## CHAPTER II

## REVIEW OF RELATED LITERATURE

The contents of chapter II of this thesis explain (1) the theories and (2) concepts according to experts that support a scientific research based on the theory that is relevant to the thesis title.

### 2.1 The Concept of Vocabulary

### 2.1.1 Vocabulary

Vocabulary itself consists of words with meanings in a language. These words are used to create sentences that express ideas and allow people to communicate with each other. It helps us share our thoughts, opinions, ideas, and feelings. Can be interpreted as a collection of words that are owned by a language and give meaning when we use that language. By mastering vocabulary properly, it can connect the four skills of speaking, listening, reading and writing. Therefore, learning vocabulary is very important to develop and improve students' English. There are several definitions of vocabulary that come from experts in this study, of course the many theories that underlie research are very important in a study, therefore the theory are:

Richards \& Renandya (2002) state that Vocabulary is a crucial part of being proficient in a language. It has a significant influence on learners' abilities
in speaking, listening, reading, and writing. In learning English, especially for beginners, vocabulary becomes even more important, particularly for understanding what is being read. There are two main reasons for this: firstly, vocabulary helps in understanding the structure, phrases, sentences, and overall text; secondly, it enables the conveying of word meanings within a text. Wilkins in Thornbury (2004) state that grammar is important for communication, but vocabulary is even more essential. Without a good vocabulary, it's impossible to convey any meaning, regardless of how well someone knows grammar. In simpler terms, having good grammar alone is useless if a person doesn't know many words. According to Vossoughi (2009), vocabulary is a tool we use to think, convey our thoughts and feelings, and learn about the world.. Pikulski and Templeton (2004) Vocabulary can be defined as the collection of words that students use and comprehend. Considering the previously mentioned definitions, it can be inferred that vocabulary encompasses words obtained from written and spoken sources, which are employed for communication in language learning.

### 2.1.2 Types of Vocabulary

Hiebert and Kamil (2005), propose two kinds of vocabulary, productive and receptive vocabulary.
a. Receptive vocabulary

The learners possess the ability to recognize and comprehend certain words when encountered in context, but they are unable to generate or produce them. This refers to vocabulary that learners can identify and understand while reading, yet they do not actively utilize these words in their speaking and writing. For example, a child's ability to listen and follow directions (e.g. "put on your coat") relies on the child's receptive language skills.

## b. Productive vocabulary

The words comprehended by learners, which they can accurately pronounce and effectively utilize in speech and writing, constitute their productive vocabulary. This encompasses not only the understanding of words for receptive purposes but also the ability to use them appropriately in communication. Hence, productive vocabulary is considered an active process as learners can actively express their thoughts to others by producing words. Generally, the passive vocabulary of a group tends to be larger than their active vocabulary. Although active vocabulary may appear more crucial for communication, the objective of teaching a foreign language is to expand both the students' passive and active vocabulary while developing the four fundamental language skills: speaking, writing, reading, and listening.

From the aforementioned explanation, it can be deduced that there exist various types of vocabulary. This is pertinent to the fact that individuals have distinct ways of comprehending words, such as through visual, auditory, oral, and written means. Not all words are suitable for learners' needs, thus the
selection of vocabulary becomes imperative in teaching, considering specific criteria for vocabulary selection.

### 2.1.3 Aspect of Vocabulary

When we talk about knowing a word, it typically refers to two aspects: (a) being able to identify the word's form and (b) assigning a meaning to it. However, there are instances where we can recognize a word visually but struggle to recognize it audibly. Moreover, we may understand a word when we encounter it in written or spoken form but find it challenging to incorporate it into our own speech or writing. The following list presents a progression from simpler forms of knowledge to more intricate ones.

1. Understanding the word's grammatical categories.
2. Familiarity with the different forms and meanings derived from the word.
3. Awareness of the synonyms, antonyms, and subordinate terms associated with the word's meanings and derived forms.
4. Comprehension of the word's grammatical characteristics.
5. Knowledge of the word's typical associations with other words in phrases and patterns.
6. Understanding the limitations and considerations regarding the word's usage, including its frequency and formality.

