Non-English Majored Students' Use of English Vocabulary Learning Strategies with Technology-Enhanced Language Learning Tools

Tham My Duong[1*], Thao Quoc Tran[2], Thao Thanh Pham Nguyen[3]

[1]Faculty of English, Ho Chi Minh City University of Economics and Finance (UEF), Vietnam
141-145 Dien Bien Phu, Ward 15, Binh Thanh District, Ho Chi Minh City, Vietnam
thamdm@uef.edu.vn
[2,3]Faculty of English Language, HUTECH University, Vietnam
475A Dien Bien Phu, Ward 25, Binh Thanh District, Ho Chi Minh City, Vietnam
Tq.thao@hutech.edu.vn
nguyenphamthanhthao@ymail.com
[*]Corresponding Author

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Abstract: Technology has become an integral part in language education in general and English language teaching and learning in specific. Accordingly, the use of technology enhanced language learning (TELL) tools in English language learning has become common as they can improve the knowledge retention and increase engagement. The study aims at unravelling the employment of TELL tool based English vocabulary learning strategies (VLS) among non-English majored students at Ho Chi Minh City University of Technology (HUTECH). The participants were a cohort of 240 first-year and second-year students answering the questionnaires and 20 students in responding the semi-structured interview questions. The SPSS was utilized to process the qualitative data in terms of descriptive statistics and T-Test, while the content analysis approach was employed for qualitative data analysis. The results showed that the participants employed the TELL tool based English VLS at a high level. Additionally, it is noticeable that second-year students utilized the TELL tool based English VLS more often than their first-year students.

Keywords: English vocabulary, strategies, TELL tools.

1. Introduction

The fast-growing advance of technology has made potential contributions to English language education for the past few decades. According to Radhakrishnan (2017), technology has been used to both assist and enhance language learning in recent years. The use of technology provides learners with many opportunities to practise English and involve themselves in authentic environments of language use (Kramsch & Thorne, 2020). Tseng (2019) has identified some areas of language learning that technology holds great promise including phonetics, grammar, vocabulary, reading, writing, translation, aural comprehension, literature appreciation, and testing. Regarding the vocabulary, Mello (1996) has stated that English vocabulary learning through technology can be flexible and effective. What is more, Internet-based technology has increasingly developed for years, so using the Internet of things for learning English vocabulary has become more common than before. Likewise, Turgut and Irgin (2009) state "the internet has opened up a world of possibilities for improving the vocabularies of learners" (p.761).

It is observed that although many learners are born in the technological rich world, they might not be skilful users of technology (Bennett, Maton & Kervin, 2008). In the context of Vietnam, a number of students do not seem to see the effectiveness of technology in English language learning (e.g., Tran, 2018, 2020a, b; Tran, Duong & Huynh, 2019; Tran & Vo, 2019). Specifically, in the context of Ho Chi Minh City University

of Technology (HUTECH), it is seen that students can learn English anytime and anywhere using smart phones, computers or laptops; nevertheless, they cannot make use of such tools for their English language learning in general and English vocabulary learning in specific. As such, many students struggle in employing appropriate strategies for vocabulary learning strategies (VLS) through technological tools. Toward that end, the study aims to delve into non-English majored students' use of TELL tools at the context of HUTECH. The questions are formed as follows:

1. To what extent do non-English majored students at HUTECH employ TELL tools in English vocabulary learning?
2. Do the non-English majored students use TELL tools in English vocabulary learning significantly differently in terms of levels of academic year? If yes, how?

2. Literature review

Many researchers (e.g., Radhakrishnan, 2017; Kramsch & Thorne, 2002; Tseng, 2019; Tran, 2018) have asserted that technology and technological devices could be used to engage English vocabulary learning in the development of skills. Groot (2000) has asserted that TELL tools could be effective to help students learn a large number of words in a short period of time. Additionally, Song and Fox (2008) have confirmed that the use of mobile devices could motivate learners to learn as well as remind them to work on the required learning vocabulary tasks. Furthermore, TELL provides learners with the constant repetition of the same words until they can memorize and use them, and it is one of the most perceptive strategies of practising in vocabulary learning (e.g., Tran, 2018, 2020a, b; Tran, Duong & Huynh, 2019; Tran & Vo, 2019). What is more, TELL can help to enhance learner autonomy development in learners (Tran & Duong, 2018).

