

The Effect of Using Comics on the Vocabulary Achievement of Junior High School Students

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Abstract: Comics may be considered one of the most widely popular reading materials used on a daily basis. Beyond their role in entertainment, comics have also been incorporated into educational contexts as a media in language teaching and learning, as evidenced by the numerous studies addressing this subject. Dissimilar to previous studies which mostly focused on reading ability, this present study intended to research the effect of using comics on the vocabulary achievement of junior high school students. This study was conducted in a public junior high school in a region in Indonesia, employing a quasi-experimental research design. The population of the study consisted of eighth-grade students, with the research participants determined through a random sampling using a lottery. Subsequently, the students were divided into an experimental and a control group. In order to achieve the research's objective, different treatments were administered to both groups. The experimental group was administered a treatment of using comics to teach vocabulary, while the control group received a conventional vocabulary teaching using text. To collect the research data, three data collection methods of vocabulary test, interview, and documentation were employed by the researcher. After the collected data were analyzed, the results demonstrated a significant difference in mean score between the experimental and control groups. It was found that there was a 7,11 mean score difference between the two groups, with the experimental group exhibiting a higher score. The present study also indicated an enhancement in the students' vocabulary achievement, thereby confirming the efficacy on the treatment of using comics. Lastly, it was suggested that English teachers may utilize comics as vocabulary teaching and learning media, in light of the findings of this study that have validated its effectiveness.

Keywords: English language teaching; Vocabulary achievement; Comics as teaching and learning media

1. INTRODUCTION

The development of language skills constitutes a fundamental aspect in the process of learning English as a foreign language. It is imperative that learners demonstrate a proficiency in the four language skills of reading, writing, listening, and speaking. In regard to the aforementioned skills, learners must also develop an understanding of the language components, comprising vocabulary, grammar, and pronunciation. As asserted by Khafidhoh & Carolina (2019), vocabulary may be regarded as the initial aspect of English language learning, as it serves as the foundation for all English skills. In reading, vocabulary is very important as learners must possess a plenty of vocabulary in order to fully comprehend reading materials. Having a rich vocabulary is also crucial for enhancing learner's writing skill, enabling them to write a wide range of words. In listening skill, vocabulary is influential for students' development as learners may experience difficulty in comprehending and understanding a conversation in English if they do not have a sufficient knowledge of the words spoken by the speaker. Additionally, vocabulary plays a pivotal role in speaking skill, empowering learners to communicate their ideas and express themselves fluently to others.

As previously outlined, vocabulary assumes a key part in the process of attaining proficiency in reading. According to Sari et al. (2021), reading can be defined as an activity engage in by readers to transform written language into comprehensible form. Consequently, students must have a comprehensive understanding of vocabulary to decipher the intended meaning of the words used in the text. This is of particular importance, as students with insufficient vocabulary will undoubtedly encounter difficulties when engaging in reading activities (Sari et al., 2021). The issue of insufficient vocabulary in junior high school students has been examined in several studies, suggesting that it is not a recent development. For instance, a study by the Educational Testing Service in 2017 found that nearly 50% of high school graduates lacked the necessary vocabulary skills to succeed in college-level coursework, implying that the problem may emerge even earlier in junior high schools.

Regardless, it is evident that junior high school students, specifically those learning English as a foreign language (EFL) will come across a considerable number of foreign words when reading English materials. This can be attributed to factors such as students' unfamiliarity with the vocabulary and their limited exposure to the English language due to its limited use in their daily lives. Additionally, the problem may also be

attributed to the monotonous teaching methods or media employed by teachers (Azizzah & Hamid, 2022). Especially since students still require a teacher figure to support their language learning, and as such, teachers frequently have to assist students in identifying and interpreting the new vocabulary encountered during the learning process. It is imperative for teachers to facilitate students' comprehension of a new vocabulary and the overall meaning of a sentence. In instances where students encounter unfamiliar vocabulary, teachers can utilize media to assist students to memorize the new words. One of the media that can be employed by the teacher is comics.