### 2.1.4 Kinds of Vocabulary In This Study

There are six kinds of vocabulary, which is more comprehended than previous theory, such as Thornbury, (2002);

## A. Word Classes

Word class is known as parts of speech, have distinct functions within a text, these eight elements. There are:

## 1. Noun

Noun is word that used to indicate names of persons, places, things, ideas, or qualities. There are two kinds of noun; common noun and proper noun. Common noun refers to things which were not specific, such as book, pen, table, market. Proper noun refers to specific name of things, such as January, Sunday, Beat motorcycle, Indonesia, Barack Obama (Idaryani, (2015)). Looking to the quantity of the things, noun also divided into two categories, countable and uncountable. Countable noun refers a noun that can be count easily while uncountable noun refers a noun that cannot be count (Idaryani, 2015). Countable noun also have two types, singular form and plural form. Singular form used to indicate one thing, sometimes it signed by addition of article "a" or "an", i.e. a book, an apple, a motorcycle. Plural form used to indicate thing consists of two or more, sometimes it signed by addition some suffixes in it words, i.e. chairs, clothes, cats, babies, leaves or different words with the singular form, i.e. feet (singular form foot), data (singular form datum). Looking to the object appearances, noun divided into two categories, abstract
and concrete noun. Abstract noun refers a noun described idea, concept, feeling or characteristics, in contrast concrete noun refers a noun described a real material. Anger, tolerance, love are the example of abstract noun, whether balloon, egg, laptop, pen are the example of concrete noun.

## 2. Pronoun

Pronoun is a class of word that replaces a noun that has already been mentioned before. It included I, you, him, her, me, this, that, they, which, she, he, etc. Pronoun has six categories, such as personal pronoun (I, you, they, we, she, he, it, me, us, them, him, her), possessive pronoun (my, your, our, their, his, her, its, mine, yours, his, hers, ours, theirs), reflexive pronoun (myself, yourself, themselves, ourselves, himself, herself, itself), reciprocal pronoun (each other, one another), relative pronoun (who, whom, whose, which, that) and demonstrative pronoun (this, these, that, those).

## 3. Verb

Verb is a class of word that conveys action or a state being of the subject. There are eight kinds of verb, such as: transitive verb (ask, buy, make), intransitive verb (arrive, come, go), irregular verb (choose, feel, send, write), regular verb (accept, decide, walk), action verb (eat, grow, jump, run), stative verb (deserve, forgive, impress), linking verb (act, be, look, seem) and causative verb (get, have, let).

## 4. Adjective

Adjective is a class of word that used to give addition information or describe or modify noun and pronoun. It places after linking verb or before noun, for examples, old house, green car, and pretty girl.

## 5. Adverb

Adverb is a class of word that modifies verbs, adjectives, or other adverbs. It answered question when, where, why, how, how much, under what condition (Vachula, 2008). There are seven kinds of adverb, such as adverb of time (early, recently, now), adverb of manner (fast, slowly, quickly), adverb of degree (enough, so, too, very), adverb of modality (likely, maybe, perhaps), adverb of frequency (always, seldom, often, sometimes), adverb of place (behind, here, nearby) and adverb of focus (also, even, just, only).

## 6. Preposition

Preposition is a class of word that link nouns or pronoun to other words for building a preposition phrase in a sentence. There are six kinds of preposition, such as preposition of time (after, before, since), preposition of place (above, at, in, on), preposition of movement (inside, into, towards), preposition of manner (by, in, like), preposition of purpose (for), preposition of measure (by).

## 7. Conjunction

Conjunction is a class of word that link words, phrase, or clauses to show any relations between them. There are three kinds of conjunction, such as coordinate conjunction (for, and, nor, but, or, yet, so), subordinate conjunction
(although, because, whether, while), correlative conjunction (either ... or, neither ... nor, not only ... but also).

## 8. Determiner

Determiner is a class or word that places before noun for the limitation of the noun. There are three kinds of determiner, such as definite article (the), indefinite article (a, an, any, other), and quantifiers (few, all, many, some).

## B. Word Families

Word family consists of base word and affixation either prefixes or suffixes. It can give new meaning which called derivative, but also keep the meaning as the base verb, which called inflexion. Inflexion signed a grammatical rule of tenses used in sentence, for instance, played (past) -plays (present) - playing (continuous). Those words still have the same meaning, but in different condition. Whereas, derivative gives different meaning as the base verb, for instance, player - replay - playful.

