"Secure Lane": Exploring DOTA 2 Players' Experience on Their Accidental Vocabulary Learning

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Abstract:

Vocabulary is the key to a language where people need to process words to understand the meaning of words. Learning vocabulary is not merely can be obtained from classroom interaction. It can be done outside the classroom with the aid of various media, one of which is video games developed in English. Learning English from activities outside the classroom, like playing video games, can gain incidental vocabulary, which has a relation to the repetition of the interaction between the learner and the target language, which is English. DoTA 2 is a popular video game among students since it provides a pleasurable experience for players and allows them to engage with one another via the use of English. This survey study aimed to determine the relationship between the player intensity of playing DoTA 2 and their vocabulary size. The data was gained from 100 students of a state university in Indonesia who played Dota 2 by distributing a questionnaire adopted from Cabraja (2016) to get the players' view and Schmitt's Vocabulary Levels Test (VLT) to know players' vocabulary level. The findings showed that participants who played DoTA 2 more regularly got a higher Vocabulary Level Test score than participants who played Dota 2 less regularly. According to their experience, participants with higher scores feel more confident when communicating with other players using English. It shows that playing the video game, DoTA 2 in this case, significantly impacts players'/students' accidental vocabulary acquisition and gives a less daunting experience when learning English.

Keywords: DOTA 2, Incidental Vocabulary, Learning Media, Video Game

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Introduction

Vocabulary is the key to a language where people need to process words to understand the meaning of words (Thornbury, 2002). Vocabulary should be taught to everyone who wants to speak the language. Vocabulary can be divided into 4 types based on their percentages, the percentage collected from the use of the vocabulary on text. There are 4 types of vocabulary by their percentages according to Nation (2001), they are high-frequency words which are almost 80% found in the text; Academic words make up about 9% found in the text; technical words make up about 5% found in the text; and the last is low-frequency words. These are the words of moderate frequency that did not manage to get into the high-frequency list. They make up over 5% of the words in an academic text.

It is important to learn vocabulary because vocabulary gives the key to how our brain process word into meaning that can be understood. Thornbury (2002:13) stated that "without grammar very little can be conveyed, without vocabulary nothing can be conveyed". It means learning vocabulary is the key success to learn the language. not only on speaking, on writing it is important too. Because when we understand the word, we can express the word to our audience or listener, and everything will become easier for people who has good vocabulary will read quickly and easily to understand the text and it will be a benefit for people who have the high vocabulary to express about their view to their listener (Bromley, 2004). To become a language expert, it is important to understand many vocabularies because sometimes 1 word can consist of more than 1 meaning.

To learn English, students need to learn vocabulary first before they step up to the next level of learning activity. If the student got many vocabularies, they will not struggle to step up to the next learning level, because have gained their basic word has already been given. Vocabulary learning can be gained through learning activities inside the classroom setting, or outside the classroom like reading a book, watching movies, playing video games, etc. In a non-classroom context, learning vocabulary can be obtained with the help of media which relates to the target language. One of the media is video games, which give a lot of enjoyment for players while incidentally acquiring the language used in the games which are most of them were developed in English. Incidental vocabulary acquisition is the process of acquiring words as a byproduct of an activity that was not purposefully planned for that goal. (Loewen, 2015; Pavia et al., 2019). Incidental vocabulary acquisition occurs as a result of language use for certain purposes other than vocabulary learning, (Asllani & Paçarizi, 2021) like playing video games.

According to Esposito (2005), a video game is a combination of audiovisual apparatus that can be from story or reality. It can be more interactive than books or movies and can be used as media to learn English (Chen & Yang, 2013) because learners are more motivated when they learn something using the media that they love (Chan & Wai Meng, 2011). Media are a physical form that can stimulate the learner's intensity of learning (Richard and Morison, 2014). It means, it can be more helpful for leaner with English as their foreign language, because they can learn English not only in school or university, it can from informal education like from song, movies, video games (Orkin & Roy, 2007). It is supported by Mitchell & Savill-Smith (2015) where video games are possible to become a learning medium by interactive activity between absorbing information and developing the meaning from the information.

