

TED-ED ANIMATED VIDEOS' IMPACT ON VOCABULARY GAIN OF INDONESIAN EFL MIDDLE SCHOOLERS

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Abstrak

Kosakata adalah salah satu komponen penting dalam pembelajaran bahasa dan merupakan kunci utama untuk komunikasi yang efektif dalam pembelajaran bahasa asing. Saat ini, konten audiovisual telah terkenal dalam meningkatkan kemampuan bahasa Inggris para siswa. Sebagian besar dari penelitian terdahulu menyelidiki pengaruh materi audiovisual terhadap pengembangan keterampilan berbicara atau mendengarkan siswa untuk siswa sekolah menengah dan mahasiswa. Selanjutnya, penelitian ini meneliti dampak pengintegrasian materi visual-auditori terhadap penguasaan kosakata siswa sekolah menengah EFL Indonesia dengan menggunakan video animasi TED-Ed, yang dilakukan dengan pendekatan kuantitatif dan menggunakan desain *pretest-posttest* satu kelompok. Partisipan yang terlibat dalam penelitian ini adalah 24 siswa kelas 8 di suatu SMP swasta di Surabaya yang diberi perlakuan berupa video animasi TED-Ed untuk menilai pengetahuan kosakata mereka. Video yang digunakan untuk proses perlakuan telah disaring supaya sesuai dengan bab teks *personal recount* dalam kurikulum 2013 dan telah disesuaikan untuk siswa kelas delapan SMP. Penelitian ini menemukan peningkatan yang signifikan dalam penguasaan kosakata siswa, dengan hasil uji t sebesar 8,60 ($\geq t$ tabel: 2,06). Secara keseluruhan, nilai *posttest* lebih tinggi daripada *pretest*, yang menunjukkan dampak positif pada pembelajaran kosakata. Berdasarkan temuan penelitian ini, para peneliti menyimpulkan bahwa TED-Ed merupakan platform yang bermanfaat untuk meningkatkan pembelajaran siswa EFL.

Kata Kunci: TED-Ed, Pemerolehan Kosakata, Audiovisual, Media Pembelajaran, Animasi Bahasa Inggris

Abstract

Vocabulary is one of the essential components of language learning and a primary key for effective communication in foreign language learning. Nowadays, audiovisual content has been well-known for enhancing students' English skills. Previous studies primarily investigated the effect of audiovisual material on students' speaking or listening skills development for high schoolers and college students. Subsequently, this study examined the impact of integrating visual-auditory material on Indonesian EFL middle schoolers' vocabulary acquisition using TED-Ed animation videos, which were conducted with a quantitative approach and applied a one-group pretest-posttest design. The participants involved in this study were 24 students in the 8th grade at a private middle school in Surabaya that were treated with TED-Ed videos assessing their vocabulary knowledge. The videos applied for the treatment process have been filtered to relate to the personal recount text chapter in the 2013 curriculum and adjusted for eighth graders. This study found a significant improvement in students' vocabulary acquisition, with a t-test result of 8.60 ($\geq t$ table: 2.06). Overall, the posttest scores were higher than the pretest, indicating a positive impact on vocabulary learning. Furthermore, based on the findings, the researchers concluded that TED-Ed is a beneficial platform for enhancing EFL students' learning.

Keywords: TED-Ed, Vocabulary Acquisition, Audiovisual, Learning Media, English Animation

INTRODUCTION

Vocabulary acquisition in English has become increasingly popular through online learning platforms, such as YouTube, which has become one of the primary choices for middle schoolers learning resources. In

research from Albahiri & Alhaj (2020), EFL learners often focus on their hearing sense and body language when processing foreign words or concepts. Audiovisual materials, such as animation videos, have been shown to be more engaging than textbooks. Students' preexisting vocabulary knowledge plays a significant role in their

vocabulary acquisition. The previous study from Kang (2019), assessing high schoolers' listening comprehension with their vocabulary uptake through TED-Ed videos, was conducted in a public high school in South Korea, with 66 female students in 11th grade, applying a true-experimental design. Meanwhile, in the current study, the researchers aimed to measure the effect of English animation videos on EFL students' vocabulary acquisition at the junior high school level.

Vocabulary is a crucial component for fluent English communication and is essential for students to understand and absorb meaning in their target language. In this case, EFL students must develop essential vocabulary knowledge to communicate well and express themselves clearly in L2 learning (Read, 2000). Developing vocabulary knowledge allows students to think critically and learn about the world. The following paragraphs are the two kinds of vocabulary types primarily found in vocabulary learning.