## C. Word Formation

There are three types of word formation, compounding, blend and clipping. Compounding is a process of combining two or more independent words, such as classroom, teapot, typewriter, hairdryer and so on. Blend is a process of blending two words to one form new word, such as brunch (breakfast + lunch), infotainment (information + entertainment). Clipping is a process of shortening the long words, such as flu (from influenza), email (from electronic mail), and dorm (from dormitory).

## 1. Multi-word Units

Multi-word unit consists of some words joined as a group and has it meaning, for instance look for, more or less, a lot of, sort of things.

## 2. Collocations

Collocation consists of some words in generally built a common phrases, examples, cup of tea, depend on, do the dishes, spend time, do your best, and keep a secret.

## D. Words Meaning

## 1. Homonyms

Homonyms are words that have same form of alphabet but have unrelated meanings, for example I like to look at your painting and Your painting looks like new.

## 2. Synonyms

Synonyms are words that have similar meaning, such as old - ancient antique - aged - elderly.

## 3. Antonyms

Antonyms are words that have opposite meaning, such as; old $><$ new, tall >< short, big >< small, far >< near.

### 2.1.5 Vocabulary Mastery

Vocabulary mastery is Being able to understand and use words in English is crucial for effective communication, both in speaking and writing, as it ensures that the intended meaning is conveyed accurately. Mastering
vocabulary is important because it makes learning English easier and enables us to communicate more effectively with others. It helps us achieve our goals in English language learning.

According to Larsen-Freeman \& Anderson (2011), there are some ways to improve the vocabulary mastery:

## a. Translation of a Literary Passage

Learners translate a reading passage from the target language text to their native language. This activity stimulates learner's capability in gaining new vocabulary and grammatical structures. Learners should not only translate word to word purely, but also they try to express their understanding after reading the passage. When learners were success to understand the passage, question with the same topic from the passage are needed to elaborate the learners' new vocabulary and the learners' previous vocabulary knowledge.

## b. Antonyms/Synonyms

Learners also can get a lot of vocabularies through the antonyms and synonyms exercise. Teachers give one set of words then asked the learners to look for the antonyms or synonyms in the reading passage.

## c. Fill-in-the Blank Exercise

The other exercise to develop the learner's vocabulary mastery is fillinthe blank exercise. The learners are given a series of words that have some missing words. They will fill it with their new vocabulary knowledge of some various grammar types, such as verbs, nouns, prepositions.

## d. Memorization

The learners are given a list of vocabularies that consist of the target language vocabularies and the native language vocabularies to be memorized.

## e. Use Words in Sentences

In order to show that learners understand the meaning and the use of a new vocabulary item, they make up sentences in which they use the new words.

## f. Composition

The last way to develop the learners' vocabulary mastery is giving the learners a written test to write a text about one topic in target language form. Sometimes instead of creating a composition of good paragraph, they need a dictionary to looking for some new vocabulary that appropriate with their text.

### 2.1.6 Teaching Vocabulary

Nation (2008) states that teaching vocabulary is among the least important of the teacher's job. There are some steps in teaching vocabulary for foreign language learner :

## a. Presenting new vocabulary

Presenting new vocabulary becomes the first step in teaching vocabulary. In this step, teachers can use some kinds of technique in delivering new vocabulary to the leaners. Technique refers to exercises, activities, or tasks presented in the classroom (Brown, 2000). The use of technique was not far with the use of media in teaching too.

Media are tools that used by teacher in running the classroom activities. Based on the students learning style, there are five categories of techniques with each example of media in teaching vocabulary (AKAR, 2010):

## 1. Visual techniques

The way can be used are illustration through some media such as; real objects (tickets, advertisements, forms, brochures, magazines), posters, photos, drawing, maps, film, videos, board games, crossword puzzles, computer-based technology.

## 2. Aural techniques

The way can be used are listening some media such as nature sounds, poems, audio from films or videos or radio programmers, recorded interviews, songs, computer-based technology.

## 3. Verbal techniques

The way can be used are demonstration, contextual form, and activity such as games, riddle, tongue twisters, contextual guesswork, role-plays, translation.

## 4. Kinaesthetic, olfactory, gustatory techniques

The way can be used are detailed description such as smelling and tasting.

## b. Remembering vocabulary

Memorizing vocabulary is the second step of teaching vocabulary. In this step learners work by their selves because it can be the important step for learners to achieve their vocabulary mastery. Teacher still can support them by grouping the vocabularies into some categories for making the learners easier to memorize the differences between one word and other words.