Comics are defined as a series of pictures containing a story that has a number of panels in it (Marleni, 2018). They have become a popular reading material for people around the world. A study undertaken by the National Literacy Trust in the UK in 2021, revealed that 53.7% of children and teenagers reported that they enjoyed reading comics and graphic novels. Many of them read comics as a means of leisure or for the purpose of entertainment. This finding suggests that there is a notable interest in reading comics among young people, including students. Accordingly, teachers may find value in incorporating comics as an engaging media to facilitate students' vocabulary learning. Comics may be employed to enhance students' vocabulary memorization, thereby facilitating them to remember new vocabulary in a fun way. Students have the opportunity to learn and acquire new words by interpreting the images in the comics. Moreover, the easy accessibility of comics enables students to engage in reflective practices aimed at refining their understanding of the vocabulary taught by teacher in the classroom setting. In this manner, students can use comics as a learning media in order to develop their vocabulary skills. Evidently, there seems to be a growing interest in reading comics among students and many view it as an interesting and enjoyable way to improve their literacy abilities.

The use of comics in vocabulary teaching and learning has been the focus of numerous studies by researchers in the field of education. Robbani and Khoirotnunnisa (2021), for instance, explored the impact of using English comics as reading materials directed to students from the English language education department. The findings of this research indicated that online English comics are beneficial in increasing students' vocabulary, enhancing reading comprehension, and developing critical thinking. In addition, Poai (2018) conducted a study examining the efficacy of teaching English vocabulary using comic strips on senior high school students in Poso. Upon the conclusion of the study, it was determined that all students attained satisfactory achievement while utilizing comic strips as a learning media. A similar study was conducted by Sari et al. (2021), researching the utilization of comics as an educational media for enhancing reading comprehension and vocabulary mastery among senior high school students. The study's findings indicated a substantial enhancement in the students' vocabulary mastery and an increase in their reading motivation. Concurrently, Castillo-

Cuesta and Quinonez-Beltran (2022) examined the utilization of digital comics to enhance EFL learners' vocabulary learning during online courses. The participants of the study were divided into an experimental class and a control class. Following a thorough analysis of the collected data, it was revealed that students in the experimental class exhibited a significant effect in vocabulary learning.

These studies on the use of comics in vocabulary teaching and learning have predominantly been conducted with senior high school or college students as participants. A significant proportion of these studies have concentrated on reading skill rather than on vocabulary skill. Consequently, the present study investigated the effect of using comics on the vocabulary achievement of junior high school students.

2. LITERATURE REVIEW

2.1 VOCABULARY

A set of words used for the construction of a language is referred to as a vocabulary (Hatch & Brown, 1995). Considering the status of English as a foreign language in Indonesia, it is imperative for students to first learn vocabulary as it exerts a significant influence on the development of the language. Vocabulary is a pivotal component of a language and its integration with other language skills is intrinsic, rendering it inseparable from its role in language learning.

As the key elements of a language, vocabulary is something that students must learn in order to properly understand a new language. According to Hamer (2001), vocabulary constitutes the core of a language, with structures serving as the framework for language. This assertion emphasises that vocabulary constitutes a fundamental component of all languages, including English. Consequently, learning vocabulary is an important initial step in the process of attaining proficiency in a language. This is particularly salient in the context of the English language, which is renowned for its extensive and diverse vocabulary.

The possession of a large vocabulary is of paramount importance for students, since it facilitates an expansion of their understanding of words. As students attain mastery over an expanding array of vocabulary, their vocabulary achievement will undergoes a corresponding increase. Not only their vocabulary achievement, mastering vocabulary has been demonstrated to positively impact the students' range of language skills, including reading, writing, listening, and speaking skills. This is in accordance with statement made by Kurniawati, Wati, & Deni (2020) who asserted that the academic abilities and self-confidence of a student will both rise if their vocabulary achievement has increased. Vocabulary achievement exerts a significant influence on cognitive process and creative thinking in language learning. Consequently, mastering vocabulary can determine a student's quality when using a language (Kasno, 2004 in Kurniawati, 2020). Both the quantity and quality of vocabulary possessed by students can help them comprehend abundant information

conveyed by teachers or other learning sources. Mastering vocabulary can considerably impact the abilities of students in oral and written skill. Therefore, it is vital that the vocabulary taught to students is appropriate for their learning needs. Hence, in Indonesia, the scope of vocabulary taught by teachers is determined by the curriculum used in each school.

