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# Improving Cooperation And Student Learning Achievement Through The TTS Media-Assisted Problem Based Learning (PBL) Model

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**ABSTRACT**

This research aims to improve cooperation and learning achievement of grade V students of SDN 1 Dawuhan Kulon, by using the Problem Based Learning learning model. The research method used is Classroom Action Research (PTK). Grade V students at SDN 1 Dawuhan Kulon consist of 14 students, with 5 female students and 9 male students. Data collection is carried out through direct observation in the learning process, using observation sheets with indicators of teacher and student activity along with student learning outcomes. The results of this study show that the application of the Problem-Based Learning (PBL) model assisted by TTS media at SDN 1 Dawuhan Kulon has a positive impact on cooperation and achievement, activities, and involvement of grade V students. In the first cycle, the average evaluation score reached 72.98 with a learning completeness rate of 71.8%. However, in cycle II, the average score increased sharply to 83.9, accompanied by a level of learning completeness that reached 84.38% and was considered an excellent achievement. Furthermore, the application of the PBL model also has a positive effect on student activities. In the first cycle, the average student activity reached 63.17; This figure increased significantly to 80.14 in cycle II. In all cycles, the success indicator set, which is to achieve a participation rate of 80%, was successfully achieved with excellent criteria. Furthermore, the PBL model has also succeeded in increasing student engagement. Initially, in cycle I, the average student involvement was 61.36 which then experienced a striking increase to 86.36 in cycle II. The increase in involvement has also succeeded in achieving the success indicators that have been set in all cycles, namely 80%, with achievements that are considered very good.

**Keywords:** Cooperation, Learning Achievement of *PBL Learning Model*, TTS Media for Classroom Action Research (PTK)

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## INTRODUCTION

Education refers to the transformation of students' behavior towards independent maturity, involving intellectual aspects and overall character formation. This is crucial for future preparation, in accordance with the national goal (Law Number 20/2003) in creating citizens who have faith, dignity, noble character, and responsibility.

Complex learning processes with factors such as teachers, learners, materials, and teaching strategies influence the outcome. Observations at SDN 1 Dawuhan Kulon revealed that the conventional model is still dominant, resulting in students lacking confidence and dependence on teachers. The solution, the use of Problem Based Learning (PBL) with concrete object media (TTS) is expected to increase student involvement and learning outcomes.

PBL encourages critical thinking and problem-solving skills through the context of real problems. Students become active in solving daily problems, gaining independent information,

increasing learning motivation, and academic achievement. By implementing PBL, it is hoped that the teaching and learning process will be more effective and meaningful.

## METHOD

This study applies the Classroom Action Research Method (PTK), which is research in the classroom with the aim of improving the quality of learning. According to Sanjaya (2009: 26), PTK is an approach that examines learning problems through self-reflection to find solutions with planned actions in real situations, then analyzes the impact of these actions.

This research consists of 2 cycles, each consisting of one meeting. The first cycle is used as the basis for reference values, which are then used for improvements in the second cycle. The second cycle is an improvement step from the first cycle. If there is an increase in the second cycle, then the research is considered successful.

## FINDINGS AND DISCUSSION

### Findings

The classroom action research conducted across Cycle I and Cycle II demonstrated that implementing the Problem-Based Learning (PBL) model assisted by Crossword Puzzle (*Teka-Teki Silang* / TTS) media significantly improved student learning achievement, teacher activity, and student engagement in Indonesian language learning (Synonyms and Antonyms).

The quantitative evaluation of student learning achievement showed a progressive rise between cycles. As presented in Table 1, the class average score increased by 8.31 points, while the classical completion rate rose by 12.58%, successfully satisfying the pre-established 80% success indicator.

**Table 1. Improvement of Student Learning Achievement from Cycle I to Cycle II**

| Metric / Indicator | Cycle I | Cycle II | Gain / Difference |
|---|---|---|---|
| **Mean Score** | 72.93 | 81.24 | +8.31 |
| **Completed Students (N)** | 23 | 27 | +4 |
| **Uncompleted Students (N)** | 9 | 5 | -4 |
| **Classical Completion (%)** | 71.80% | 84.38% | +12.58% |

In addition to learning outcomes, observational assessments measured the quality of instructional execution by the teacher and the behavioral engagement of the students. As summarized in Table 2, both teacher and student activities showed significant quantitative gains, moving from the "Good" category in Cycle I to the "Very Good" category in Cycle II.

**Table 2. Recapitulation of Teacher and Student Activity Scores**

| Observational Focus | Cycle I Score | Cycle I Criteria | Cycle II Score | Cycle II Criteria | Gain |
|---|---|---|---|---|---|
| **Teacher Activity** | 61.36 | Good | 86.36 | Very Good | +25.00 |
| **Student Activity** | 63.17 | Good | 80.14 | Very Good | +16.97 |

### Discussion

The empirical findings confirm that integrating Crossword Puzzle (TTS) media into the syntax of Problem-Based Learning creates a dynamic learning environment that elevates primary students' academic performance and active participation. In Cycle I, although the learning outcome reached 71.80%, several students struggled to grasp abstract language concepts due to limited familiarity with collaborative problem-solving structures. Reflective revisions made at the end of Cycle I allowed the teacher to optimize instructional scaffolding and clarify group task directions in Cycle II.

The integration of TTS media served as an effective gamified intervention that transformed vocabulary mastery (synonyms and antonyms) into an engaging, problem-centered challenge. Rather than relying on rote memorization, students analyzed contextual clues to complete the crossword grids collaboratively. This interactive media mechanism stimulated cognitive curiosity, sustained focus, and fostered active peer interaction, which directly contributed to the substantial rise in student activity scores from 63.17 to 80.14 (+16.97).

Furthermore, the significant growth in teacher performance (from 61.36 to 86.36) highlights the importance of reflective practice in action research. By refining time management, guiding group discussions more effectively, and optimizing the PBL syntax (orienting students to problems, organizing study groups, and facilitating investigation), the teacher created a student-centered setting.

These results strongly align with prior research emphasizing that active, problem-based learning combined with gamified media enhances student motivation, deepens conceptual retention, and drives meaningful learning outcomes in elementary education. By exceeding all target benchmarks (84.38% classical completion and >80% activity scores), this intervention proves to be a viable instructional strategy for language arts in primary schools.

## CONCLUSION

Implementing the Problem-Based Learning (PBL) model assisted by Crossword Puzzle (*Teka-Teki Silang*) media effectively improves elementary students' academic achievement and active classroom engagement in language instruction. The integration of gamified crossword puzzles within problem-solving activities successfully transforms passive vocabulary learning into an interactive, student-centered process. Furthermore, reflective instructional adjustments across research cycles optimize teacher facilitation and student collaboration, enabling class performance to exceed predetermined mastery benchmarks. These findings confirm that combining active problem-oriented syntax with engaging media supports conceptual understanding and stimulates meaningful student participation.

Future research could explore the long-term retention of vocabulary knowledge gained through gamified PBL and investigate its adaptability across other foundational subjects or broader elementary grade levels.

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