An online video game that can be used for learning activities is *Defense of The Ancient (DotA) 2.* People nowadays call it MOBA (Massive Online Battle Arena) Where each team consists of 5 members who need to Defense their own ancient (Agarwala & Pearce, 2014), at the same time they need to destroy their enemy's ancient. They need to communicate with their teammate to get their goal about items they need to use for their character, the effect from each item combined with the skill from each character, their timing on beginning the war section, or their strategy to find which enemy's character need to picked off first to give them better percentages to win that war section. It means the player will learn the language because they already interact with the language again and again (Kerka, 2000).

Research done by Hapsari et al. (2018) revealed that DoTA 2 supports incidental English learning based on the player's experience from reading the words in the game and from the way they communicate with other players from the chatbox or using voice chat. According to Hapsari et al. (2018), playing intensely gives player better English learning ability because they learn language from their interaction with other player using chatbox or voice chat, and from the description of item and skill from the character they used. According to Sundqvist (2019)'s research, video games give more exposure towards students incidental vocabulary. Ikhbal (2019), in his research, he mentions 2 results where the first result said students got difficulty when learning English from DoTA 2 because of the inadequate number of vocabulary, and the other was hard to understand English accents. And the other result benefited from learning using DoTA 2,

there are four benefits of playing DotA 2 such as increasing vocabulary size, learning to communicate using English, facilitating direct English practice, and providing an enjoyable environment to practice English. The contrary result of the 2 studies raised curiosity to investigate more on the incidental vocabulary gained by DoTA 2 players.

Therefore, based on the background of the study above, the writer formulates the research problem as following "How the intensity of playing DoTA 2 help player with the vocabulary size", to understand the relation between player intensity when playing Dota 2 and their vocabulary size after they play Dota 2, and hope if this research can give clear explanation to people if (1) Video Game not only place for having fun but can be placed for learning and (2) it can provide information for further research regarding how video games can help students in gaining incidental vocabulary while playing. The researcher is interested in finding DoTA 2 players' experience with their vocabulary by communicating with teammate and their community, and by reading the DoTA 2 mechanics.

Research Method

This study uses a quantitative approach to ascertain the opinion of the public mass. The quantitative approach involves the process of collecting, analyzing, interpreting, and writing the result of the study (Creswell, 2015). The survey used in this research was adopted from Cabraja (2016) on the effects of video games on the receptive vocabulary proficiency of Swedish ESL students. Where in this research consist of a questionnaire and followed by the Vocabulary Level Test as the supporting data from the questionnaire.

Data were collected from 100 students from all faculties in Universitas Brawijaya who plays Dota 2 regularly in one week to find out whether DoTA 2 can help their vocabulary. The survey will consist of 5 questions on the questionnaire and 30 sections on the Vocabulary Level Test. Where the result will be divided into two participants who play Dota 2 regularly and participants who play DoTA 2 less regularly. The questionnaire will be distributed on the internet by using social media as the distributor. Social media used is Discord where participants received google form that consists of the questionnaire and followed by Vocabulary Level Test.

The questionnaire was adopted from Cabraja (2016) where the result of his research show if the varieties of the game played by participants can give different result for their Vocabulary Language Test. The 3,000-word level was the easiest level for all groups, which was to be expected since the 3,000-word level provides the basis for starting to read authentic texts (Schmitt et al., 2001), which the participants likely had read in their University preparatory program. According to Xing and Fulcher (Xing & Fulcher, 2007), Schmitt suggests that the limit for when a word-level could be said to be acquired is 24/30, or 80% need to be passed by the participants. Which his research, already been passed by his participants. On the 5,000-word level, his participants pass the 80% limit, indicating that the word level had been acquired. The results correlate with Schmitt's (2008) thoughts about how the frequency of input may help vocabulary acquisition.

Result and Analysis
The result of the questionnaire

The distribution of the faculty and batch of 100 participants is presented in the table 1.

