

CHAPTER 1

INTRODUCTION

The research presents the following information: background, research questions, research purposes, research significance, research hypothesis, and framework.

A. Background of the study

Language is an important tool in human communication. Language not only helps individuals engage in social interactions but also enables them to express themselves and their ideas and to disseminate information. As explained by Fromkin et al. (2013), language is the primary means of human communication, enabling individuals to interact socially, convey meaning, and express ideas by creatively producing and understanding new speech. In this era of globalization, proficiency in foreign languages, such as English, has become a crucial competency. Adawiyah (2022) states that English communication is an integral part of global activities and has become a necessity for individuals to participate effectively in global society.

The foundation for mastering English does not depend on grammar, but rather on vocabulary. Vocabulary mastery is the most essential component of learning a language. Without appropriate vocabulary, students will have difficulty understanding and using the language. Nation (2001) emphasizes that vocabulary comprehension has three main aspects, namely form, meaning, and usage, which must be learned repeatedly through a structured process. Among these aspects, vocabulary meaning plays the most fundamental role, as students must understand word meanings before they can use them accurately in communication.

In accordance with the national curriculum, English is a required subject at all educational levels, including Junior High School, to provide students with global communication skills and cross-cultural literacy. In learning English at the Junior High School level, action verbs are essential vocabulary for forming sentences and describing daily activities. Action verbs

are generally taught in the context of descriptive texts, where students are required to comprehend and use them appropriately to describe activities, actions, or characteristics of objects or subjects.

However, these ideal conditions have not yet been achieved in the classroom. Many students, especially junior high school students, still face various difficulties related to learning vocabulary, including understanding and remembering the meanings of English words. Limited vocabulary knowledge often prevents students from comprehending texts and expressing ideas effectively. A study conducted by Shohib (2024) found that many students were classified as having poor vocabulary mastery; they also did not know how to read and write vocabulary correctly and had difficulty remembering word meanings. Another study by Tambaritji & Atmawidjaja (2020) found that seventh-grade junior high school students experienced significant difficulties understanding English texts because they did not grasp the meanings of English words.

In addition, Rizqi & Usman (2021) reported that students have difficulty answering even simple questions during verbal communication due to limited vocabulary, particularly a limited understanding of word meanings. Most of them learn vocabulary through boring methods, such as memorizing words one by one without using them in context. This monotonous learning process results in low intrinsic motivation among students; they quickly become bored and unchallenged, leading them to store information only in short-term memory (Cermak and Craik, 2021). On the other hand, the characteristics of today's digital-native students call for interactive learning media. The use of digital media can help students process information through both verbal and visual pathways simultaneously. Mayer (2002), in his Cognitive Theory of Multimedia Learning, explains that learning is more effective when students receive information through two pathways (verbal and visual) and then process it into meaningful mental structures.

In response to these fundamental issues, a shift is needed from conventional teaching methods toward more innovative, interactive, and

technology-based solutions. Teachers are required not only to deliver material but also to create a learning environment that sparks motivation (both extrinsic and intrinsic) and supports information retrieval (retrieval practice). Therefore, a digital crossword puzzle innovation is proposed as a transformative solution. This is a digital-based crossword puzzle medium that allows students to process information through both verbal clues and visual displays. A digital crossword puzzle requires students to associate clues with appropriate words based on meaning. Using crossword puzzles requires students to engage in retrieval and meaningful processing, which aligns with the stages of vocabulary mastery: encountering, retrieving, and using (Nation, 2001).

This digital format would be implemented using the Educaplay platform. This specialized educational tool enables teachers to create and integrate interactive, game-based learning activities, such as digital crossword puzzles, directly into the learning process. When modified digitally, this media is not only engaging but also provides immediate feedback through formative assessment. This supports increased student engagement while strengthening memory retention. In addition, game-based learning has long been recognized as a way to increase student motivation and participation (Wright, 2006). More than just entertainment, digital crossword puzzles force students to practice retrieving information from memory, one of the most effective strategies for strengthening long-term memory and promoting a deeper understanding of word meanings. Therefore, this medium would be chosen for its strong potential to address low motivation and poor memory retention among students.