Productive vocabulary includes spoken vocabulary, which is essential for learning to read and understand the meanings of words. Students who maintain a broad grasp of spoken-form vocabulary are also likely to perform better in school than those who do not (Schmitt, 2010). On the other hand, written vocabulary demands a more comprehensive variety of vocabulary than spoken language, requiring precise words and expressions to convey the message. The writer's diction plays a critical role in portraying the tone of the language, whether formal or informal (University of Maryland Global Campus, 2022)

Receptive vocabulary includes reading vocabulary, the group of words students recognize and understand as they read something. It is fundamental to the reading process and plays a significant role in reading comprehension. Vocabulary learning helps students grow their vocabulary knowledge by enhancing reading comprehension. Meanwhile, listening vocabulary is another way to learn vocabulary through meaning-focused input. To gain comprehension and success with context-based material, learners must hear at least 95% of the input's running words. Conversational listening exercises and focusing on intonation, accents, and sounds are also crucial techniques for improving listening vocabulary and overall listening skills. Nation (2013) asserts that learning vocabulary while listening to context-based materials can contribute to a higher gain of unfamiliar and target words as long as students are attracted positively to the material.

EFL students' motivation to study using a foreign language, such as English, has a different level of excitement from other subjects. Authentic English materials from native speakers, such as the TEDx Talks

channel, is beneficial for the students as they receive correct pronunciation and learn to identify various English accents worldwide (María A et al., 2018). Students prefer learning the target language using visual-auditory media, as they perceive that learning with visual-auditory support will help them focus more and stimulate their curiosity. The TED-Ed platform has gained popularity for its visually appealing interface and educational materials, making it a valuable resource for educators.

Audiovisual instructional media has been popular over the past decade, especially YouTube, because of its convenience and ability to enhance an excellent teaching-learning atmosphere (Veletsianos et al., 2018). Historically, TED began as a conference in 1984 where people in technology, entertainment, and design (thus the name TED) fields gathered to share their most impressive ideas. Later, TED evolved into the education sector. Around March 2012, TED introduced its TED-Ed website, which offers features tailored for educators. Millions of students and educators across the world use TED-Ed—the award-winning educational platform—each week after embarking on its “lessons worth sharing,” their innovative motto (El Miedany, 2019).

The TED-Ed platform, available on website and YouTube, emphasizes independent learning and creative thinking. Hence, this is a noteworthy resource for English educators and learners to explore deeper. This platform aims to promote sharing great educational ideas, and it is a series of TED (Technology, Entertainment, and Design) organization programs that focus more on the young generation and education in the form of engaging short-video animation. Rashtchi et al. (2021) argued that the integration of animation and narration could assist EFL learners' retention and vocabulary learning as well as enhance their information processing ability. TED-Ed offers numerous engaging video topics with various genres, levels of difficulty, and video durations. Educators can filter and select which videos to adapt to their classroom since it enables them to create their own or solely use existing learning materials on the platform (Rahmatika et al., 2016).

This research aims to investigate the use of YouTube as an online learning platform to measure the effect of using TED-Ed animated videos as learning media for middle school EFL students in Indonesia, particularly eighth graders in a private junior high school in Surabaya, East Java, Indonesia. The study aims to evaluate the potential of technology in the classroom, such as TED-Ed animated videos, on students' vocabulary acquisition and anticipates that this study will further enhance English language instruction and learning in the Indonesian setting.

Finally, the researchers developed a research question based on the background statements above: “Is there any effect of utilizing TED-Ed videos as the learning media for EFL students in the eighth grade on their vocabulary acquisition?”

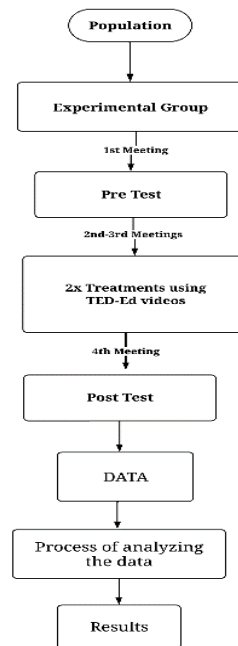
METHOD

The researchers utilized a quantitative approach and employed a pre-experimental design to instruct junior high school EFL students with the aid of TED-Ed animated videos. Using a quantitative technique and pre-experimental design, the researchers utilized TED-Ed animated videos to teach EFL students in junior high school. Additionally, in order to save time and reduce redundant expenses while conducting this research, the researchers adapted the pre-experimental research design from Ary et al. (2010) using a web-based form, such as Google Form, to administer the pretest and posttest that were specifically addressed to the target participants. Therefore, the researchers decided to carry out a pre-experimental study with twenty-four 8th grade students at a private middle school in Surabaya.

