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Students' Perception on Learning Technical Vocabulary through Ted-Ed Video-Assisted Vocabulary Self-Collection Strategy

Annisa Jasmin[1], Elih Sutisna Yanto[2]
English Education Department, Universitas Singaperbangsa Karawang[1,2]

ABSTRACT
Vocabulary Self-collection Strategy (VSS) has been known as one strategy in teaching vocabulary which the combination of this strategy and video viewing activity is still underexplored. This narrative case study was to investigate the process of the use of TED-Ed video-assisted VSS on learning technical vocabulary and to report the students' perception on the strategy with the eleventh grade students majoring science program as the respondence. The instruments were semi-structure interview for students and students' VSS chart. The findings of this study found three main themes regarding to the students' perception on TED-Ed video assisted VSS: (1) the advantages of TED-Ed video, (2) the efficacy of Vocabulary Self-collection Strategy (VSS), and (3) the students' engagement in learning vocabulary through Vocabulary Self-collection Strategy (VSS). The utilizing TED-Ed video as the resource of teaching material or integrating it in the process of VSS can be considered by English teacher to teach context based vocabulary.
Keywords: Vocabulary Self-collection Strategy, TED-Ed, Technical Vocabulary

INTRODUCTION

Learner's lexical knowledge is essential to support learner's academic performance. Indonesian secondary school teachers reported that their students had lack of knowledge about disciplinary or specialized vocabulary (Widodo, 2015). This issue led students of having difficulties in comprehending disciplinary textbooks and manuals in English. Furthermore, the author found that understanding a text related to particular subject area was quite challenging for senior high school students. During the author's experience conducting teaching practicum, students of the eleventh grade encountered difficulties in understanding explanation text. Students argued that their obstacle was derived from understanding the meaning of words they encountered while reading the given text about human digestive system. Based on this experience, the author realized that student's vocabulary knowledge related to particular subject area is important to understand such kind of text.

✉ Corresponding author :
Email Address : 1710631060038@student.unsika.ac.id
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Learners can be entered middle and senior high school. They are expected to master ac ademic and technical words since they will study a particular subject area. The transition fro m primary grades to intermediate grades creates challenges for learners to read and understa nd some textbooks with words associated to the concept from a particular subject (Antonacci and O'Callaghan, 2011). This means learners need knowledge about specialized vocabulary. According to Nation (2001), technical vocabulary is type of words that are associated to parti cular topic and subject area. This means technical words that are found in one subject area m ay be differed from other subject areas. Every subject area has its own dictionary or glossary for collecting the technical terms related to field of study, such as dictionaries or glossaries of science, mathematics, geography, or electronics. This type of words likely covers about 5% of the technical terms in a text (Nation, 2001). Moreover, Chung and Nation (2003) argue that te chnical vocabulary covers words that have a meaning closely related to the subject area and words that have a meaning specifically related to the subject area.The success of learning voc abulary related to particular area itself is in line with the success of learning particular subjec t area (Harmon, Hedrick & Wood, 2005). For example, the vocabulary needs between the acti vity of reading narrative text and content area reading are different (Harmon, Hedrick & Wo od, 2005).

One of some strategies to teach technical or disciplinary vocabulary in interactive way i s Vocabulary Self-collection Strategy (VSS). The strategy was first initiated by Martha Rapp Haggard (now Ruddell). VSS has purposes to motivate learners to learn novel words by invo lving a long-term memory of vocabulary acquisition and enriching learner's vocabulary kno wledge of academic disciplines (Ruddell, 2005). VSS is an interactive strategy as it performs t he collaboration between teacher-students and students-students, which referred to the theor y of Vygotsky's Zone of Proximal Development (ZPD) where there is social interaction in lea rning activity (Ruddell & Shearer, 2002). In VSS, student work together with other students t o learn vocabulary with the help from teacher or adults. This strategy engages learner to lear n actively in vocabulary instruction since they self-select words they believe are important to understand their reading (Rianti:2019). After selecting the words they consider important, th ey begin to discuss them in a group.Through this strategy, learners are facilitated to learn ne w words found in text of any disciplinary subject where it includes technical and non-technic al words (Harmon, Wood & Hedrick, 2005).