Regarding the scope of vocabulary studied in the eighth grade of junior high school, the curriculum encompasses nouns, adjectives, verbs, and adverbs. According to the Cambridge Dictionary, a noun is defined as a word that refers to place, person, things, or animals. Examples of this include *sister*, *beach*, *umbrella*, etc. An adjective, meanwhile, is used to describe or modify a noun. Examples of this include the adjectives *beautiful*, *happy*, *warm*, etc. In contrast, a verb is a word that describes an action, occurrence, or state of the subject, and examples of this include *run*, *sleep*, *play*, and so forth. Finally, adverbs are words that modify a noun, verb, and other adverb. Examples of this include *quickly*, *nicely*, and *slowly*. This is in accordance with the curriculum used in the target school, which is "Kurikulum 2013", with the theme of experiences/activities/events/incidents. The vocabulary employed in this research focuses on the term "holidays", which aligns with the aforementioned theme.

In addition, English has been a formal subject studied since the primary level of education in Indonesia. However, the findings of the research conducted by Kisyani, Maria, Mukhzamilah, & Fafi (2019) indicated that the vocabulary mastered by students in the junior high school level in Indonesia was still low. In connection with this, the Indonesian language textbook for junior high school level contains approximately 4,000 entries. This figure is considered inadequate in comparison to the Kamus Besar Bahasa Indonesia (KBBI), which has entries totalling 127,036 and classes with the same level in America, which have 86,741 entries. In order to achieve the requisite vocabulary, several factors must be taken into consideration, as further explained in the following section.

2.1.1 FACTORS AFFECTING VOCABULARY LEARNING

Andari (2023) asserts that internal and external factors play a major role in vocabulary learning, exerting a considerable influence on the students' vocabulary development. Such factors may stem from within the students themselves or from external sources. An internal factor is defined as one that is generated by the students themselves. Examples of internal factors include a low motivation to learn a vocabulary, difficulty in maintaining focus in the classroom, struggling to remember new vocabulary, and so on.

Vocabulary learning is a challenging task for junior high school students who often find it difficult to remember new vocabulary due to a lack of engagement. Similarly, the difficulty to focus in class may also originate from the same root cause. Such occurrences may be attributed to students lack of interest in the lesson being delivered by the teacher. They lack the motivation to keep learning because they do not

perceive the necessity to learn a new language. A key contributing factor is the shortage of opportunities for students to learn vocabulary in authentic contexts, resulting in limited exposure to authentic English vocabulary materials (Priatin et al., 2021). It is plausible that these issues are the underlying cause of the students' limited vocabulary. A lack of vocabulary may lead to students experiencing challenges in comprehending learning materials, exhibiting low reading comprehension, and struggling to express ideas in written or oral form. The students' limited vocabulary is also likely to have resulted in substandard performance in language skills assessments due to their diminished interest in vocabulary learning.

Conversely, an external factor is defined as a factor that originates from external sources. The absence of exposure, previously referenced in passing, also constitutes an example of this category. Exposure to authentic materials which contain rich vocabulary, plays a significant role in students' vocabulary learning. A limited exposure to authentic materials may contribute to a low vocabulary achievement. Research conducted by Priatin et al. (2021) examined students' vocabulary achievement at grade VIII of junior high school in Tasikmalaya revealed a findings that the majority of students demonstrated a clear limitation in their vocabulary. The students often used the same words repeatedly when performing language tasks. In instances where students were unable to identify a particular word's meaning, they tend to resort to use Bahasa Indonesia, their first language (L1), driven by its prevalence in their daily interactions and the familiarity they had with it.

In order to overcome the factors that affect vocabulary learning, one of the approaches that teachers can employ is to integrate media into the learning process. The utilization of media in vocabulary teaching and learning is also regarded as an external factor, given that it originates from external sources. The use of engaging learning media can serve to stimulate students' interest in vocabulary learning. As stated by Khafidhoh & Carolina (2019), the absence of media is a significant factor contributing to poor vocabulary learning outcomes. Furthermore, the use of diverse media to augment students' vocabulary size and knowledge has also been proposed by Mustafa (2019). The utilization of media can assist teachers in engaging students to learn vocabulary within an enjoyable environment. A particular media that may prove effective for the purpose of teaching vocabulary is comics. The subsequent section discusses in more detail the use of comics for teaching vocabulary.