## c. Ideas For Vocabulary Work In The Classroom

In this third step, teacher can make some activities in classroom for motivate the learners use their new vocabularies. An idea can be used for vocabulary work in the classroom is brainstorming. Teachers can give a word as a theme, and then learners mention the related words with the theme. There is no sentence or paragraph, just a circle of associated items with a meaningful context.

### 2.1.7 The Vocabulary Related to the Curriculum at SMP

The relationship between vocabulary and reading skills is that a language user will not able to draw and interpret the meaning from the printed if he or she does not have vocabulary. Nation (2001) state vocabulary knowledge is one of the best predictors of learners' ability in reading comprehension. In addition, the relationship between vocabulary and reading can be stated in detail as Nagy said (2011) that reading is the single most important factor in creased vocabulary knowledge. The type of vocabulary used
in this study is adjective, action verbs, antonym, and synonms. Students will identify language features namely: adjectives, action verbs, antonyms, and synonyms in descriptive text. Vocabulary test in the form of 20 multiple choices in 20 minutes to do it using wordwall.net. According to the curriculum SMP especially class VIII :

Table 2.1

## Basic Competency

| Standard of competence |  |
| :--- | :--- |
| 5. Understanding the meaning of written texts and simple short essays in <br> the form of descriptive and recount related to the surrounding environment. |  |
| Basic competency | Indicators of Competence <br> Achievement |
| 3.5 Identify social function, text | 3.5 .1 Identify the use of adjectives |
| structure, and linguistic elements |  |
| from the descriptive text. |  |
| write by giving and asking |  |
| information related to the |  |
| description people, animals, and |  |
| things, reallyshort and simple, | 3.5.2 Identify the use of action verbs |
| according to | from the description text. |
| context of use. | antonym of the word description |
| text. |  |

### 2.1.8 Teaching Material

## Descriptive Text

Descriptive Text is a text which says what a person or a thing is like. Its purpose is to describe and reveal a particular person, place, or thing.

## 1) Generic Structure:

a. Identification: Introduces or identifies the character or everything.
b. Description: A part of the paragraph which describes something.

## 2) Social Function:

a. To describe about something.

## 3) Language Features

a. The use of the adjective (an adjective) to clarify the noun, for example: a beautiful beach, a handsome man, and the famous place in Jepara.
b. The use of simple present tense: The sentence pattern used is simple present because it tells the fact of the object described.
c. Action verb: verbs that show an activity (for example, run, sleep, walk, cut )
d. Word meaning (for example, sleepy $=$ mengantuk, $\operatorname{sad}=$ sedih, etc $)$
e. Antonyms are words that have the opposite meaning of another word (for example,

$$
\text { win }=\text { lose })
$$

f. Synonyms are words that have the same meaning (for example, calm = quite)

## 4) Text

## Descriptive Text about Person

## My Best Friend, Ernesto

My best friend is Ernesto and he is my classmate. We go to school together. Ernesto comes from an educated family. His father is a school principal and his mother is also a teacher.

He is punctual, well-educated, and has good manners. He is really hard-working. He always does his homework. He is also well-dressed and well-behaved. All teachers have a high opinion of him.

Ernesto has a well-built body. He is gentle but fearless. He takes part in all sports, scout, trekking and mountaineering activities. He has a good heart. He is truthful, honest and obedient.

He also plays the guitar, and he makes his parents very proud of him. He secures good marks and is usually top of his class in examinations. He inspires me to work
 harder. He keeps me away from bad company. I am happy to have such a friend.

Note : Action verbs are marked in purple Adjectives are marked in red

### 2.1.9 Assessment of Vocabulary

Assessment is a systematic process of gathering information and making judgments about a student's abilities or evaluating the quality and success of a teaching course. It involves using different types of evidence to draw conclusions. To measured the level of students' vocabulary skills, it is important to evaluate their vocabulary through assessments.

Table 2.2
Scoring Rubric of Multiple Choice

| Number of Question | Scores | Criteria |
| :---: | :---: | :--- |
| $1-20$ | 1 | The answer is correct |
|  | 0 | The answer is wrong |
| Maximum score | $\mathbf{2 0}$ |  |

There are many kinds of test such as, multiplechoice, matching, odd one out, writing sentence, dictation, gap-filling, translation and sentence completion. In this study, vocabulary mastery was tested using the multiple choice question type through Wordwall.net. One question consists of several possible answers, including correct answers and several wrong answers. The test consists of 20 multiple choice questions in 20 minutes.