Lamb and Arisandy (2018) found that YouTube platform is the most popular SNS to le arn online informal English among university students in Jakarta, Indonesia. This shows that young generations prefer to do watching or listening to the content provided by YouTube to learn English outside the classroom. Marleni (2018) says one of some YouTube channels that creates educational content is TED-Ed. This channel has uploaded dozens of informative ani mated videos with credible resources as the result of collaboration between experts in particu lar subject area. TED-Ed is another program of Technology, Entertainment, and Design (TED) besides TED Talks. At the time of writing this paper, the channel has featured large number s of YouTube subscribers (around 14.5 million, respectively) and video views (around 2 billio n, respectively) (TED-Ed, 2021). There were also some studies integrating the content of TED-Ed program into English and content area classroom (see (Finkenstaedt-Quinn, Hudson-Smit h, Styles, Maudal, Juelfs, & Haynes, 2018; Rashtchi, Khoshnevisan, & Shirvani, 2021; Sari, Dra jati, So, & Sumardi, 2021).

Furthermore, since TED-Ed video are presented in animated picture, the animation ma y help students to comprehend the content of the video better. Lin and Tseng (2012) explain t hat the benefit of integrating video viewing activity into learning process can provide more s ufficient information that students hardly processed just by reading through text. Animated video also makes the content of the video becomes easier to comprehend since it presents illu stration for unfamiliar words or process described by narrator of the video (Lin & Tseng, 201 2). The use of animation also motivates students to participate during the learning process as it creates enjoyable learning atmosphere (Devi, 2012) (Desnita & Marleni, 2020).

Previous studies showed that the use of VSS could create enjoyable learning atmosphere since it motivated students to engage themselves in teaching and learning situation (Kang & Netto-Shek, 2017; Khodary, 2017; Sari & Sutopo, 2018;Yanto & Nugraha, 2018). However, the implementation of VSS by integrating it with the use of video is still underreported. To fill this gap, the present study integrates the use of video from TED-Ed YouTube channel as medium for teaching technical vocabulary through VSS.To realize the objective of the study the following research questions are proposed: 1) how does TED-Ed video-assisted Vocabulary Self-collection Strategy facilitate students on learning technical vocabulary? 2) what are the students' responses to the activity of learning of technical vocabulary using TED-Ed video assisted Vocabulary Self-collection Strategy?

METHOD

The present study aims to elaborate the case of the eleventh grade students' experience on learning technical vocabulary through the activity of video viewing assisted Vocabulary Self-collection Strategy (VSS). The study was conducted by using narrative case study. Narrative case study is an in-depth research design of case study that investigates the story of individual unit that are not limited to individual persons (Brandell & Vrakas, 2009). The reason for choosing this design was to investigate the case of the eleventh grade students majoring science program on learning technical vocabulary through video viewing activity assisted VSS.

The site of the study was in one of Senior High Schools in Karawang. The participants were the eleventh grade students of senior high school majoring science program. They were in the age range of 16 to 17 years old. They spoke three languages, such as Indonesian, Sundanese, and Javanese. The participants were familiar with the use of YouTube, word processor, Zoom or Google Meet, and Google Form. They also had received general English instruction through their formal learning at least for 7 years. The twenty-two participants were agreed to be volunteers in the implementation of TED-Ed video assisted VSS procedure and five of them were agreed in conducting the semi-structure interview with the author.

The author collected the data from semi-structure interview and students' VSS chart. The semi-structure interview was conducted after the author had taught two different topics of the instructional procedure. The semi-structure interview guides were adopted from Yanto and Nugraha (2018). The questions highlighted students' view on video viewing assisted VSS and its impact on their vocabulary learning, the strength and weakness of VSS, and the suggestions for future learning on specialized vocabulary instruction. The interview session was a text-based interview that conducted through WhatsApp in Indonesian and later was transcribed into English. Students' VSS chart was also gathered. This data was used to see students' choice of words and their reasons of word selection.

The procedures of collecting the data was teaching and interviewing. The instructional procedures were adopted from Yanto and Nugraha (2018). There are three stages of learning activities in the implementation, such as scaffolding, small group discussion, and in-class presentation. The following procedures are: (1) Scaffolding or Before Reading: Firstly, the teacher explained the importance of specialized vocabulary to be learned by students. Secondly, the teacher projected two copies of text entitled *What would happen if you didn't drink water* and *Is it bad to hold your pee* sourced from the transcripts of two TED-Ed videos in the first and third meetings. Thirdly, the teacher showed the VSS chart adopted from Yanto and Nugraha (2018) that contains five columns, such as selected words, where students found the word, their reason for selection, their definition, and dictionary's definition. Throughout the process, the teacher demonstrated how to fill the VSS chart. Lastly, the teacher sent the selected clips of TED-Ed video; (2) Small Group Discussion or During