2.2 COMICS

Comics are media that combines text and images to convey visual information and express ideas (Sarma, 2016). According to the multimedia learning theory by Mayer (2001) which focuses on how people learn from words and pictures, combining text and visuals can enhance learning by providing multiple representations of the material. The integration of media in learning can facilitate better understanding and

retention of vocabulary in students. Paivio (1986) in his dual coding theory also stated that the human brain is adept at acquiring new vocabulary when it is presented alongside verbal and visual concepts. The use of comics as media can support and enhance students' understanding of language by reinforcing verbal information with visual cues, thereby functioning as an effective learning aid. The combination of written and visual elements in comics facilitates students' ability to remember words they have read more easily (Castillo-Cuesta & Quinonez-Beltran, 2022). Furthermore, comics are a widely popular media and it can be attributed to their capacity to engage audiences through colorful images and minimal words per panel. This can prevent students from losing interest or feeling overwhelmed by reading too many texts. This assertion is further strengthened by the findings of a survey conducted by Scholastic in 2018, which revealed that 63% of children aged 6-17 agreed that reading graphic novels and comics was a fun way to spend time and 60% of them expressed that reading comics and graphic novels made them feel more confident about their reading abilities.

Da Silva et al. (2017) and Syafii (2019) posit that comics are advantageous as an ELT media to teach vocabulary due to their capacity to provide an engaging and illustrative visual aid, thereby fostering an environment favourable for students to express their emotions. The visual depiction of the characters' emotions is particularly pronounced in the comics. Through dialogue, gestures, and overall visualization, the characters' emotions are conveyed with remarkable clarity. In comparison, textual representations offer a more restricted means of conveying information, relying exclusively on word-based statements to communicate the characters' emotional states. The difference in visual representation facilitates a more straightforward interpretation of the story in comics rather than in text. Additionally, by observing the characters' expressions, students can establish a sense of connection, thereby helping them to better understand their own emotions.

According to Wijaya et al. (2021), the use of comics as media in vocabulary teaching and learning has been posited as a potentially efficacious approach within the context of pedagogical practice. Comics have been demonstrated to function as an engaging media that give students room for imagination, encouraging them with their creative way of thinking. The utilization of comics enables students to comprehend reading materials, even in the absence of an understanding of the meaning behind each word. Furthermore, comics are characterized by chronological actions. The storyline of comics always continuous, from the first panel to the last one. Using the sequential images, students can deduce the context and comprehend the plot of the story. This can potentially enhance students' critical thinking and memory skills by mobilizing their imagination. The use of comics in vocabulary teaching holds promise in fostering students' interest in reading, as it helps to create a more conducive learning environment and boosts their learning motivation.

Using comics in vocabulary teaching and learning can also serve as a means for junior high school students to get exposure to authentic English materials. The exposure refers to the presence of dialogue in the comics. The dialogue can be regarded as a form of a real-life communication, thereby implying that reading comics may indirectly expose students to authentic English. In addition, the dialogue in comics often originates from real-life conversation, thus enhancing students' relatability to the comics. The story of comics frequently stem from the authors' personal experiences, thus serving as an authentic English materials that facilitate students' exposure to the English language. Moreover, the relatable story depicted in the comics can be an event that could happen to anyone which can foster a sense of connection between the reader and the characters. This can indirectly stimulate the students' imagination, as if they were experiencing the events in the comics themselves. In addition, the concise format of comics, characterized by 1-2 sentences per panel, can also help students' development of a deeper comprehension of vocabulary.

Another advantage of comics lies in their ease of accessibility. Students can acquire comics from a nearby bookstore or library. Historically, comics were only available in physical form, necessitating their purchase or rental by reader to access the material. However, advances in technology have rendered it possible to access comics with ease from a smartphone. The flexibility of this media, coupled with the prevalence of free online content, enables readers to access comics at any time and in any location. This can be advantageous for teachers, as it allows them to easily access authentic materials and facilitate students engagement with interesting content using comics.