Table 1. Participants distribution based on faculty and batch

Faculty	2014	2015	2016	2017	2018	2019	2020	2021	Total
Law			1	1	1				3
Economics and Business			2		2		1		5
Administrative Sciences					2	1			3
Agriculture									0

Animal Sciense					3				3
Engineering		1			1		1		3
Medical				1			1		2
Fisheries and Marine Scienes			1		1				2
Mathematics and Natural Sciences			2	4	4				6
Agricultural Technology				1					1
Social Sciences and Political Sciences	1		1	1	6				9
Cultural Studies		6	2	5	3		7	1	24
Veterinary Medicine				1		1			2
Computer Science			2	2	15	4	10		33
Dentistry				1					1
Total From Year	1	7	11	17	38	6	20	1	

In the table 1, it showed that most of the participants came from Faculty of Computer Science by 33 participants and dominated by the participant from batch 2018 by 38 participants. Following that, the questionnaire asked the participants to rate how good they consider they are in some skills as stated in the table 2. Those three skills were chosen since they are the most often used when playing DoTA 2.

Table 2. The Result of the Participant's English Skill

Question	1 (Not good)	2 (Poor)	3 (Decent)	4 (Good)	5 (Very Good)
Reading Skill	-	-	3%	38%	59%
Writing Skill	-	24%	34%	17%	13%
Speaking Skill	1%	7%	33%	31%	27%

From the table 2, it can be concluded that most participants felt confident with their reading skill compared to other skills. The second place that mostly chosen by participants was speaking skill and writing skil became the last place that participants felt they were good at. It can be concluded that the participants who play DoTA 2 were most confident in their reading skills since in DoTA 2 they got plenty of opportunities to read instruction and interaction when playing. They also felt quite confident in their speaking skill since DoTA 2 gives chance to interact among players to communicate their strategies.

Vocabulary Level Test.

Table 3. The Result of Vocabulary Level Test

Intensity	Score
Play Regularly in one week	175 / 180
Not play DoTA 2 regularly in one week	168 / 180

According to Schmitt, the limit for when a word level could be said to be acquired is 80% need to be passed by the participants. The average of the Vocabulary Level Test is 172.68 / 180. Divided into the Weekly intensity of the participant, it showed that the participants who played regularly in one week scored 175 / 180, and for participants who did not play regularly in one week scored 168 / 180. The participants who played regularly in one week showed higher scores than participants who did not play regularly in one week.

Divided into 4 sections according to intensity of player spent the time when playing DoTA 2 in one day.

Table 4. Vocabulary Level Test based on Intensity

Intensity	Score
1 hour – 3 hours	176 / 180
3 hours – 6 hours	175 / 180
More than 6 hours	173 / 180
Not play DoTA 2 regularly	168 / 180

From the intensity on the finding, the highest score is player who plays DoTA 2 regularly from 1 hour to 3 hours with a score of 176, followed by 3 hours to 6 hours 175/180, more than 6 hours by 173 / 180, and Not play DoTA 2 regularly by 168 / 180, and from the intensity of playing regularly in one week, it shows the score from the player who plays DoTA 2 regularly in one week show 175 / 180, and who does not play DoTA 2 regularly show 168 / 180. An interesting result showed here that the participants who got the highest scores were those who played DoTA 2 1-3 hours a day while those who played more hours in a day scored less. There should be investigated more why this phenomenon happened.
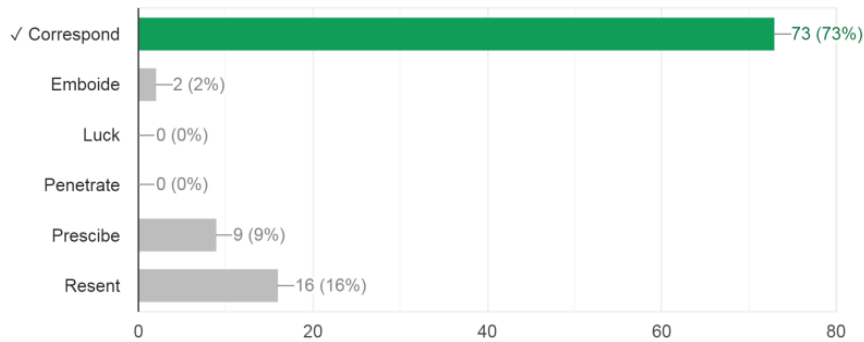
Wrong Answer on the VLT Test.