In the process of vocabulary learning, the employment of VLS can facilitate vocabulary learning (Schmitt, 2000). Oxford (1990) delineates learning strategies are "steps taken by learners to enhance their own learning, and their significance lies in that they are tools for active, self-directed involvement" (p.1). In the same vein, Nation (2001) believes "appropriate learning strategies are the results of improved proficiency and self-confidence. The strategies for vocabulary learning enable learners to take more control of their own learning so that learners can take more responsibility for their studies" (p.222). Schmitt (2000) identifies five main groups of VLS namely determination strategies, social strategies, memory strategies, cognitive strategies and meta-cognitive strategies.

- Determination (DET) strategies are regarded as individual learning strategies that learners use to find out the meaning of words by themselves without help, such as guessing meaning of words from context;
- Social (SOC) strategies refer to interaction between learners and their partners from whom they learn, like asking their classmate and their teacher for the meaning of a word;
- Memory (MEM) strategies are strategies which learners use in learning new words through mental processing by associating the words with its coordinates or by linking the background of the words;
- Cognitive (COG) strategies are mechanical actions in learning new words of learners such as repeating the pronunciation of new words or keeping vocabulary notebook;
- Meta-cognitive (MET) strategies are related to the ability of learners in controlling and assessing their own learning new words. Thus, this helps learners decide appropriate vocabulary learning strategies in learning new words.

(Schmitt, 2000, pp.205-215)

Within the scope of this study, VLS are understood as the social, memory, cognitive and meta-cognitive strategies used to learn vocabulary easily. SOC strategies refer to interaction between learners and someone (e.g., foreigners, users, teachers, friends) through TELL tools as well as interaction technological tools, online materials. Through TELL tools as well, MEM strategies are ones which learners can use to link the background of the words through Internet sources. In order to remember the word in its context, learners use internet sources or e-websites. Learners can group the words in own way on the computers or cell phones. By means of TELL tools, COG strategies are ones learners use to repeat the new words through e-websites or computer software (e.g., e-dictionary, Google translation, etc.) or store vocabulary in their own online notebooks, and MET strategies are ones learners use to control and assess their own learning new words by

writing by using Microsoft Word (available at correction, revision, and feedback), reading from internet (e.g., web pages, e-books, etc,), listening music, watching movies and playing games.

Previous studies (e.g., Ariffin, 2021; Blanka & Petra, 2020; Dwi, 2015; Ishak & Fong, 2015; Ramin, Bahador & Sajad, 2013; Tran, 2016; Tran & Tran, 2017; Yolcu & Mirioglu,, 2020) on the use of TELL tools and VLS have been found. Ramin, Bahador and Sajad (2013) conducted a study on the effect of Blogging on vocabulary enhancement and structural accuracy in the Iranian context. The study involved 25 students sampled from a Foreign Language Institute in Tehran, Iran. The model website (Merriam-Webster Online Thesaurus App) and Microsoft Word were introduced to students. The results showed that blogging as an online vocabulary enhancement tool could improve writing skill and increase a large number of words as well as collaborative learning environment. Dwi (2015) did a study on students' perceptions of the development of vocabulary. The study consisted of 100 students studying English as a Foreign Language in Indonesia. The students were at their pre-intermediate level of proficiency in the English language. The students were divided into two groups: an experimental group who watched YouTube during the reading activities and a control group who was not exposed to the videos. Data were collected using pre-tests and post-tests in addition to questionnaires. The results showed that most of the students agreed with using YouTube videos that they enhanced their vocabulary understanding; nearly 90 of them improved pronunciation; 81% of students agreed to be active in learning processing; and 71% of students loved the learning environment. The majority of the participants agreed towards attractive vocabulary learning. They employed YouTube for Vocabulary Mastery at the rather high percentage. Blanka and Petra (2020) conducted a study on students' perceptions of an EFL vocabulary learning mobile application, and the study involved 28 students from the Faculty of Informatics and Management at University of Hradec Kralove in Czech Republic in answering the questionnaires. The findings showed that the mobile app helped the students become confident in learning, improve pronunciation, remember vocabulary better, correct quick feedback, have a positive effectiveness, enjoy to learn, use a mobile app to test my vocabulary knowledge and was more fun and less stressful. In the context of Vietnam, Tran (2016) studied to identify learners' perceptions of the tasks and the use Quizlet on mobile phones with Facebook. The participants were 21 Vietnamese learners at the University of Foreign Language Studies, University of Da Nang. The data consisted of both qualitative and quantitative data. The findings indicated that learners engaged in vocabulary learning actively and systematically in-out class. Tran and Tran (2017) carried out a study to explore VLS employed by 10th graders at a high school in Vietnam. The study involved 77 students (25 males and 52 females) of two classes from grade 10 at high school in Da Lat City, Vietnam. The results unravelled that the students sometimes used VLS during their learning English and they sometimes linked the word with a visual image that they knew in their mind. Furthermore, the students never linked the word with another English word which has the same sound and group the words with the same meaning or similar sound, but the participants sometimes considered using the SOC strategies to learn vocabulary. Although there are a number of studies on VLS in different contexts, the focus of VLS in relation to TELL tools has not been much conducted in the context of Vietnam. Therefore, this study attempts to scrutinize non-English majored students' use of English VLS with TELL tools at the context of a higher education institution.

