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Enhancing Students' Vocabulary Acquisition Through Interactive Crossword Puzzle Game

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Abstract— Vocabulary is one of the important aspects in English, but most students have difficulty in mastering vocabulary. To overcome the problem, this classroom action research aims to improve students' vocabulary mastery through interactive crossword puzzles. Conducted in one cycle using the Kemmis and McTaggart model, this study involved 35 seventh grade students of MTs Al-Munawwar in the academic year 2024/2025. The study used a mixed methods approach, quantitative data collected from the vocabulary tests and qualitative data through observation, questionnaires and interviews. The pre-test results showed that only 14.29% of students met the minimum completeness criteria (KKM 75), with an average score of 65.48. After the implementation of the Wordwall-based interactive crossword puzzle, the post-test average increased to 82.51, with 88.57% of students achieving scores above the KKM. Qualitative data showed an increase in student motivation, participation, and engagement. Findings suggest that interactive crosswords are fun and effective way to improve vocabulary, offering a more engaging alternative to traditional methods.

Keywords— vocabulary acquisition, crossword puzzle, classroom action research

abstrak— Kosakata merupakan salah satu aspek penting dalam pembelajaran bahasa Inggris, namun sebagian besar siswa mengalami kesulitan dalam menguasai kosakata. Untuk mengatasi masalah tersebut, penelitian tindakan kelas ini bertujuan untuk meningkatkan penguasaan kosakata siswa melalui penggunaan teka-teki silang interaktif. Dilaksanakan dalam satu siklus dengan menggunakan model Kemmis dan McTaggart, penelitian ini melibatkan 35 siswa kelas tujuh MTs Al-Munawwar tahun ajaran 2024/2025. Penelitian ini menggunakan pendekatan metode campuran, mengumpulkan data kuantitatif dari tes kosakata dan data kualitatif melalui observasi, kuesioner, dan wawancara. Hasil pre-test menunjukkan bahwa hanya 14,29% siswa memenuhi kriteria ketuntasan minimum (KKM 75), dengan nilai rata-rata 65,48. Setelah implementasi teka-teki silang interaktif berbasis Wordwall, rata-rata post-test meningkat menjadi 82,51, dengan 88,57% siswa mencapai nilai di atas KKM. Data kualitatif menunjukkan adanya peningkatan motivasi, partisipasi, dan keterlibatan siswa. Temuan menunjukkan bahwa teka-teki silang interaktif merupakan cara yang menyenangkan dan efektif untuk meningkatkan kosakata, menawarkan alternatif yang lebih menarik daripada metode tradisional.

Kata kunci— penguasaan kosakata, teka-teki silang, penelitian tindakan kelas

INTRODUCTION

Vocabulary is a crucial element in language development, as language learning depends on the correct and clear pronunciation of words (Iswanto et al., 2024). Without adequate vocabulary, students will find it difficult to understand material, express ideas, and convey meaning effectively. Vocabulary is not just a collection of words, but an important component that bridges understanding between language input such as reading and listening, and output such as writing and speaking. Therefore, vocabulary plays an important role in the whole process of language acquisition.

In order for students to use language both orally and in writing, vocabulary acquisition through structured learning and meaningful memorization becomes one of the core elements in language learning (Prastiwi et al., 2024). A strong vocabulary enables students to develop receptive skills such as reading and listening as well as productive skills such as speaking and writing. Therefore, vocabulary teaching should be prioritized from the early stages of English language education-not only to increase the number of words students know, but also to help them understand the meaning of words, their use in context, and their relationship with sentence structure.

Vocabulary teaching is a fundamental stage for anyone learning English (Fatmasari et al., 2024). Through vocabulary, students are better equipped to understand grammar, construct sentences, and improve their overall communicative competence. However, in practice, many students still face challenges in mastering English vocabulary. This problem is particularly evident among grade 7 students at MTs Al-Munawwar, who face several obstacles in vocabulary learning such as lack of interest, monotonous teaching methods, and the absence of interactive and student-centered strategies. Vocabulary learning that relies heavily on memorization often proves ineffective, as students tend to forget new words quickly and lose motivation to learn further.

To overcome this challenge, the researcher proposes a more innovative and fun learning approach-using interactive crossword puzzles. Crossword puzzles not only serve as an interesting classroom activity, but also as a tool that can change the learning atmosphere to be more dynamic and interactive (Suprayogi et al., 2022). By integrating fun and challenge, crossword games can maintain students' attention and reinforce vocabulary knowledge in a meaningful and contextualized way.