From questions on Vocabulary Level Test, shows several questions with the highest mistake chosen by the participants.

The first is on Synonym of Exchange Letters.

Participant needs to find the synonym of exchange letters, some participant choose Resent were to resent was synonym with angriness, some participant who choose Resent it can be developed by wrong meaning in years before where Resent means Try To Send this message again, and Participants who choose prescribe, can be misunderstood with the word letters, they define letters as a medical prescription.
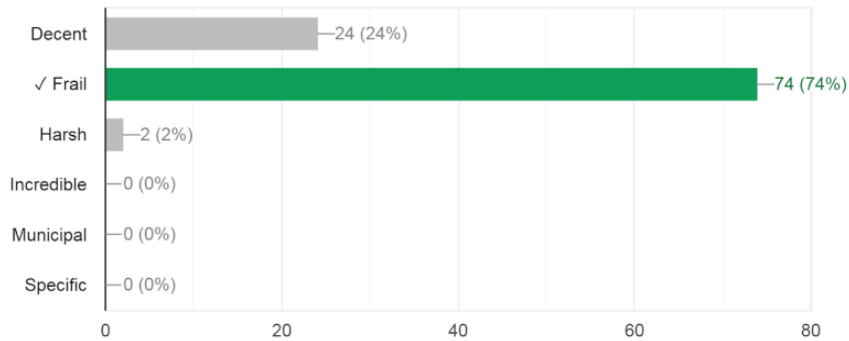
_____Exchange letters

73 / 100 correct responses

✓ Correspond —73 (73%)
Emboide —2 (2%)
Luck —0 (0%)
Penetrate —0 (0%)
Prescibe —9 (9%)
Resent —16 (16%)

0   20   40   60   80

The second is on Synonym of Weak.

_____Weak

74 / 100 correct responses

Decent —24 (24%)
✓ Frail —74 (74%)
Harsh —2 (2%)
Incredible —0 (0%)
Municipal —0 (0%)
Specific —0 (0%)

0   20   40   60   80

Participants need to find the synonym of Weak, some participants choose Decent where Decent in general meaning is conforming with generally accepted standards of respectable or moral behavior, it is different with Weak were in general meaning is lacking the power to perform physically demanding tasks; lacking physical strength and energy. This misunderstands because they miss absorbing information from participants.

Third is on Synonym of Concerning City

Participants need to find the synonym of Concerning a City, where some participants choose Specific, participants who choose Specific they focus on word Concern, and they define Concern as a matter of importance and define it as specific things need in a city.
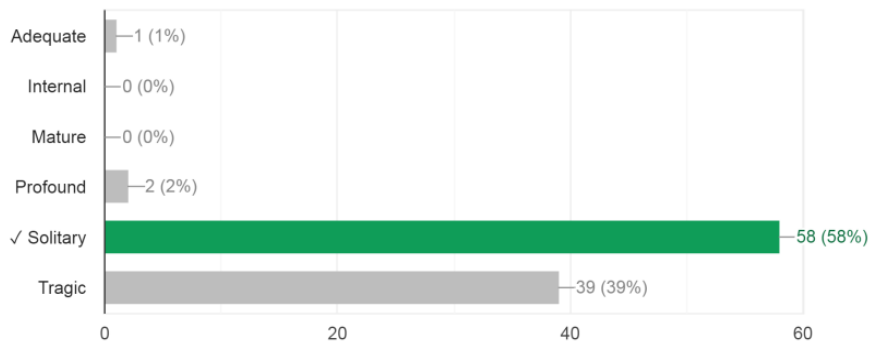
_____Concerning a city
74 / 100 correct responses