However, Wijaya et al. (2021) posit that, despite the evident advantages offered by comics as an ELT media, they also present a number of disadvantages. The primary challenge in employing comics in language teaching and learning arises from the absence of definitive guidelines regarding their utilization. Given the wide range of options available for the use of comics in teaching and learning activities, it falls upon the teachers to determine the most suitable teaching procedure for implementation in the classroom. This problem, however, presents an opportunity for teachers to devise their own procedure or adapt the utilization of comics to existing teaching procedures. Secondly, the contextualization of comics is limited. While comics offer a visual context to facilitate comprehension of words, they may not always provide sufficient context for learners to fully understand the meaning and usage of the vocabulary. It is possible that learners may become distracted by the images and thus forget the textual information, including any new vocabulary. Learners may encounter difficulties in comprehending the nuanced meanings and contextual variations of words. In addressing this, teachers may give further textual or verbal explanations pertaining the meaning of vocabulary used in the comics, thereby facilitating students comprehension of the storyline.

2.3 PROCEDURES OF USING COMICS IN VOCABULARY TEACHING AND LEARNING PROCESS

Wijaya et al. (2021) asserted that the initial step that teachers need to take to implement comics in the classroom is to establish clear learning objectives and to design a lesson plan that incorporates the use of comics. However, given the extensive variety of comics available, teachers must select those appropriate for junior high school students. The selection of comics should be made with a view to ensure that the level of difficulty does not exceed students' capabilities at junior high school level. On this basis, the present study employed comics on the theme of "holidays", a topic with which the students were already and which was relevant to their experiences. This theme is also part of the students' learning competency "recount text" in the Kurikulum 2013 (K13), thus rendering it an appropriate material for students.

In accordance with the curriculum at the target school, the researcher employed "Kurikulum 2013", which implements the Scientific Approach as a guidance relating to the procedure of using comics in teaching and learning vocabulary during this research. As stated in the Permendikbud (2013), Scientific Approach in "Kurikulum 2013" (K13) is a learning method that employs scientific procedures to develop learners' skills, attitudes, and knowledge. The researcher modified the learning procedure as outline below, adhering to the principles of the K13 Scientific Approach:

a. Observing:

The students were instructed to observe the comic provided by the researcher and find the highlighted vocabulary (the highlighted vocabulary indicates the words taught to the students).

b. Questioning:

The students were encouraged to ask questions concerning the provided comic (asking about what they did not understand or confused about the comic).

c. Experimenting / Exploring / Collecting data:

- 1) The students were asked to assess their familiarity with the highlighted vocabulary.
- 2) The students were then guided to discover the words' meaning based on what they can understand from the comic (from the images, the sentences, the gestures, etc.)
- 3) The students were asked to read the entire comic and they were encouraged to make use of the highlighted words that they have learned before.
- 4) The students then engaged in a discussion about the content of the comic and ensuring that they fully understand the storyline.

d. Associating:

The students were asked to work on the task in the worksheet individually.

e. Communicating:

The students' work was subsequently discussed with the entire class.

As the steps of the learning procedure were altered by the researcher to accommodate the treatment given to the students, certain steps of the learning procedure in the K13 Scientific Approach were not included in this research. It is recommended that other researchers with a similar focus conduct further research using the original learning procedure in the K13 Scientific Approach.

3. METHODOLOGY

The present study employed a quasi-experimental research design to investigate the use of comics on the vocabulary achievement of junior high school students. Creswell (2012) asserted that quasi-experimental research is an experimental design where the participants are assigned to a group and then the outcomes of pre-existing groups are compared. The aim of this design is to either prove or reject the relation between the cause-and-effect of the dependent and independent variable. The study incorporated two groups of classes: a control class and an experimental class, both of which were subjected to different treatments. The experimental class was administered a treatment of using comics, while the control class received a conventional vocabulary teaching approach using text. Both groups employed recount texts that focused on the highlighted words in the text. Owing to the fact that the objective of the present study is to evaluate the effect of using comics on students' vocabulary achievement, a post-test was administered to both groups at the end of the research. The table proposed by Creswell (2012) below was used as the basis for the design of this research.

