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# CROSSWORD PUZZLE-BASED ACTIVE LEARNING TO ENHANCE ENGAGEMENT AND ACHIEVEMENT IN CIVICS EDUCATION

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**Abstract**

This study investigates the effects of implementing a crossword puzzle-based active learning model in Civics Education (PPKn) at SMA Negeri 2 Indrajaya. Persistent challenges with student engagement and low learning outcomes, often linked to long-standing lecture-based practices, motivated the intervention. Using a classroom action research approach over two cycles, the study involved Grade XI.1 students in collaborative crossword-solving activities designed to reinforce core subject concepts. Results showed that the proportion of students meeting the minimum competency standard increased from 0% at baseline to 60% after the intervention. Classroom observations documented more equitable participation, higher motivation, and improved group collaboration. However, the model did not achieve the targeted mastery threshold of 75%. Several factors—including entrenched passive habits, varying levels of student readiness, and the limited intervention period—contributed to this gap. The findings highlight both the promise and the challenges of adopting active learning strategies in established classroom environments. Sustained teacher support, professional development, and ongoing adaptation will be essential for achieving broader and more durable impacts. Future research should explore long-term outcomes and the effectiveness of active learning models across diverse educational settings.

**Keywords:** *Active Learning, Crossword Puzzle, Civics Education, Student Engagement, Classroom Action Research*

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## A. Introduction

Education fundamentally aims to cultivate not only knowledge but also the values, attitudes, and skills essential for young people to thrive in a dynamic and complex society. Indonesian adolescents aged 13–16—typical for senior high school—demonstrate developmental traits that necessitate responsive and engaging teaching strategies (Santrock, 2019). Learning outcomes, frequently used as indicators of instructional effectiveness, provide a crucial lens for evaluating how well these educational aims are achieved (OECD, 2013).

Subjects such as *Pendidikan Pancasila dan Kewarganegaraan* (PPKn) play a pivotal role in shaping civic identity and social responsibility. However, empirical observations at SMA Negeri 2 Indrajaya reveal persistent challenges in student performance, particularly in achieving minimum competency benchmarks. This

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underperformance is often attributed to instructional practices that prioritize teacher-centered delivery with limited student interaction—a method shown to dampen motivation, critical thinking, and active civic engagement (Arends, 2012; Astuti & Cahyono, 2022).

In response, educational researchers have proposed various innovative learning models, including word square, scramble, portfolios, and problem-based learning. These approaches have demonstrated efficacy across disciplines, including civic education (Hasan & Nasution, 2021; Permatasari & Mulyasa, 2020; Wibowo & Hamid, 2023). Cooperative learning strategies—such as the use of puzzles—have gained recognition for fostering peer interaction, knowledge retention, and critical analysis (Slavin, 1995; Chen & Chung, 2019).

Among these, crossword puzzle-based learning stands out for its simplicity and versatility. When embedded within Civics Education, this model encourages vocabulary consolidation, concept reinforcement, and teamwork, offering a practical and enjoyable pathway to strengthen students' understanding of abstract civic concepts (Kartikasari, 2023; Mursilah, 2019). Despite its potential, the adoption of active learning models such as this remains limited in Indonesian classrooms. Barriers include entrenched pedagogical habits, insufficient teacher training, and uneven student preparedness for collaborative methods (Machali, 2022). To address these ongoing challenges, this study investigates the impact of the crossword puzzle-based active learning model on student outcomes in PPKn at SMA Negeri 2 Indrajaya. Specifically, it examines whether this approach can enhance both student engagement and academic performance, thereby offering insight for educators and policymakers seeking to revitalize civics education in similar contexts.

## B. Method

This study was conducted using a Classroom Action Research (CAR) approach to systematically address the persistent challenges observed in Civics Education (PPKn) at SMA Negeri 2 Indrajaya. By focusing on the practical realities of classroom instruction, CAR provided a structured framework for iterative improvement through cycles of planning, implementation, observation, and reflection (Machali, 2022; Mlahah et al., 2023). The goal was to examine whether the introduction of a crossword puzzle-based active learning model could effectively enhance both student engagement and learning outcomes. The research took place in the second semester of the 2024/2025 academic year, targeting a single class of Grade XI.1, which comprised 26 students (17 male and 9 female). This group was selected due to observed difficulties in achieving minimum competency standards in PPKn, as well as low levels of classroom participation identified during preliminary observations.