Decent	—1 (1%)
Frail	—0 (0%)
Harsh	—0 (0%)
Incredible	—1 (1%)
✓ Municipal	—74 (74%)
Specific	—24 (24%)
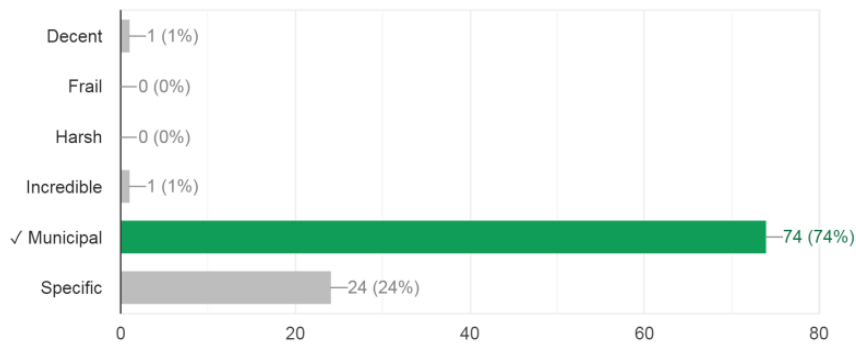
Last is on Synonym of Alone away from other things

_____Alone away from other things
58 / 100 correct responses

Adequate	—1 (1%)
Internal	—0 (0%)
Mature	—0 (0%)
Profound	—2 (2%)
✓ Solitary	—58 (58%)
Tragic	—39 (39%)

Some participants choose Tragic, where they define as Alone away from other things is sadness and loneliness, the correct answer is solitary where the situation is Alone on purpose.

Discussion

Some words in English known have many meanings, from the finding shows that some participants answer the Vocabulary Level Test wrong because misunderstood the meaning of the word. It gives a clear explanation from Gower, Philips, and Walter (1995: 143) on Similarity from English words can give difficulty, and give clear Explanation from Thornbury (2002: 27) on his word about Two words can have a similar meaning, still, it can be different use on sentence.

It showed that DoTA players gain incidental vocabulary. There are three aspects to improving incidental vocabulary acquisition: the word itself and how it is read. The word itself is primarily the predictability of the meaning of the word, a particular part of speech such as a general word, a particular part of speech such as a noun, and a particular number of exposures of a word (Zou & Yan, 2019).

The findings indicate that the result of the Vocabulary Level Test shows a result where participants who play Dota 2 regularly get a higher score than participants who play less regularly. It gives supporting results that proved Hapsari et al.'s (2018) findings that Dota 2 can help players study English, and also proved the result on Ikhbal (2019) where the result shows if Dota 2 can help players to improve their vocabulary. Where Dota 2 can help the student learn English. It shows that digital games can promote effective vocabulary learning. Interaction in the game environment is useful for vocabulary learning. Multimedia embedded in the game and vocabulary is superior to minimally specified informatin (Zou, Huang & Xie, 2019).

Uchihara, Webb, & Yanagisawa (2019) argue that the encounter of a word is an important predictor for random vocabulary learning, one of many variables influencing vocabulary learning through meaning-oriented input, and it also showed significant differences in the magnitude of the frequency effect across studies and identified several important variables that account for this variability, including learning-related, treatment-related, and methodological variables. Further, Asllani & Paçarizi (2021) claimed that media to learn English easily need combination where not only a sentence and translation, still need the image to help the learner not to misunderstand the sentence. For example, in DoTA 2, the player will find the picture of skill with written skill description and can try to apply the skill in practice mode to give more knowledge to the player about the skill, it is because the player can find out about what this skill doing when they use it. However, DoTA players who play more intense gain lower score in vocabulary test. Further research is needed to determine to what extent players with higher intensity obtain a lower vocabulary score.

Conclusion

A media like video games, especially DoTA 2, can be used as learning media to get Incidental learning activity where players keep in touch with English when they are playing the game, and they will need to communicate with their teammates to achieve their goal which is to eliminate the enemy's throne. The VLT showed that some participants choose the wrong answer, where they were still confused with the synonym on some words because English known as 1 word can have more than 1 meaning. All in all, the incidental vocabulary acquisition that the players got when they play DoTA 2 can be referred for English learners to get more pleasure activities outside the classroom, one of which is video games. Video games can help students to learn English as long as they are monitored when they play. It can also become learning media to give more varieties on learning media and learning activity since it gives context, a clearer explanation, and pictures provided in the process of playing video games that can give students more understanding to the information they got. However, a unique result found that, according to the Vocabulary Level Test, participants who played Dota 2 more intensely got lower results than those who played Dota 2 less intensely. This area has not yet been addressed in this study; thus, further research is required to understand the elements that impact this phenomenon.

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