According to Chung and Pannebaker (2007), vocabulary consists of two type, such as (1) Content words (2) Function words. This study merely focuses on content words analysis. There are Content words types of
vocabulary used by researchers in this study to test vocabulary in descriptive text: adjectives, action verbs, antonyms, and synonyms, these Content words are explained below:

1. Adjective is a class of word that used to give addition information or describe or modify noun and pronoun. It places after linking verb or before noun, for examples, old house, green car, and pretty girl.
2. Verb is a class of word that conveys action or a state being of the subject. There are eight kinds of verb, such as: transitive verb (ask, buy, make), intransitive verb (arrive, come, go), irregular verb (choose, feel, send, write), regular verb (accept, decide, walk), action verb (eat, grow, jump, run), stative verb (deserve, forgive, impress), linking verb (act, be, look, seem) and causative verb (get, have, let).
3. Antonyms are words that have opposite meaning, such as; old >< new, tall >< short, big >< small, far >< near.
4. Synonyms are words that have similar meaning, such as old - ancient antique - aged - elderly.

### 2.2 Media

### 2.2.1 Web-Based Learning

(McKimm et al., 2003:870) Web-Based learning is a design of learning process which using web as equipment in online class, such as email, videoconferencing, and live lectures video streaming. Moreover, looking to the
relative effectiveness of web-based learning, there are two fundamental environment differences, such as (Khalifa \& Lam, 2002):

## a. Distributed Passive Learning (DPL)

In this environment, the web is used to deliver the material in traditional learning way. The material uploaded by teachers in a web, then learner access it individually anytime and anywhere based on their circumstances. Also teachers deliver the material in liner form, such as; text file, presentation slide and videos. It cause the learners become passive in gaining information.

## b. Distributed Interactive Learning (DIL)

On the other hand, this environment use web as a learning medium that leaners to explore new experience in learning. It serves leaners to explore the learning material by their own pace. Also this environment gives leaners chance to have some interaction with the teacher and others leaner. There are many websites required DIL environment in any major of education. Hence, the next discussion will discuss about websites of DILenvironment in language learning.

### 2.3 Wordwall.net

Wordwall.net is an interesting application when it comes to programming. This app is explicitly intended to be a fun learning asset, media, and assessment tool for students. The wordwall page also provides examples of instructor manifestations so that new clients know about what types of creations to make. (Sherianto, 2020) Wordwall is a web application that can be used to
make education fun for students and can also be used as a learning medium that can make students active. This website can be suitable for planning and exploring active learning evaluations. (Irham Halik, 2020).

### 2.3.1 Advantage of Wordwall.net

The advantages of wordwall.net include interesting features variety, reporting automatic result, providing printable materials and accessing easily (Ar-Rahmah, 2021). As a website tool, wordwall.net facilitates many interactive games which by the end of games it will present score. Score shows the final result from learner's activity then it sent to the teacher, as a game maker, automatically. Besides that, teacher also can print out the material in pdf form, in case he wants to bring it to conventional classroom. Both teacher and learners may access wordwall.net easily through their smartphones.

### 2.3.2 The Use of Wordwall.net in Vocabulary Learning

Looking to the homepage of wordwall.net which show the huge number of resources created, it can be assume that wordwall.net facilitates many materials from any major of education. Because this website offers interactive games, it influences teachers or education content creator to use it, even the language teachers. Wordwall.net delivers the game templates that support vocabulary learning (Ramadhan \& Zaharani, 2021).

The word depends on the objectives research. Researcher will do treatments everyday by mentioning the characteristic then learners will guess the right word in the wall. From this strategy, many researchers were success
in improving learners' vocabulary mastery. That strategy also presents by wordwall.net. The difference is there is no more explanation from teachers in giving clues of the word. For instance, the similar template is group short. Teacher, as a game maker, shows list of word then the leaners asked to drop the words into the exist group. Learner will try to construct their own understanding. Besides that, almost all templates in wordwall.net made for vocabulary acquisition.