The intervention was organized into two cycles, each consisting of four core stages: planning, action, observation, and reflection. During the planning phase, the research team designed instructional materials and developed crossword puzzles directly related to the core PPKn curriculum. Implementation involved integrating these activities into regular lessons, with students working both individually and collaboratively to solve

 

the crossword puzzles as part of their classroom learning experience. To ensure a thorough analysis, the study employed a combination of quantitative and qualitative data collection techniques. Quantitative data were obtained through standardized tests administered before and after each intervention cycle, allowing for measurement of learning gains relative to the established minimum mastery criteria (KKM). Qualitative insights were captured using structured observation sheets, which documented student behaviors, engagement, group dynamics, and teacher-student interactions throughout the lessons. Additionally, photographs and samples of student work were collected to provide context and support for the interpretation of results. For data analysis, student test results were converted into percentages to track improvements in learning outcomes, while observational data were systematically categorized to assess shifts in engagement and classroom atmosphere. The criteria for success were defined in advance: the intervention would be considered effective if at least 75% of students demonstrated mastery according to the KKM, and if qualitative evidence showed clear improvements in participation and enthusiasm for learning.

## C. Results and Discussion

This study sought to evaluate the impact of implementing a crossword puzzle-based active learning model in Grade XI.1 Civics Education at SMA Negeri 2 Indrajaya. Data were gathered through a combination of test results, classroom observations, and documentation, providing a comprehensive view of student progress and classroom dynamics before and after the intervention. The findings are organized in accordance with the study's primary objectives.

### 1. Results

#### 1) Improvement in Student Learning Outcomes

Prior to the intervention, classroom assessments indicated that student achievement in Grade XI.1 Civics Education at SMA Negeri 2 Indrajaya was well below the minimum competency standard (KKM). The class average for formative assessments was 65.75, with none of the 26 students meeting the required mastery level. Most students participated passively, and teacher observations noted limited initiative or independent problem-solving during lessons. The first cycle of the intervention involved two lessons where students completed crossword puzzles both individually and in groups. The average class score increased to 68.92 after Cycle I. Six students (35.3%) met the minimum competency standard, while 20 students (64.7%) still fell below it:

**Table 1. Student Competency Before and After Cycle I**

| Cycle | Average Score | Students Meeting Competency | Percentage (%) | Students Below Competency | Percentage (%) |
|---|---|---|---|---|---|
| Pre | 65.75 | 0 | 0.0 | 26 | 100.0 |
| Cycle I | 68.92 | 6 | 35.3 | 20 | 64.7 |

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*Source: Classroom assessment data, Pre-intervention and Cycle I*

Classroom observations during this period documented that while some students showed increased interest and engagement with the puzzle format, others remained hesitant to participate fully. In one example, a student who had never volunteered answers in previous lessons began to lead her group in discussing possible solutions, prompting quieter group members to contribute. However, many groups still experienced uneven participation, with a few students taking on most of the task while others remained largely passive.

For the second cycle, the instructional approach was adjusted by clarifying group roles, offering more direct teacher support, and modifying puzzle difficulty. Following these changes, the class average increased to 71.35. Nineteen students (60.0%) met or exceeded the competency standard, and seven (40.0%) remained below it (see Table 2).

**Table 2. Student Competency in Cycle II**

| Cycle | Average Score | Students Meeting Competency | Percentage (%) | Students Below Competency | Percentage (%) |
|---|---|---|---|---|---|
| Cycle II | 71.35 | 19 | 60.0 | 7 | 40.0 |

*Source: Classroom assessment data, Cycle II*

Observation notes from Cycle II reported further changes in classroom dynamics. Students who had previously been reluctant to engage started to ask questions and participate more actively during group tasks. In several groups, members divided responsibilities more evenly, resulting in more timely completion of the puzzles and increased willingness to present their answers in front of the class. Despite these improvements, seven students were still unable to achieve the minimum standard by the end of Cycle II. Persistent reluctance to participate, difficulties in adapting to collaborative work, and differences in prior academic ability appeared to be contributing factors for these students. The intervention period was also limited to two cycles, which may have been insufficient for all students to adjust to the new learning model.

**2) Classroom Factors Influencing the Learning Process**

Observation sheets and teacher field notes provided detailed information about how students and teachers interacted during the intervention cycles. In the first cycle, the classroom retained many patterns from prior teacher-centered routines. While the crossword puzzle activities encouraged participation from some students, many remained passive, especially during group work. Distribution of group responsibilities was often uneven, and in several groups, one or two students completed the majority of the puzzle while others watched or contributed minimally.