Reading: The students were instructed to form a small group of five to six students. Then, the teacher gave the transcript of TED-Ed video to students including the link of the transcribed TED-Ed video through WhatsApp. After viewing the video, the teacher directed all students to revisit the text and nominate five words they argue were important to understand the text or words they found difficult or interesting, complete the VSS personal chart, and complete the VSS group chart that consists at least 15 choices of words. The teacher instructed one member of each group to submit their VSS group chart to Google Form before the virtual meeting began; (3) In-class Presentation or After Reading: The teacher instructed one member of each group to submit their VSS group chart to Google Form before the virtual meeting began. The representative of each group presented the VSS group chart to the class through Zoom. If there were some technical vocabulary that had not been listed on the students' VSS group chart, the teacher would add some into the VSS class chart. The teacher shared the VSS class chart after the in-class presentation on WhatsApp. Those three stages were completed in four meetings with two topics sourced from TED-Ed videos. After the teaching and learning process were conducted, the author interviewed the students.

The data collection was analysed by using Braun and Clarke's thematic analysis. Braun and Clarke (2006) suggest six steps to analyse the data: (1) familiarizing with the data: transcribing the interview and reading it several times;(2) coding; highlighting the phrases/sentences/keyword;(3) searching for themes: grouping the codes into categories or initial themes;(4) reviewing themes; determining whether the themes could be 'the representation' of the research question or not;(5) defining and naming themes; and 6) reporting the themes.

FINDINGS AND DISCUSSION

Three main themes were identified from the interview: (1) the advantages of TED-Ed video, (2) the efficacy of Vocabulary Self-collection Strategy (VSS), and (3) the students' engagement in learning vocabulary through Vocabulary Self-collection Strategy (VSS). These themes attempt to answer the two research questions.

The advantages of TED-Ed video

The students responded to the video viewing activity from TED-Ed video positively. T hey found that the video created by TED-Ed was interesting. The animated video had helped them to understand the text better since it visualized the text into attractive illustration. Most of the students agreed and claimed that the animation was one of the strong points from TE D-Ed video, besides its narration and explanation. This interpretation from the students' com ments is pointed below.

Student Vignette 1

As for the activity of watching video, hmm, it's more about how the animation is created. The animation is good; it helped me to understand the content better. For example, like yesterday, in the second text, the process of urinating, the animation was really cool. (AG)

Student Vignette 2

TED-Ed videos are very good because they made students or people who read the text not easily get bored because most videos related to education make their viewers get bored quickly. But, it doesn't happen to TED-Ed video because the video is presented nicely and creatively which makes it seems more fun, and for students who watch it to understand the text can get the gist of the text with the help from video. (SS)

Student Vignette 3

The video can build the imagination that was in my mind. Second, the last one, it can improve my long-term memory because of the visualization presented by the TED-Ed video. (AI)

Student Vignette 4

As you watched the video, the vocabulary was illustrated; there was an image of the unfamiliar vocabulary I found in the text, Miss. (AY)

The students' vignettes indicate that video viewing activity assisted them to comprehend the text easier. Learners enjoyed this activity since the visualization of the video did not make them bored during the viewing activity. They also viewed that the TED-Ed video narrated the explanation that was extraordinary among other educational videos they had watched. The evidences also show that the animated video provided the students with visual context for unfamiliar words that they found in the text. The illustration of words helped the students to understand the meaning of words by imagining and guessing the meaning of words. The students also believed that the effect of TED-Ed's animation made them perceiving the meaning of words became last longer in their vocabulary knowledge.

The efficacy of Vocabulary Self-collection Strategy (VSS)

During the process of VSS, the students did not only increase their technical vocabulary knowledge, but also comprehend the content of the text easier and deeper. Through VSS, the students reported that comprehending the text became easier because the list of activities offered by VSS had engaged them to look for words, which were important to understand their reading.The following students' vignettes are the evidence of the efficacy of VSS for increasing students' vocabulary knowledge, comprehending the text deeper.