Based on this description, it is important to examine the effectiveness of digital crossword puzzles in improving seventh-grade students' mastery of action-verb vocabulary in terms of meaning at a Junior High School in Bandung. This study differs from previous research by focusing specifically on the meaning of vocabulary as a fundamental aspect of action-verb mastery through digital learning media.

B. Research Questions

Based on the problem background, three research questions are formulated in this study.

1. What is the students' mastery of action verb vocabulary in terms of meaning before using the Digital Crossword Puzzle?
2. What is the students' mastery of action verb vocabulary in terms of meaning after using the Digital Crossword Puzzle?
3. How significant is the difference in the Digital Crossword Puzzle in improving students' mastery of action verb vocabulary in terms of meaning before and after the implementation?

C. Research Purposes

Given the problem's background, this study has three main objectives.

1. To determine students' mastery level of action verbs vocabulary in terms of meaning before using the Digital Crossword Puzzle media.
2. To determine students' mastery level of action verbs vocabulary in terms of meaning after using the Digital Crossword Puzzle media.
3. To identify the significant difference of the Digital Crossword Puzzle in improving students' mastery of action verbs vocabulary in terms of meaning before and after the implementation.

D. Research Significance

This research is expected to provide several benefits, including:

1. Theoretical Significance

Theoretically, this study is expected to broaden knowledge regarding the role of digital game-based learning media, particularly Digital Crossword Puzzles, in improving vocabulary mastery. In addition, this study is expected to provide evidence on the effectiveness of this medium in improving junior high school students' mastery of action verbs and to serve as a reference for further research on the use of technology and interactive media in language learning.

2. Practical Significance

a. For Student

To provide a more enjoyable, interactive learning experience that leads to improved mastery of action-verb vocabulary.

b. For Teacher

To provide recommendations for innovative, technology-based vocabulary teaching methods that can increase student motivation and Engagement.

c. For the School

To serve as valuable input for school policies regarding the development of technology facilities and the adoption of innovative learning media.

E. Research Scope

This study focuses on the use of digital crossword puzzles as a learning medium to improve students' mastery of action-verb vocabulary. Two main variables are used, namely digital crossword puzzles as the independent variable and students' mastery of action verbs as the dependent variable. The study is carried out during the even semester of the current academic year. It consists of several stages: preparation; administration of the pre-test; treatment with digital crossword puzzles; administration of the post-test; and data processing and analysis. The design used is pre-experimental, with a one-group pre-test and post-test design, so no control group is involved. In addition, the scope of this study is limited to mastery of action-verb vocabulary and does not cover other vocabulary types. The learning medium used is also limited to digital crossword puzzles, without comparison to other media or methods. Furthermore, because the subjects comprise only one class from one school, the results cannot be generalized broadly.

F. Conceptual Framework

Vocabulary is one of the key components of English language learning, serving as the foundation for students to understand and use the language effectively. One type of vocabulary that is important for students to master is action verbs, verbs that describe actions or activities. Mastery of action verbs is

very important as it directly helps students understand texts and convey meaning, especially in descriptive texts, which are frequently used in junior high school instruction. Therefore, the level of mastery of action verbs is a key indicator of students' vocabulary proficiency.