For example, in one group during Cycle I, a vocal student took the initiative to solve most of the clues, with the rest of the group providing occasional input. In another group, two members were observed discussing answers, while others remained silent and did not attempt to participate. Several groups struggled with time management, often

 

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failing to finish the puzzle within the allotted period. Teachers recorded that some students, particularly those who were quieter or less confident, tended to withdraw during group tasks and were hesitant to share their answers in class.

In response, adjustments were made for Cycle II. Group sizes and compositions were modified to encourage more balanced participation. Teachers provided clearer instructions, assigned roles (such as "recorder," "presenter," and "questioner") within groups, and monitored group activities more closely. Individual encouragement and targeted prompts were used to involve students who had remained on the periphery in the first cycle.

During Cycle II, observation notes documented several changes. More students volunteered to answer questions or present solutions on behalf of their group. In one example, a student who had not participated previously was assigned the role of presenter and successfully summarized her group's work in front of the class. Group discussions became more focused, with responsibilities divided more evenly. Teachers also noted that students initiated more peer-to-peer discussion and helped each other understand clues or vocabulary terms related to the PPKn material. Despite these positive changes, challenges persisted. Some students continued to be less active, especially when working with more dominant peers, and certain groups still struggled to complete puzzles on time. Teacher support and active facilitation were frequently required to maintain balanced participation and focus throughout the activities.

## 2. Discussion

The findings of this study demonstrate that the integration of a crossword puzzle-based active learning model in Civics Education (PPKn) brought meaningful improvements in both student engagement and academic performance, particularly in a classroom environment previously shaped by passive, lecture-driven practices. This aligns with the broader consensus in educational literature that shifting toward active, student-centered learning can enhance not only academic outcomes but also motivation, collaboration, and higher-order thinking skills (Slavin, 1995; Arends, 2012; Santrock, 2019).

A variety of other active learning approaches—such as word square, scramble, portfolio, problem-based learning, and the use of innovative instructional media—have also demonstrated their capacity to improve outcomes and engagement in different contexts (Hasan & Nasution, 2021; Permatasari & Mulyasa, 2020; Kartikasari, 2023; Chen & Chung, 2019). The effectiveness of these models supports the argument that instructional diversity and adaptation are critical in meeting the varied needs of learners.

Quantitative results showed that the proportion of students achieving the minimum competency standard rose from 0% at baseline to 35.3% in Cycle I, and ultimately to 60% by the end of Cycle II. These data are consistent with the argument that interactive, collaborative tasks can facilitate greater knowledge retention and skill acquisition (Chen & Chung, 2019; Kartikasari, 2023). Qualitative observations further supported this trend: students who were previously disengaged gradually began to

 

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participate more actively, and group work became more equitable and focused in the second cycle, echoing the observations of Astuti and Cahyono (2022) on the benefits of structured cooperative learning. This pattern of increased participation is in line with findings from Hasan and Nasution (2021) on the impact of collaborative and problem-based learning environments.

However, the intervention did not reach the intended threshold of 75% mastery. Several interrelated factors may account for this gap. First, the shift from passive to active learning is not merely a technical change; it represents a fundamental shift in classroom culture and student roles. Consistent with findings from Arends (2012) and Machali (2022), the initial reluctance of students to participate, uneven group dynamics, and limited prior experience with collaborative learning likely acted as barriers to full engagement. Notably, some students continued to prefer observation over active contribution, particularly when working with more dominant peers or when unfamiliar with group roles. Student readiness and prior knowledge also remain critical factors influencing classroom outcomes (Santrock, 2019; OECD, 2013).

Second, the duration and intensity of the intervention were limited. With only two cycles implemented within a single semester, there may not have been sufficient time for all students to adjust fully to the new expectations. As noted by Permatasari and Mulyasa (2020), more sustained, long-term exposure to active learning models is often required to produce deep and lasting behavioral change. The impact of entrenched routines and learning habits should not be underestimated, especially in educational contexts where traditional methods have been the norm.

Third, the success of the model was closely tied to the teacher's proactive facilitation and adaptability throughout the research process. Individual encouragement, clear role assignments, and ongoing feedback were essential in bringing more students into active participation, confirming the critical role of reflective teaching practice (Millah et al., 2023; Suciani et al., 2023). As noted by Utomo et al. (2024), rigorous reflection and instructional flexibility are hallmarks of effective classroom action research, enabling continuous improvement and adaptation. Yet, such intensive involvement may not be feasible in all settings, especially with larger classes or less experienced educators.