Table 1. Post-Test Only Design

Post-Test Only Design		
Control Class	No Treatment	Post-Test
Experimental Class	Treatment	Post-Test

This research study was conducted at a public junior high school located in Jember, East Java, Indonesia. The school was selected through the use of a purposive method, a technique employed to select individuals or areas based on specific criteria to achieve the research objectives (Creswell, 2012). Prior to the commencement of the research, the researcher obtained approval from the principal of the target school to conduct the research. In the target school, English is a compulsory subject that students undertake two times a week (2 x 40 minutes per meeting) starting from the first year onwards. In addition, the eighth grade at the target school implemented the "Kurikulum 2013" and as indicated from the information provided by the English teacher in the interview, the students also had never received a vocabulary teaching using comics prior to this study.

The population of this study comprised the eighth-grade students at a public junior high school in Jember, which was divided into four classes. Class VIIIA was comprised of 26 students, class VIIIB consisted of 26 students, class VIIIC was made up of 25 students, and class VIIID similarly had 26 students. The sample for the study was then selected based on the results of the homogeneity test that had been administered to the research population prior to the commencement of this study. Following the analysis of the data using Analysis of Variance (ANOVA) with SPSS and it had been confirmed to be homogenous, the experimental class and the control class were selected by random sampling using a lottery.

3.1 DATA COLLECTION METHOD

The researcher employed three data collection methods: a vocabulary test, an interview, and documentation.

Vocabulary test

The vocabulary test was employed as the primary data to assess the effect of using comics on the vocabulary achievement of junior high school students. The test implemented in this research was a teacher-made test, devised by the researcher based on the vocabulary presented in the comics. The test administered to students comprised 40 items, including 10 nouns, 10 verbs, 10 adjectives, and 10 adverbs. However, prior to its administration to students in both the experimental and the control groups, it was necessary to conduct a try-out test first. The try-out test was administered to a class neither belonging to the experimental nor the control group. The try-out test comprised 50 vocabulary items, of which 40 were selected for the post-test. The validity, reliability, and difficulty index of each item were also analyzed to ensure the creation of a good vocabulary test that aligned with the objective of this research.

Interview

An interview was conducted as a data collection method for the purpose of gathering information about the target school and its approach to vocabulary teaching. As stated by Creswell (2012), conducting an interview is an effective method of data collection, as the interviewee's responses offer valuable insights that can address the interviewer's questions. In this study, the researcher assumed the role of interviewer and conducted an interview with the English teacher at the target school as the interviewee. Furthermore, the researcher documented the content of the interview through note-taking and recording.

Documentation

The final data collection method employed in this study is documentation. Research documentation encompasses all documentation, notes, accounts, records, and other data detailing the research activities. The research documentation for this study includes a list of students' names participating in the research, along with photos and video records of the experimental process.

3.2 DATA ANALYSIS METHOD

Following the collection of post-test data, an analysis was conducted to ascertain the result of the post-test scores between the experimental and the control groups. The researcher employed an Independent Sample T-Test, assisted by IBM SPSS Statistics. T-tests are a statistical method that enables a comparison of the means between two groups, the experimental and the control classes. The difference in students' means scores in the post-test was analyzed with a significance level value of 0.05.

4. RESEARCH FINDINGS

Having conducted a research study over a period of approximately one month at a public junior high school in Jember, the results of the test administered to students exhibited support for the research hypothesis.

4.1 HOMOGENEITY TEST RESULT

The result of the homogeneity test that was administered prior to the commencement of the research demonstrated a significant value of variances of more than 0.05 ($0.157 > 0.05$). The following table presents further details on the result of the homogeneity test.

Table 2. The Output of the Homogeneity Test

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Homogeneity Score	Based on Mean	1,773	3	99	,157
	Based on Median	1,655	3	99	,182
	Based on Median and with adjusted df	1,655	3	97,247	,182
	Based on trimmed mean	1,766	3	99	,159

This finding suggests that there were no statistically significant differences among the four classes that undertook the homogeneity test, thereby indicating that the research population can be regarded as homogenous. Consequently, due to the research population being homogenous, the study participants were randomly selected through a lottery.

4.2 TRY-OUT TEST RESULTS

Try-out test was administered to ascertain the validity, reliability, and difficulty index of the test.

Test Validity

The results of the try-out test demonstrated that the test employed in this study was valid, as it fulfilled the standard for content validity. To elaborate, the test administered to students was derived from materials they had previously learned. The vocabulary test was developed in accordance with the

"Kurikulum 2013" guidelines for eighth grade, with a recount text and the theme of "holiday" chosen as the representative sample of the curriculum.