The researchers applied a one-group pretest and posttest design to assess students’ comprehension and vocabulary knowledge before and after the intervention of TED-Ed animated movies. For this study, the researchers proposed four sessions: the first was to administer a pretest, the following two meetings were to deliver the treatments using animated TED-Ed videos, and the final was to administer the posttest. Firstly, the researchers gave the participants the pretest during the first session to gather the initial data. Then, the researchers displayed the participants regarding the animated videos, which are TED-Ed animated videos.

In order to expose participants to the target language using audiovisual media, the researchers then delivered TED-Ed animated video treatments with English subtitles twice during English classes at the following sessions. After that, the researchers requested the students complete a posttest with identical questions as the pretest to assess the effectiveness of the treatments. The following illustration shows the process of data collection for the present research:

Figure 1
 Data Collection Flow



Adapted from: Creswell (2015)

This study is pre-experimental research with a one-group pre-test and post-test design. The pre-existing class was employed to avoid artificial group creation since it is not allowed in the study setting (Creswell, 2015). The researchers used vocabulary pre-test and post-test instruments to gather data in the present study. The target vocabulary comprised 40 words, selected from treatment videos, divided into 20 words from “A Day in the Life of a Medieval Teenage Pilgrim” and 20 words from “How Friendship Affects Your Brain.” The words mainly consisted of past tense verbs, adjectives, nouns and adverbs which adjusted to personal recount text characteristics. The selected videos were also adjusted to the mentioned chapter for eighth graders in the 2013 curriculum. The list of target words contained in the pre-test and post-test instruments is as follows:

Table 1
 List of Target Vocabulary

No.	Target vocabulary	
	Video 1	Video 2
1.	Careful	Adolescence
2.	Depart	Allow
3.	Disease	Attached
4.	Important	Bills
5.	Intend	Connect
6.	Journey	Considered
7.	Kindly	Describe
8.	Last-minute	Formed
9.	Latest	Interactions
10.	Marketplace	Manifest

11.	Massive	Mention
12.	Meanwhile	Motivate
13.	Possibly	Observe
14.	Primarily	Peers
15.	Protected	Realize
16.	Purchased	Reward
17.	Siblings	Spend
18.	Supplies	Teenager
19.	Wanted	Turn
20.	Wealthy	Value

RESULTS AND DISCUSSION

After collecting the data, the researchers applied SPSS software to test the normality of data distribution prior to the hypothesis testing. The step of conducting a normality test intended to specify whether or not the data of the pretest and posttest came from a normal distribution population. Then, the researchers assessed the test of normality using Shapiro-Wilk with $\alpha = 0.05$ since the total of participants in the current study was less than 50 (Mishra et al., 2019). Furthermore, the normality test would be considered normal if the outcome of the test clarified a higher value than 0.05 ($> \alpha = 0.05$). Contrarily, if the result stated a weaker value than 0.05 ($< \alpha = 0.05$), the data would not be considered normal.

In the current study, the researchers used Kolmogorov-Smirnov and Shapiro-Wilk statistical normality tests to determine whether the data gathered were in normal distribution and taken from a normal population. The underlying concept behind Kolmogorov-Smirnov and Shapiro-Wilk is to check whether the current data distribution fulfilled the standard of normal data distribution. The normality test result is illustrated as follows.

Table 2
 Test of Normality for Pre-and-Post Tests Result

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Score	.113	24	.200*	.930	24	.097
Posttest Score	.092	24	.200*	.957	24	.383

*. This is a lower bound of the true significance.
 a. Lilliefors Significance Correction

Here, the researchers focused only on the Shapiro-Wilk statistics because the total number of participants in this study was fewer than 50 students (Mishra et al., 2019). Based on the result, the Shapiro-Wilk significance

value displayed a higher score than 0.05 in the pretest, which shows that the data was disseminated normally. In the pretest score, the significance value is 0.097. Meanwhile, the significance value of the posttest score is 0.383. Therefore, the researchers concluded that the normality test showed a normal data distribution throughout the participants' responses toward both pre-and-post tests.

Since the data is distributed normally, the researchers applied the t test analysis to indicate whether the hypothesis would be accepted or rejected. The researchers used SPSS software to analyze the data with 2-tailed significance tests through the paired sample t test. The null hypothesis must be accepted if the result shows a higher p-value or sig. (2-tailed) than sig. $\alpha = 0.05$ (5%). On the contrary, if the p-value is less than sig $\alpha = 0.05$ (5%), it suggests that the alternative hypothesis is approved.