Alternative explanations for the observed improvements must also be considered. The Hawthorne effect—where students increase their effort or engagement simply because they are being observed or know they are part of an intervention—could have influenced the results. Additionally, the novelty of the crossword puzzle activity itself may have temporarily increased motivation, independent of the inherent pedagogical value of the model. Without a control group or comparison class, it is difficult to conclusively attribute all positive changes solely to the intervention, as acknowledged in prior classroom action research literature (Slavin, 1995; OECD, 2013). Moreover, the integration of varied instructional media may independently boost student engagement and should be considered when designing future interventions (Permatasari & Mulyasa, 2020).

 

The study's application of social constructivist theory is evident in the focus on group problem-solving and peer interaction, which are known to promote not only content mastery but also critical thinking and communication skills (Santrock, 2019; Kartikasari, 2023). The process of negotiating meaning, articulating reasoning, and supporting one another in group tasks reflects key mechanisms by which active learning fosters deeper understanding and sustained engagement. The observed improvement in classroom atmosphere, with more balanced participation and increased willingness to collaborate, supports the premise that student-centered models can catalyze positive changes in learning communities (Slavin, 1995; Astuti & Cahyono, 2022).

Nevertheless, several limitations of the study must be emphasized. The research was confined to a single class in one school, involving a relatively small and non-random sample, which restricts the generalizability of the findings. The absence of a control group further limits the ability to rule out confounding variables such as increased teacher attention or external influences unrelated to the intervention itself. The teacher's dual role as both facilitator and researcher introduces the possibility of bias in both observation and interpretation of classroom engagement, a limitation echoed by previous studies (Machali, 2022; Suciani et al., 2023). Furthermore, this study did not systematically explore the long-term sustainability of learning gains or the integration of complementary strategies, such as portfolio-based and problem-based learning, which have been shown to support independent learning and critical thinking in other studies (Hasan & Nasution, 2021; Permatasari & Mulyasa, 2020).

From a practical standpoint, these results reinforce the argument that active learning models, even when implemented with modest changes and limited resources, can contribute to significant gains in classroom engagement and student achievement. However, the process of shifting from entrenched teacher-centered routines to collaborative, student-driven learning is gradual and requires ongoing support, professional development, and institutional flexibility (Utomo et al., 2024; Millah et al., 2023). The success of the crossword puzzle-based approach in this setting depended on a combination of careful planning, reflective adaptation, and direct teacher facilitation, all of which should be considered essential components in future applications. For broader implementation, schools and policymakers should invest in sustained professional development focused on active learning strategies, support the use of classroom-based action research, and create environments that encourage innovation and reflective practice. The implementation of classroom action research itself, as described by Suciani et al. (2023) and Utomo et al. (2024), provides a structured and iterative approach for teachers to adapt instruction and address classroom challenges.

## D. Conclusion

This study examined the implementation of a crossword puzzle-based active learning model in Civics Education for Grade XI.1 students at SMA Negeri 2 Indrajaya. The findings indicate that the shift from traditional, teacher-centered instruction to a more interactive, student-focused approach resulted in notable improvements in student

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engagement, group collaboration, and learning outcomes. The proportion of students reaching the minimum competency standard increased from zero at baseline to 60% by the end of the intervention, reflecting both the potential and the challenges of introducing active learning in established classroom environments.

Despite these gains, the intervention did not achieve the predetermined target of 75% student mastery. Several factors—including persistent passive habits, variability in student readiness, and the limited duration of the intervention—contributed to this gap. The results underscore that while active learning models can reinvigorate classroom participation and academic performance, their effectiveness is shaped by context and requires ongoing support, sustained adaptation, and responsive teacher facilitation.

The practical experience from this study highlights the importance of incremental, well-supported pedagogical innovation. Even modest changes, such as integrating collaborative puzzles, can have a meaningful impact when paired with clear guidance and reflective teaching practice. However, lasting transformation demands more than a single intervention cycle. Professional development for teachers, institutional flexibility, and further research on long-term and scalable implementation are needed to ensure that active learning strategies can fulfill their promise in Civics Education and beyond. Future research should employ larger, more diverse samples, include control or comparison groups, and track long-term outcomes to better assess the durability and generalizability of active learning effects. Continued experimentation—grounded in critical reflection and supported by robust evidence—remains essential for advancing effective, student-centered education.

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