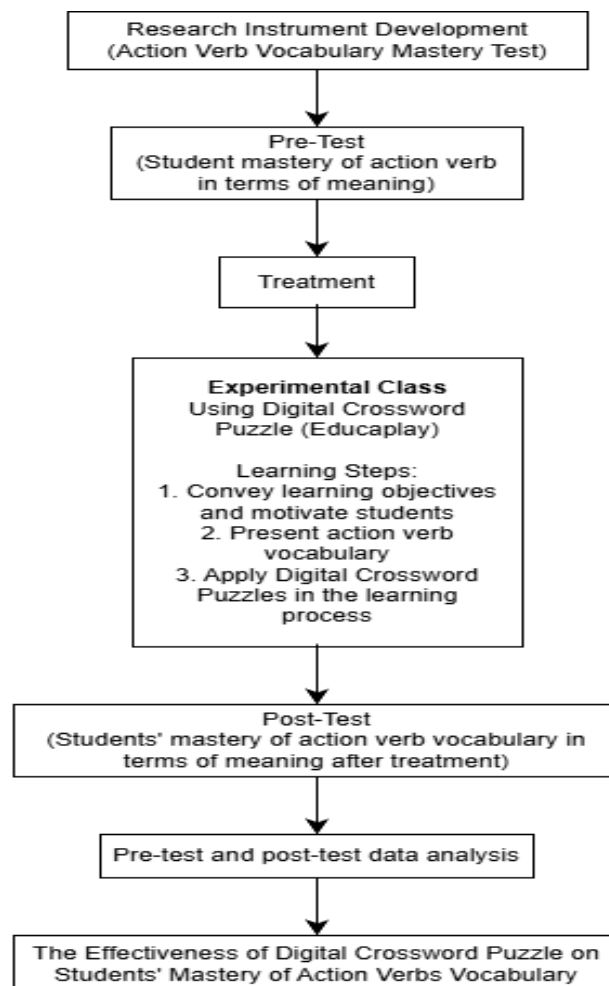
To support this learning process, instructional media play a vital role in facilitating effective learning experiences. Rahini et al. (2024) highlight that instructional media help teachers create engaging and meaningful classroom environments, while Haitami et al. (2021) note that media can overcome various learning obstacles and enhance instructional effectiveness. Learning media can be classified into conventional media and digital media. Conventional media such as textbooks and worksheets are useful but often lack interactivity. On the other hand, digital media offers flexibility, visual richness, and interactive features that can increase student Engagement. This aligns with the Cognitive Theory of Multimedia Learning (Mayer, 2009), which states that students learn more effectively when information is delivered through both verbal and visual elements. One form of digital media for vocabulary learning is the Digital Crossword Puzzle, which combines visual and textual elements to support engaging vocabulary acquisition.

Digital crossword puzzles are designed to help students connect word meanings, forms, and usage in specific contexts. In this study, digital crossword puzzles would be used to practice action verbs. Through crossword puzzle activities, students would be required to repeatedly remember, understand, and use action verbs, so that vocabulary learning would not be merely rote memorization but would also involve deeper cognitive processing. Brown (2000) asserts that effective language learning must be interactive and student-centred, with students actively involved in constructing their understanding. Digital crossword puzzles offer interactive activities that help students actively engage in vocabulary learning.

This study employs Digital Crossword Puzzles using the Educaplay platform, making theories related to digital learning and game-based learning highly relevant. The use of the Educaplay digital platform enables the

implementation of learning that focuses on adaptive User Experience (UX) and personalized learning. Pedagogically, this digital interaction encourages higher-order cognitive Engagement because students must solve puzzles within a time limit, thereby intensifying retrieval practice. In addition, Educaplay provides instant Self-Assessment through an automated grading system, where immediate feedback (Error Correction principle) serves as a crucial mechanism to prevent the reinforcement of memory errors and accelerate vocabulary acquisition.

Figure 1. 1 The Conceptual Framework



G. Hypothesis

In quantitative research, hypotheses are developed to anticipate relationships among variables (Creswell, 2014). The hypothesis of the research was formulated as follows:

1. Null Hypothesis (H₀): The use of Digital Crossword Puzzles does not significantly improve students' mastery of action verb vocabulary.
2. Alternative Hypothesis (H_a): The use of Digital Crossword Puzzles significantly improves students' mastery of action verb vocabulary.

H. Previous Studies

Several previous studies have investigated the use of crossword puzzles in relation to vocabulary mastery. These studies generally show that crossword puzzles are an effective medium for improving students' vocabulary, particularly at the junior high school level. A number of these studies have applied crossword puzzles as a teaching tool to enhance vocabulary mastery across different educational levels.

One such study was carried out by Dani (2025), titled "The Effectiveness of Crossword Puzzles on Students' Vocabulary Mastery in the Tenth Grade at SMK Negeri 1 Metro." The study used a pre-experimental design and aimed to examine the effectiveness of crossword puzzles in improving students' vocabulary. It involved 35 tenth-grade students from the marketing department at SMK Negeri 1 Metro, with a one-group pretest-posttest design applied to measure the results. A vocabulary test was given both before and after the treatment as the main instrument. The findings revealed a noticeable improvement in vocabulary mastery, with the average pre-test score of 58.34 increasing to 80.00 on the post-test. Further analysis using a paired-samples t-test produced a p-value of 0.000 (< 0.05), showing that crossword puzzles had a significant effect on the vocabulary mastery of tenth-grade students at SMK Negeri 1 Metro.