In addition to being an entertaining activity, crossword puzzles are an effective educational tool to support vocabulary retention, critical thinking, and reading comprehension (Rochmadhoni et al., 2022) Its structured format encourages students to spell and remember words while recognizing patterns and forming logical associations. These cognitive activities help improve students' memory retention, engagement, and overall language competence. Thus, crossword puzzles offer a promising alternative to improve vocabulary acquisition in a fun and effective way.

Several previous studies have explored the use of crossword puzzles to improve students' vocabulary, with promising results. However, most of these studies have relied on the traditional paper-based crossword format. While this method has its merits, it may not fully appeal to today's students, who are increasingly exposed to digital tools and online environments. In response to this shift, this study integrates a

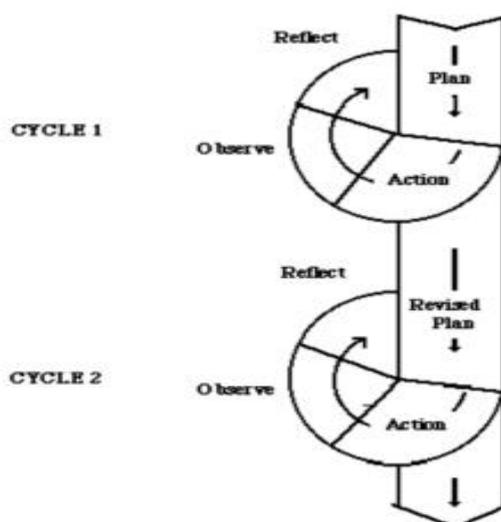
digital approach by utilizing Wordwall, an online platform that offers interactive crossword games and other game-based learning tools.

By incorporating technology into vocabulary teaching, this study aims to make learning more relevant to students' habits and preferences. The use of Wordwall not only increases motivation and engagement, but also encourages active participation through game-based learning. As such, this research contributes a new perspective by incorporating traditional vocabulary.

RESEARCH METHODOLOGY

This study employed a Classroom Action Research (CAR) design to enhance students' vocabulary mastery through the use of an interactive crossword puzzle game. The research followed the Kemmis and McTaggart (1988) model, which is commonly used in classroom action research to guide the cyclical process of improvement. The model cycle used in this study is illustrated below:

Figure 1. The Cycle Model of Action Research by Kemmis and McTaggart



Based on the figure above, the cycle consists of four interconnected stages: planning, where the researcher prepares materials and sets objectives; action, where the teaching strategy is implemented; observation, where the process is monitored; and reflection, where the outcomes are evaluated to inform future improvements. As noted by (Herdayani et al., 2019) action research refers to a systematic inquiry aimed at improving educational practices. Similarly, Purohman (2018) describes it as a structured effort within the classroom context to solve specific instructional problems.

To gather comprehensive data, this study adopted a mixed-methods approach, combining both quantitative and qualitative techniques. Quantitative data were collected through vocabulary tests, while qualitative data were obtained from classroom observations, student questionnaires, and teacher interviews. The process began by identifying issues related to students' vocabulary acquisition and preparing suitable teaching materials. During the action phase, interactive crossword puzzles were introduced to support vocabulary learning. Concurrently, observations were carried out using an observation sheet in collaboration with the English teacher. In the

final reflection stage, the effectiveness of the intervention was evaluated to determine improvements in students' learning outcomes.

FINDINGS AND DISCUSSION

This section presents the results and interpretation of the study, focusing on how the use of interactive crossword puzzles impacted students' vocabulary acquisition. The findings are divided into two categories: quantitative data, obtained from vocabulary tests (pre-test and post-test), and qualitative data, gathered through observation, questionnaires, and interviews. These data sources provided a comprehensive view of the learning process and its outcomes.

QUANTITATIVE FINDINGS

The quantitative data were collected from vocabulary tests administered before and after the intervention. The pre-test was conducted to determine the students' initial vocabulary mastery, while the post-test was given after the implementation of interactive crossword puzzles using the Wordwall platform. The comparison of results is summarized in the following table:

Tabel 1. Comparison of Pre-test and Post-test Results

No.	Test Type	Average Score	% of Students Achieving \geq KKM (75)
1.	Pre-Test	65.48	14.29%
2.	Post-Test	82.51	88.57%

As shown in the table above, there was a significant improvement in students' vocabulary mastery following the intervention. The average score increased by 17.03 points, and the percentage of students who met the minimum mastery criterion (KKM) rose from 14.29% in the pre-test to 88.57% in the post-test. These results indicate that the use of interactive crossword puzzles had a substantial positive impact on students' learning outcomes.

