learning tools and so on.

### *Implementation (Acting)*

Implementation of actions, namely the implementation of learning in class using learning tools starting from preliminary activities, core activities, to closing according to the teaching module that has been prepared.

### *Observation/Observation (Observing)*

Observation is observation during ongoing learning activities carried out by collaborators/observers simultaneously (at the same time as learning is taking place).

### *Reflection*

Reflection is the activity of evaluating the results of data analysis with collaborators who will recommend the results of an action taken to achieve research success from all specified aspects/indicators.

## Result and Discussion

The implementation of Problem-Based Learning (PBL) using the Quizizz application significantly enhanced students' interest and engagement in learning citizenship education. This section elaborates on the results obtained through two cycles of Classroom Action Research (CAR), supported by theoretical studies and references.

### *Cycle 1: Initial Implementation*

In the first cycle, students were introduced to PBL strategies combined with the Quizizz application. The learning materials covered topics such as the formulation of Pancasila as the basis of the state and its functions for Indonesia. The use of Quizizz as an interactive tool helped students actively participate in problem-solving activities. However, observations revealed challenges such as uneven participation and technical difficulties related to the application. According to Wulandari & Suparno (2020), PBL models promote critical thinking and collaboration among students, enhancing their cooperative skills. This aligns with the findings in this study, where group activities encouraged active discussion among participants, fostering better understanding.

### *Cycle 2: Refinement and Improvement*

In the second cycle, adjustments were made to address the challenges identified in Cycle 1. Teachers provided clearer instructions and ensured all students could access the Quizizz application without difficulties. The revised approach resulted in a noticeable improvement in student engagement and performance during assessments. Novi et al. (2021) emphasize that PBL encourages students to connect theoretical knowledge with practical applications, which was evident in the students' ability to relate Pancasila values to real-life situations. Moreover, Goleman (1996) highlights the importance of emotional intelligence in academic settings, suggesting that the interactive and competitive elements of Quizizz may enhance students' emotional engagement and motivation.

### *Supporting Theoretical Framework*

The success of this study is supported by the principles of active learning and emotional intelligence. As outlined by Dale (1991), active learning strategies, such as PBL, improve retention and comprehension by engaging students in meaningful tasks. Additionally, Fernandez-Berrocal et al. (2006) argue that emotional intelligence plays a critical role in reducing anxiety and improving academic performance, further substantiating the positive impact of using Quizizz in

this context. Furthermore, the study aligns with the findings of Irawati et al. (2022), who highlight the importance of integrating digital tools to actualize Pancasila values in educational settings. By fostering a collaborative and interactive environment, PBL with Quizizz enabled students to develop both cognitive and affective skills (Zainuddin et al., 2020).

### *Student Feedback and Observations*

Qualitative data from observations and student feedback further reinforce the effectiveness of this approach. Students expressed that the Quizizz application made learning more enjoyable and less monotonous. The gamification aspect motivated them to actively participate and compete with peers, leading to a deeper understanding of the material.

Mellyzar et al. (2024) stress that integrating technology in education not only enhances cognitive outcomes but also fosters positive emotional experiences. This was evident in the enthusiastic responses from students, who reported feeling more confident and motivated to learn. The results of this study underscore the effectiveness of Problem-Based Learning (PBL) integrated with the Quizizz application in fostering students' interest and active participation in citizenship education. The findings align with research by Wulandari & Suparno (2020), which highlights the impact of PBL in enhancing collaboration and critical thinking among students. Similarly, Aldila & Mukhaiyar (2020) emphasize that PBL promotes meaningful learning experiences by engaging students in solving real-world problems.

During the first cycle, observations revealed that students exhibited moderate enthusiasm and engagement when introduced to PBL through Quizizz. The novelty of using a gamified platform captured students' attention, yet some struggled to adapt to the collaborative problem-solving approach. Despite these initial challenges, daily assessment scores improved slightly, with an average increase of 8% compared to pre-intervention results.

In the second cycle, adjustments were made to the instructional approach, such as providing clearer guidance and fostering a more supportive learning environment. As a result, students displayed significantly higher motivation and active participation. The average daily assessment scores increased by 15% from the first cycle, demonstrating the effectiveness of iterative improvements in the teaching strategy. This finding corroborates the assertions of Fernandez-Berrocal et al. (2006) regarding the importance of emotional engagement in achieving better academic outcomes.



The integration of Pancasila-related topics within PBL activities further reinforced students' understanding and appreciation of national values. For instance, group discussions on the role of Pancasila in modern society encouraged students to apply theoretical knowledge to contemporary issues, thereby deepening their comprehension. This outcome resonates with the perspective of Irawati et al. (2022), who argue that integrating character education into classroom practices fosters holistic student development.

Moreover, the gamified elements of Quizizz, such as leaderboards and instant feedback, created a competitive yet enjoyable learning atmosphere. Students reported feeling more motivated to participate actively in lessons, aligning with Goleman (1996) assertion that emotional engagement is crucial for sustained interest in learning. This finding also supports Peter (2010) model, which highlights the role of emotional intelligence in educational success.

From a theoretical perspective, the study aligns with Dale (1991) framework on the importance of self-regulated learning in educational settings. The structured yet flexible nature of PBL enabled students to take ownership of their learning process, thereby enhancing their autonomy and critical thinking skills. Additionally, the use of Quizizz as a digital tool reflects the principles of constructivist learning theory, which emphasizes active engagement and collaboration in knowledge construction.

## Conclusion

The implementation of Problem-Based Learning using the Quizizz application successfully increased students' interest in learning citizenship education in Class X at SMA Negeri 1 Tanjung Palas Tengah. Through two research cycles, it was evident that students became more engaged and motivated, resulting in improved daily assessment scores and positive responses. The study underscores the importance of combining innovative learning models with digital tools to create an interactive and enjoyable learning environment. Future research could explore the application of similar methods in other subjects to further enhance the overall quality of education.

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## Author Contributions

Author contributions include S and S: collecting data, analyzing data, writing original drafts, methodology and review writing, and so on.

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## Conflicts of Interest

The authors declare no conflict of interest.

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