A study by Pratolo & Hafizhah (2022), titled "The Effectiveness of Using Crossword Puzzles in Improving English Vocabulary Mastery of Grade

7 Students at Muhammadiyah 2 Kalasan Junior High School," was conducted to determine whether crossword puzzles could help students improve their vocabulary. A quantitative, quasi-experimental design was used, involving two groups, an experimental class and a control class, with a total of 36 students taking part. The instrument used was a multiple-choice test consisting of 20 items, administered as a pre-test and a post-test. The findings showed a significant increase in students' vocabulary mastery after crossword puzzles were used in the teaching process. Based on the paired-samples t-test analysis, a significance value of 0.000 (< 0.05) was obtained, indicating that the use of crossword puzzles significantly improved the vocabulary mastery of seventh-grade students at Muhammadiyah 2 Kalasan Junior High School.

A study conducted by Haitami et al. (2022), titled "The Effectiveness of Digital Crossword Puzzles in Improving English Vocabulary Mastery in Grade VII Students at SMPN 1 Sukosewu," sought to determine whether digital crossword puzzles were effective in improving English vocabulary mastery among seventh-grade students at SMPN 1 Sukosewu. A quantitative, quasi-experimental design was applied in this study. Based on the pre-test and post-test results, the experimental class showed greater improvement in vocabulary mastery than the control class. These findings suggest that digital crossword puzzles are more effective than conventional teaching methods. Accordingly, this medium is considered capable of improving junior high school students' English vocabulary mastery, particularly those in the seventh grade.

A study by Listyowati et al. (2025) examined the use of crossword puzzles as a method for teaching English vocabulary at ICC Ladang Kosma, Malaysia. A qualitative case study design was used, involving six sixth-grade students, with data gathered through observation, semi-structured interviews, and documentation. The results showed that applying crossword puzzles through structured learning stages, namely preparation, guided practice, and individual assignments, was able to significantly improve students' vocabulary mastery, as reflected in learning scores ranging from 80 to 100. In addition, students reported positive perceptions of crossword puzzles, describing them as

enjoyable, interesting, not boring, and helpful for strengthening vocabulary retention. These findings indicate that educational games, such as crossword puzzles, can serve as an alternative to traditional memorization methods, offering a more interactive way to teach vocabulary.

Technological developments have also encouraged research into the use of digital and online crossword puzzles. A study by Rahmawati (2025), titled "The Effectiveness of Online Crossword Puzzles as a Vocabulary Learning Tool for Grade X Students at MAN 2 Palu," found that digital media proved more effective than conventional methods in improving students' vocabulary mastery. A quantitative, quasi-experimental design was used in this study. Scores rose from 49.49 (pre-test) to 79.54 (post-test) in the experimental class that used digital media, while the control class, taught using conventional methods, only increased from 46.06 to 56.69. Based on these results, it can be concluded that integrating crossword puzzles with digital technology makes learning more interactive, engaging, and better suited to today's students' characteristics.

Although various studies have shown that crossword puzzles, crossword games, and digital crossword puzzles are effective in improving vocabulary mastery at the junior high and senior high school levels, most of these studies still focus on vocabulary in general and have not addressed specific vocabulary types or particular learning contexts. Furthermore, the media used in these studies remain largely conventional, with only a limited number employing digital media.

Therefore, based on a review of previous studies, a research gap can be identified, namely the lack of studies specifically examining the effectiveness of digital crossword puzzles in improving junior high school students' mastery of action verbs. The present research seeks to address this gap by focusing on a specific vocabulary category. Action verbs represent an important component of language skills, particularly in understanding and producing descriptive texts. This focus is also in line with the objectives of English language learning at the junior high school level. The digital media used here is the Educaplay platform,

which has not previously been examined in relation to digital crossword puzzles.