Student Vignette 5

TED-Ed video and VSS really made me easier to understand English vocabulary, especially those related to my subject. I am a high school student majoring science, where, for example in the first text given yesterday was about "why do we have to drink water?", and in that text I found there was the word hypothalamus, which I myself just heard about. So, from that thing, we can search for the word hypothalamus through VSS. So, I know the definition and I think that's one of the words that is useful for me, especially for students from the science program. (DW)

Student Vignette 6

VSS helped me to understand the meaning of the text more deeply, like, why it was written, and what its purpose was. Since I am not really fluent in English, this strategy is pretty good for someone who doesn't know lots of English words yet. (AG)

Student Vignette 7

Because we were asked to fill the vocabulary log, where there are our choice of words, where we found the words like in which paragraph, what is our reason, what is our definition in simple way, and what is the actual definition. So, the vocabulary log is useful because it can be read over and over again by us, and we can add more vocabulary. (SS)

These two students' vignettes indicate that VSS was effective to help them understand the text by identifying the key words of the text. Since the students had to select important words, they learned new words. They believed that the key words they had selected were helpful to understand their reading. Through the key words they found while working on VSS, the students argued that VSS also helped them to expand their vocabulary knowledge related to disciplinary subject. Furthermore, the students' vignettes indicate that the use of VSS chart have motivated them to vocabulary learning. The VSS chart allows the students to collect words as many as possible based on their preferences. The students can read their own chart many times and use their own chart later in the future.

The students' engagement in learning vocabulary through Vocabulary Self-collection Strategy (VSS)

In order to realize the advantages of VSS, the students were engaged to list of activities offered by VSS. The meaningful teaching and learning process offered by VSS was through active and independent learning. The following students' vignettes describe list of activities they favour from VSS.

Student Vignette 8

I am very interested in this strategy to learn vocabulary based on the context because one of which makes me easier to understand the text without translating all of the words, just by searching for the keywords, then looking for their definitions. (DW)

Student Vignette 9

In my opinion, VSS is very useful. Because, here, I am learning how to search for technical words more carefully because I have to read the text first. Also, I independently looked for the definition of the word that was obtained from the online dictionary. Well, because through VSS, I was asked to find the definition of word, I finally understood the meaning of the word better. (SS)

Student Vignette 10

Being active here means, when I did the vocabulary log task, I had to discuss it with my friends, then, did cooperation with my friends to collect the vocabulary so that it became a vocabulary log group. Also, during presentation, at that time my friends appointed me to present the first assignment, I did the presentation, I rarely became a speaker for any presentation Miss. (AY)

Student Vignette 11

VSS has increased my attention to vocabulary learning; and the second one, it increases my skill to describe the meaning of vocabulary. Because through this strategy, it made me easier to do my research on vocabulary, especially when working on the vocabulary log where it was done in group like what was done yesterday during Zoom. That was really helpful for me. (AM)

The students' vignettes show the students' engagement throughout the process of video viewing assisted VSS. The students became active and independent in the learning process. The students also believed that group discussion was meaningful to them. The students found it meaningful because group discussion had helped them to complete their VSS group chart and to comprehend the text better. Students with below average skill of English would also find this activity helpful for them since they would encounter many unfamiliar words more than their capable peers would find during reading. The activity of VSS had also motivated students to practice their public speaking since the students were asked to report their VSS group chart and a brief summary of their reading. This strategy also offered students to practice their paraphrasing skill, as they had to describe the definition of vocabulary in their own words.

Based the explanation above, the result of the research as follow:

The advantages of TED-Ed video

The benefit of integrating video viewing activity to learning process can provide more sufficient information that students hardly processed just by reading through text (Lin and Tseng, 2012). TED-Ed video provides the animation that could help viewers to understand the unfamiliar words they heard through visualization when watching the video. Furthermore, the mediation of video viewing activity integrated in the process of VSS is reported to be joyful and helpful. This finding is consistent with the study conducted by Nugraha and Yanto (2018) that video viewing activity had raised students' interest on learning specialized word from authentic material. This indicates that such activity could engage students to participate willingly throughout the process of VSS.

The benefit of TED-Ed video in this study was also found in the study of Rashtchi et al. (2021), which it used to raise the students' attention to process the content of the video and to facilitate the students in vocabulary instruction. TED-Ed video also helped the students to understand the topic that was discussed in the video. This is similar to the participants' view in the study of Finkenstaedt-Quinn et al. (2018), where they found that TED-Ed video was able to assist the students in understanding the content area topic of climate change.

The participants agreed that the video presented by TED-Ed had raised their attention and helped them to comprehend the text better. The use of video made the content becomes gestalt, easily memorized, and creates mental images of target words (Lin and Tseng, 2012). The visualization of video is helpful to make the content of the video becomes easier to understand since it creates illustration for unfamiliar words or process described through verbal. The function of animation also leads students become motivated and enthusiast during the learning process (Devi, 2012). The participant reported that because of the animation and the explanation of TED-Ed video, they did not feel sleepy or bored.