Test Reliability

The reliability of the test was evaluated by employing the split-half method, in which the 50 test items of the try-out test were divided equally into sets of even and odd numbers. The test results were then computed using the Spear-Brown Formula. Based on the established criteria set by Fraenkel and Wallen (2006), a reliability result must attain a minimum of 0.70 to be deemed reliable. As the result calculation obtained a value of 0.81, it can thus be considered that the test was reliable.

Difficulty Index of All Items

The researcher calculated the difficulty index by dividing the students' correct answers with the total number of test takers. A thorough analysis of the difficulty index revealed that amongst the 50 items used for the try out test, 29 items were classified as fair difficulty and 21 items were classified as easy. Since the number required for the post-test was only 40 items, a total of 6 items in the fair category and 4 items in the easy category were eliminated to balance out the number of items.

4.3 POST-TEST RESULTS

Upon obtaining the test results, the collected data were then analyzed by employing the Independent Sample T-Test. The Independent Sample T-Test was employed to evaluate whether there was a statistically significant difference between the means of the two samples. The results of the data calculation, as calculated in SPSS, were then presented below.

Table 3. The Output of the Independent Sample T-Test

Group Statistics									
	Class	N	Mean	Std. Deviation	Std. Error Mean				
POST-TEST	1,00	26	81,5385	8,72000	1,71013				
	2,00	26	74,4231	10,32733	2,02536				

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower Upper

Post-Test	Equal variances assumed	1,125	,294	2,684	50	,010	7,11538	2,65078	1,79114	2,4396
	Equal variances not assumed			2,684	48,634	,010	7,11538	2,65078	1,78743	2,4433

These results indicated that the experimental class achieved a higher mean score than the control class (81.53 > 74.42). As the data was found to be homogenous (0.294 > 0.05), it was assumed that the calculated data had equal variance. As demonstrated in the table, the sig (2-tailed) was 0.010, indicating a statistically significant difference in the treatment received by the participants. The mean differences between the two groups was 7,11538. This finding indicated that students' in the experimental group who received the treatment of using comics demonstrated superior performance in the post-test.

4.4 HYPOTHESIS VERIFICATION

The significant value (sig. 2-tailed) was 0.010, which lower than the p-value of 0.05 (0.010 < 0.05). This finding indicates that the null hypothesis, proposing no significant effect of using comics on the vocabulary achievement of junior high school students, was rejected. Consequently, the alternative hypothesis proposing a significant effect of using comics on the vocabulary achievement of junior high school students, was accepted. It was thus confirmed that the use of comics had a significant effect on junior high school students' vocabulary achievement.

5. CONCLUSIONS

In consideration of both hypothesis verification and results discussion, it may be concluded that there was a significant effect of using comics on the vocabulary achievement of junior high school students. The findings indicated that the utilization of comics in vocabulary teaching and learning was more efficacious than alternative methods that did not employ comics.

Specifically, the data analysis revealed a statistically significant difference in mean score between the experimental class, which received a treatment using comics, and the control class, which did not implement the use of comics. The statistical difference in mean score was found to be 711, with the experimental group achieving a mean score of 81.53, while the control group attaining a mean score of 74.42. Furthermore, the post-test data analysis yielded a significant value (sig. 2-tailed) that was lower than 0.05 (0.010 < 0.05). Accordingly, the research hypothesis was accepted. In conclusion, it can be inferred that the use of comics has a significant effect on the vocabulary achievement of junior high school students.

6. SUGGESTIONS

This study puts forward several suggestions in relation to the research findings and conclusions.

1. The researcher suggests that English teachers utilize comics as media in teaching vocabulary, in accordance with the results of the research that validates the effectiveness of using comics in vocabulary teaching and learning process. English teachers may adapt the learning procedure used in this study or devise their own procedures that would be deemed suitable for the students.

2. The findings of this study can be regarded as a valuable source of reference for researchers working in a similar field. It is anticipated that researchers will gain some insights from this study on the effect of using comics on the vocabulary achievement of junior high school students. Furthermore, this study employed comics in the form of recount text as the primary subject. It is recommended that future researchers explore the use of comics with other text types, such as narrative text or procedural text, to further expand the scope and depth of the research field.

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