Paired sample t test was employed using SPSS software to measure the sample which was related to one another, in this part, the researchers examined the students' scores collected by the pretest and posttest instruments.

Table 3
 Paired Samples Statistics Result of the Pre-Test and Post-Test

Paired Samples Statistics					
Pair		Mean	N	Std. Deviation	Std. Error Mean
		1	Pre-Test	28.208	24
	Post-Test	61.667	24	16.1795	3.3026

The table shows an increase in the mean scores of the EFL students prior to the treatment and after experiencing it. Before being exposed to the TED-Ed animated videos, the students' average score was 28.20 (SD = 8.14). Besides, their mean score after exposure to the TED-Ed animated videos was 61.66 (SD = 16.17). Consequently, there is an improvement in students' vocabulary gains due to the application of Technology, Entertainment, Design, and Education (TED-Ed) animated videos inside an EFL classroom with subtitles in the target language. Then, the following table is a paired sample test result.

Table 4
 Paired Samples T-Test Result of the Pre-Test and Post-Test

		Paired Samples Test					t	df	Sig. (2-tailed)
		Paired Differences			95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Pre test - Post test	-33.458	19,046	3,8878	-41,5009	-25,4158	-8,606	23	,000

The output table describes a mean value difference between the students' pretest and posttest scores, which is 33.45. The negative result of the t count, that is, -8.606 indicated that the average score for students' pretest was lower than the posttest one. The t count (8.60) scored higher than the t table standard (2.06) with a df of 23. Additionally, the output table indicated significant differences between the students' learning results on the pretest and posttest data since it showed a value of 0.000 in the significance (2-tailed) section, which was a lesser value than 0.05. Hence, the TED-Ed animated video treatments increased the participants' vocabulary gain.

After examining the t-test analysis, the researchers tested the effect size for figuring out the extent of the effect size in students' scores before and after the intervention of TED-Ed animated videos using the formulation from Cohen's *d* (Cohen, 1988). The purpose of the hypothesis test is only to analyze the *p*-value, which can tell if an effect exists or not but cannot determine its size. The following is the calculation result:

$$d = \frac{(mean_2 - mean_1)}{\text{Pooled SD}}$$

$$\text{Pooled SD} = \sqrt{\frac{(SD_1^2 + SD_2^2)}{2}} =$$

$$\sqrt{\frac{(8,14)^2 + (16,17)^2}{2}} = 12,80$$

$$d = \frac{61,66 - 28,20}{12,80} = \frac{33,46}{12,80} = 2,614$$

Based on the calculation above, the result of the effect size test of the participants is 2,614. The researchers define the effect size in the treatment group scores as large. This finding indicates the significant impact of TED-Ed animated videos on EFL students' vocabulary acquisition in the eighth grade of middle school.

As the results have been described in the previous paragraphs, the researchers have identified the new insight for the current study that EFL middle schoolers, especially eighth graders, received the benefit of vocabulary learning from watching animated videos from the TED-Ed platform, which relates to personal recount in Chapter 11 of the 2013 curriculum. The researchers report the result to provide new findings regarding the

use of Technology, Entertainment, Design, and Education (TED-Ed) animated videos on EFL students' vocabulary gains. The results showed a significant difference in the average scores of students' pretest and posttest results. As stated in a Montero Perez et al. (2018) study, acquiring vocabulary in the target language using visual-auditory content facilitated students' exposure to the target language. Accordingly, English subtitles were applied to help students form connections between spoken and written words and develop their comprehension of the videos.

Furthermore, this study highlights vocabulary gain from audiovisual content for foreign language learning. In research from Kang (2019), the findings revealed that captions were more advantageous than no captions for expanding one's vocabulary. Captions, in particular, were found to enhance learning of multiple areas of vocabulary acquisition, especially word-form identification, meaning identification, and meaning retention. Meanwhile, Baten et al. (2020) declared that vocabulary acquisition in context of CLIL (content and language integrated learning) between two additional languages, English and French, that the participants used, significantly increased in both languages. Then, it should be underlined that the growth is linked to general word knowledge in English and French rather than course-specialized words.

Most of the participants in this research stated that they usually only learn English inside the classroom using a traditional method without technology support. However, some students also learn English informally through tutoring or language courses. In the present study, the researchers applied TED-Ed animated videos as an alternative way to teach vocabulary to EFL middle schoolers to help them understand and communicate in English effectively using preselected target words in a formal situation. Meanwhile, in previous research by Reynolds et al. (2020), incidental vocabulary learning using word cards was applied to promote students' vocabulary development in an English reading class in Taiwan. The researchers allowed them to select words independently that they felt were beneficial for their learning. Thus, they sharpened their creativity to construct words they encountered while reading and utilized dictionaries to confirm the unfamiliar vocabulary's meaning to their L1.