### 2.3.3 Procedure Teaching Vocabulary Through Wordwall.net

Wordwall.net is a website that presents vocabulary learning through various games by using internet. It can be access in computer, laptop, and smartphone. Teachers use it as an interactive way to build fun learning in classroom activity.

Here are some steps how to conduct Wordwall.net Application :

- Access https://wordwall.net/ for teacher

(Chart 2.1 Wordwall.net Home Page)
- On teacher"s device, click "Log in"

(Chart 2.2 Log In Display in Wordwall.net)
- After $\log$ in the account, there will be seven others menu existed in the main bar, there are;
a. Features

In this webpage (www.wordwall.net/features ), it shows what wordwall.net has reached out. It includes eighth features; interactive 23 and printables, creating using templates, switching templates, edit any activity, themes and option, sharing with teachers, embedding on a website and students assignment.
b. Community

In this webpage (www.wordwall.net/community), it shows many resources of game. There is a search engine for looking up the materials that have been created and published by other content creators.
c. My Activities

In this webpage (www.wordwall.net/myactivities), it shows the users creation of games. The user can make new games, delete the games, share the game links, edit game content and duplicate game also show the QR code of the game.
d. My Results

In this webpage (www.wordwall.net/myresults ), it shows the result of the game. The user can share link the final result of the game to learners, share assignment, change deadline of the game, export to file, delete the game and show the QR code of the game.
e. Create Activity

In this webpage (www.wordwall.net/create/picktemplate), it shows the templates of interactive games. This webpage is the core of wordwall.net website, because teacher will use it to create some activity. Then after pick the template, user enters the content or materials and clicks done. Next the program will automatically process the game.

- Pick templates

(Chart 2.3 Tamplates in Wordwall.net)
- Enter content

(Chart 2.4 Enter Content in Wordwall.net)
- If it's finished, please press done, then the quiz ready to be given to students. Ask students to open the link/Share resource provided by the teacher on their smartphone, tablet or laptop browser.


# Resource published <br> All done <br> © https://wordwall.net/resource/56812232 copy <br> Share or embed it: <br>  

This resource is now listed on your Profile Page

> Done
(Chart 2.5 Display Link in Wordwall.net)

- For students to access the link / barcode that has been given by the teacher. Then, students will be connected to Wordwall.net. The display screen will look like the image below. After that the student typed the full name and pressed the "start" button to start the quiz.

(Chart 2.6 First Test Display in Wordwall.net)
- Display of the test.

(Chart 2.7 Test Display in Wordwall.net)
- At the end of the quiz, it will display the result in leaderboard which students have the highest score and be the winner.

(Chart 2.8 leaderboard in Wordwall.net)


## f. Upgrades

In this webpage (www.wordwall.net/account/upgrades ), it shows some offers for the user account to improve the service of 25 wordwall.net. It has some offer for individual plans and school plans. The improvement includes
templates kind, printable service, and unlimited number of games that user can create.
g. Profile

In this menu, it shows basic information about the user, option about language used and $\log$ out.

### 2.4 Previous Related Studies

a. Some related studies became the references for this research. The first related study by Erlin Alpatikah (2022) with the title "The Effect Of Using Wordwall.Net On Student's Vocabulary Mastery" This research used quantitative research with quasi-experimental design. The subject of the research were the seventh grade students at MTs Negeri 10 Jakarta in class 7A, which became controlled class, and 7D, which became experimental class. The data were gathered through pre-test and post-test that had different questions but used the same test grid. For pre-test and post-test consisted of 40 valid questions in each test formed multiple choices. The result of data analysis reveals there was any difference between the mean score of pre-test in experimental class (54.00) and controlled class (62.80). Meanwhile, in post-test mean result showed control class got 77.33 and experimental class got 86.45. Therefore, there was an effect on student's vocabulary mastery after using wordwall.net.
b. The second previous related studies from Setia Rini (2021) with the title "Using Word Wall For Improving Students" Writing "What Are You

Doing'" This research used a quantitative method in the form of experimental design. The cycle I, the mean of pre-test was 55.71 and the mean of post-test was 70.00. In this cycle, $71.43 \%$ of students still got poor scores. In cycle II, the mean of pre-test was 70.00 and the mean of post-test was 84.29 . In this cycle, $88.56 \%$ of the eighth-grade students got an excellent score. The mean of the pre-test was lower than the mean of the post-test. It means there was significant improvement using Wordwall.