The efficacy of Vocabulary Self-collection Strategy (VSS)

Based on the excerpt of the interview in the descriptions of the findings, the participants of this study viewed the implementation of TED-Ed video assisted VSS on learning technical vocabulary positively. Firstly, they argued that VSS had made the text became easier to comprehend. This argument was also found in the previous study of VSS. Yanto and Nughraha (2018) revealed that the use of VSS also helped the students to understand the text better. The process of reading through VSS does not demand students to understand all words included in the text. Otherwise, the students are guided to log their choice of words based on the key words of the text or words based on their interest in order to understand the text (Antonacci and O'Callaghan, 2011). By selecting key words or important words and interesting words, the students could understand the text better and easier.

Secondly, the helpfulness of VSS is able to expand students' vocabulary size. The participants perceived that VSS had helped them to learn new words or important words. The key words they had selected were added to students' vocabulary knowledge. This means that VSS has facilitated students to learn new words they found in the text related to biology subject where it includes technical and non-technical words (Harmon, Wood & Hedrick, 2005).

The participants also argued that the VSS chart gave them the opportunity for future use. The VSS chart provides the student with words they have selected and have discussed with their group. The chart also includes the definition of words from dictionary and from student's own words. The process of defining chosen words had made them understood the word better and this could prevent them to forget the selected words. This is line with the purpose of VSS in which it is used to promote "long-term acquisition and development of the vocabulary of academic disciplines with the goal of integrating new content words into students' working vocabularies" (Ruddell, 2005, p. 166). This means that the process and the instrument of VSS, in this case was the VSS chart, were viewed to be useful and meaningful for learning vocabulary.

The students' engagement in learning vocabulary through Vocabulary Self-collection Strategy (VSS)

VSS is an effective tool to increase student vocabulary knowledge through active and independent word learning (Ruddell and Shearer, 2002). During the implementation, the students were engaged to several activities that encouraged them to do the process of individual reading, group discussion, and group presentation. They actively selected important or unfamiliar words, gave the reason for selecting those words, independently looked for word definition, and defined those words in their own words. The participants viewed the process of VSS was meaningful since they were involved during the learning process. This finding reflects the result of other previous study that the process of VSS was interactive for learning vocabulary (Khodary, 2017; Sari and Sutopo, 2018; Yanto and Nugraha, 2018).

The process offered students with collaborative learning setting as they worked in team and were supported by teacher and their peers. This group discussion benefited students to work on their VSS group chart, which would be presented in the next meeting. In addition, this strategy adopted the concept of learning from social constructivist view in which less competent students learn together with their peers that are more competent or their teacher as a professional person (Vygotsky, 1978). Therefore, this strategy promotes collaborative learning between students and students and students and teacher as the solution to cope with the difficulty students may face in vocabulary learning through reading.

Other participants also reported that the strategy had motivated them to expand their knowledge on vocabulary. This means that VSS is able to promote word awareness among students. Word awareness or word consciousness builds students' interest in words and this

will motivate them to learn new words that based on their interest (Antonacci and O'Callaghan, 2011). Sari and Sutopo (2018) also found the same finding where VSS had made the students became aware of the importance and the purpose of learning words. During reading, students may deal with unknown words, which made them pay attention to these words more than familiar words. This will direct students to become eager in understanding the meaning of unknown words. VSS may increase the student's level of word awareness, which led them became curious with the meaning of unfamiliar words (Ruddell and Shearer, 2002). The students realized that they needed to expand their vocabulary knowledge since there were still many unfamiliar words they had not known or heard.

CONCLUSIONS

This study aims to review the perceptions of senior high school students toward the process of Vocabulary Self-collection Strategy (VSS) and video viewing on learning disciplinary vocabulary from TED-Ed video. The evidence is clear that the students view the strategy of video viewing integrated the VSS process positively since they could facilitate students on learning specialized vocabulary. Based on the findings, the present study offers two practical implications for teaching vocabulary. Firstly, the English teacher may consider using Vocabulary Self-collection Strategy (VSS) to teach context based vocabulary in the classroom, as it is more student-centered learning that promotes active and independent learning. Secondly, the English or content are teacher may apply the content of TED-Ed program as learning material or as the resource for learning specialized vocabulary. This program provides many subjects related to academic discipline in the structure of explanation or narrative genre, such as history, literature, psychology, and many more.

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