The limitation of the present study comes from the participants, who were collected from a group of students at one educational institution in one city only. Therefore, the objectivity of using TED-Ed animated videos to acquire vocabulary efficiently is limited. Consequently, it is unlikely to generalize the findings of this study to a larger population, such as all students in that school, even more so Indonesian students of all academic levels. Then,

more research on this topic is required, specifically with a larger sample size from an institution and at diverse levels, such as in different grades in junior high, senior high, or vocational high, or college; it might be a consideration for further studies in the field of vocabulary learning and the students' auditory skills too. Furthermore, assessments of students' vocabulary size in broader topics should be done to check whether their vocabulary knowledge has increased after the treatment. The utility of TED-Ed animations in enhancing language skills or components, such as speaking (pronunciation), writing (grammar), and reading (spelling), has to be further investigated as well.

Practical implication of this study for EFL teachers in regular English classrooms is as follows. As TED-Ed animated videos become more widely used in English classrooms (Karczewska, 2021), teachers play a crucial role in directing students' interest and contextualizing the contents. They should be flexible in adapting to students' different learning preferences, encourage their critical thinking and discussion through assigning related follow-up activities, design assessments such as quizzes or group projects, promote digital literacy, foster creativity, monitor students' progress, and provide constructive feedback on their assignments. Additionally, teachers must evaluate their methods of instruction and change them as necessary in response to student feedback and outcomes. Their ability to use multimedia materials can be improved through professional growth opportunities, and they can work with other teachers to share best practices and methods. To ensure that students get the most educational value out of this exciting instructional tool, teachers can make the most of multimedia resources in EFL classrooms by being actively involved and integrating TED-Ed animated videos into their teaching. Teachers' involvement in optimizing the positive impact of TED-Ed videos on the students' understanding is essential since it will affect their overall performance in the subject.

CONCLUSION

The researchers concluded that, with the aid of subtitles in the target language, the animated videos of Technology, Entertainment, Design, and Education (TED-Ed) had a significant impact on EFL students' vocabulary acquisition in the eighth grade of junior high school. This conclusion was based on the result analysis and the discussion in the previous section. The purpose of the current study was to determine whether watching YouTube content, particularly TED-Ed animated learning films, during English class has an impact on EFL middle school students' vocabulary gain. This pre-experimental

research found that students had learned novel words and had enjoyable learning while using the audiovisual materials. The results showed that the t value (8.60) was greater than the t table (2.06).

The current study examines how TED-Ed animated videos affect EFL students' word acquisition based on their content comprehension level at a private middle school in Surabaya, East Java, Indonesia. The target vocabulary was selected from two Technology, Entertainment, Design, and Education (TED-Ed) animated videos. It was filtered with related vocabulary about personal recount text contents from a 2013 curriculum in an Indonesian setting. The researchers limit this study's matter and findings to the effect of TED-Ed animated videos, which are related to personal recount text contents only from a 2013 curriculum in an Indonesian setting. The videos' difficulty level opted for the present study had also been sorted to suit EFL middle school students in the 8th grade. It is important to note that the researchers solely utilized one experimental group in this study without involving a comparison group. Hence, the generalization of the findings in this study to other types of texts and different levels of students in junior high school has not been covered, as these factors were not accommodated during the research process. Further studies and analysis would be necessary to determine how the present study's findings can be applied across various contexts.

Suggestions

As the researchers complete this research, few studies about vocabulary learning in Indonesian schools utilize TED-Ed videos as the learning medium for junior high school students. To learn more about vocabulary learning in various contexts, such as EFL students' learning activities outside the classroom and with different grades of students, such as senior high school, vocational school, or college students, future researchers may refer to this research on the use of Technology, Entertainment, Design, and Education (TED-Ed) animated videos as the learning media. When doing school research, school facilities such as LCD projectors, external speakers, learning duration, and learning environments may affect students' scores or performance, so these should be carefully considered.

Future researchers can also investigate several English language components and skills, such as grammar, pronunciation, speaking, writing, listening, or reading, for EFL students in Indonesian contexts by selecting the suitable learning approach and learning method, and adapting it for the target participants' grades. For school research related to the use of TED-Ed animation videos, a nonrandomized control group,

pretest-posttest approach is also relatively feasible. As for the regular EFL classroom, English teachers could integrate animated videos as multimedia material to spark students' engagement since their sight and hearing senses are mainly involved.

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