QUALITATIVE FINDINGS

Qualitative data was obtained from classroom observations, student questionnaires, and interviews with English teachers. These sources revealed various positive changes during and after the implementation of the crossword activity.

First, there was a marked increase in student motivation. Many previously passive students became more active and enthusiastic during the vocabulary sessions. The game-based format sparked curiosity and created a more dynamic learning environment.

Secondly, students showed greater participation and interaction during classroom activities. They worked more actively in pairs or small groups, discussing possible answers and helping each other during the puzzle-solving process. This collaborative learning situation supports peer learning and vocabulary retention.

Third, the classroom atmosphere becomes more fun and student-centered. Observations showed that students were more focused and less anxious, as the learning process felt more like a game than a formal test. According to the English

teacher, even students who are usually reluctant to speak or participate become more engaged when puzzles are introduced.

These qualitative findings support the quantitative results, which show that interactive crossword games not only improve academic outcomes, but also enhance the overall learning experience.

The findings of this study show that the use of interactive crossword puzzles through the Wordwall platform is an effective strategy to improve students' vocabulary acquisition. It helps students become more engaged and motivated while providing a fun and meaningful context for vocabulary practice. Compared to traditional memorization methods, this approach allows students to interact with words more actively and contextually.

This finding is in line with Rochmadhoni et al. (2022), who found that crossword games effectively support vocabulary acquisition among junior high school students. Similarly, Suprayogi et al. (2022) emphasized that crossword puzzles not only help students remember vocabulary but also make learning more fun, which in turn increases motivation and engagement. The interactive nature of the Wordwall platform used in this study reinforces this effect by offering a digital format that matches the learning preferences of today's students.

In addition, the increased student participation and collaboration observed in this study supports Prastiwi et al. (2024), who state that effective vocabulary teaching should be student-centered and contextually meaningful. Interactive crossword puzzles provide a space for students to work together, exchange ideas, and develop their vocabulary through discussion and peer learning, which is very important in modern language classrooms.

This study also confirms the theoretical view by Fatmasari et al. (2024) that innovative media play an important role in motivating students in vocabulary learning. The integration of technology-based learning media, such as games, can bridge the gap between student interest and learning objectives.

In conclusion, this study not only supports the existing literature on the benefits of crossword puzzles in language learning, but also extends it by showing how digital platforms such as Wordwall can enhance the effectiveness and appeal of vocabulary learning. Therefore, game-based digital media should be considered as a valuable alternative to conventional vocabulary teaching methods, especially in the context of 21st century learning.

CONCLUSION

Based on the findings, this study concludes that the implementation of interactive crossword puzzles through the Wordwall platform significantly improved the vocabulary acquisition of seventh-grade students at MTs Al-Munawwar. The integration of game-based digital media proved to be both effective and engaging in supporting students' language learning.

Quantitative data indicated a substantial improvement in students' vocabulary mastery. The average score increased from 65.48 in the pre-test to 82.51 in the post-test. Furthermore, the percentage of students who achieved the Minimum Mastery Criterion (KKM 75) rose dramatically from 14.29% to 88.57%. These results demonstrate that the interactive crossword puzzle not only helped students

understand and retain vocabulary better but also contributed to overall academic achievement.

Qualitative findings further reinforced the effectiveness of this method. Observations, student questionnaires, and teacher interviews revealed enhanced student motivation, active participation, and a more positive classroom atmosphere. Students became more enthusiastic during vocabulary lessons, collaborated more frequently with peers, and were more confident in expressing their ideas. The game-like nature of the crossword activity helped reduce anxiety and increased students' engagement, especially among those who were previously passive or less confident.

Moreover, the use of digital platforms like Wordwall aligns with students' familiarity with technology and supports 21st-century learning principles. This strategy provided a fresh and enjoyable alternative to traditional vocabulary instruction, which often relies on rote memorization and teacher-centered methods.

In conclusion, the findings of this study highlight the value of incorporating interactive crossword puzzles as a practical and innovative teaching strategy in vocabulary instruction. Not only does it improve learning outcomes, but it also transforms the learning process into a more dynamic, enjoyable, and student-centered experience. English teachers are encouraged to adopt similar game-based digital tools to enhance vocabulary learning, foster student engagement, and meet the needs of modern learners in a digitally-driven educational environment.

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