3. METHODOLOGY

3.1 Research setting and participants

This mixed methods study is based on the pragmatic worldview for data collection as it is believed that different types of data can generate a holistic understanding of the TELL tool employment for English VLS in a specific context (Creswell & Creswell, 2018). It was carried out at HUTECH whose classroom is equipped with a speaker system, an LCD or a projector, and the university campus has Wi-Fi networks, which are free and open to all. The textbooks for the non-English majored students are *Four Corners* series by Cambridge University press. Each book consists of 12 units. Each unit includes four lessons such as: language outcomes, grammar, vocabulary, function language, listening and pronunciation, reading and writing, speaking. The students must attend English courses in six terms within in three years, specifically, 90 periods in two terms in a year, and they are taught six periods in a week in 45 periods in each term. At the end of each term, the students have an individual oral and a mini test with their lecturers in class.

The participants were 240 non-English majored students conveniently sampled out of about 600 non-English majored students. The participants' general information in Table 1 shows 120 participants (50%) were the first year, and the other 50% were the second year. The detail information is as in Table 1.

Table 1. Participants' general information

No			**N=240**	
			F	**%**
1	Year of study	1st year	120	50.0
		2nd year	120	50.0
2	Using TELL tools	under 1 year	50	20.8
		1-3 years	161	67.0
		over 3 years	29	12.2
3	Preference of using TELL tools	Computer (desktop & laptop)	23	9.6
		Smart phone	205	85.4
		Ipad	8	3.3
		others	4	1.7
		no	111	46.2

Note: F: Frequency; %: Percent

Besides, 20 out of 240 participants (10 males; 10 females) were invited for semi-structured interviews. Among them, 10 interviewees from the first year accounted for 50% of the total number of interviewees, and all interviewees were voluntary.

3.2 Research instruments

The study employed questionnaire and semi-structured interview as research instruments. The former was the main instrument for the collecting data, and it was designed based on the review of the related literature, the conceptual framework, and the research purposes. The questionnaire aimed to examine the extent to which non-English majored students employ TELL tools in English vocabulary learning. It consists of 36 questions and has three parts: Part A asking about participants' personal information; Part B with 18 items using a five-point Likert scale (*Never* to *always*) exploring about strategies for vocabulary learning through TELL tools. The questionnaire was translated in Vietnamese so that the respondents did not have any difficulties in understanding the questions. The latter was designed based on the research objectives and has 3 questions asking for vocabulary learning through TELL tools.

3.3 Procedures for data collection and data analysis

Before the main study took place, the questionnaire and semi-structured interview were piloted with five students who had similar characteristics with those in the main study, in order to assure that the research instruments were clear and valid. The main study started with the questionnaires administered to 250 English majors. It took them around 15 10 minutes to answer the questionnaire. Only 240 copies were returned. The semi-structured interview was then carried out in Vietnamese with 20 participants. Each interview lasted between 10 to 15 minutes.

Regarding data analysis, the data was analysed based on the sociolinguistic perspective (Goffman, 1981). The quantitative data from questionnaire were processed SPSS version 22 in terms of mean (M), standard deviation (SD) and T-Test. The interval mean scores are interpreted as 1.00-1.80: Never; 1.81-2.60: Rarely; 2.61-3.40: Sometimes; 3.41-4.20: Often; 4.21-5.00: Always (Kan, 2009). Meanwhile, the qualitative data gained from the semi-structured interview was analysed by the method of content analysis. Each interviewee was coded as S1-1, S1-2 to S1-10 for the first-year students and S2-11, S2-12 to S2-20 for the second -year students. To ensure the validity and reliability, the research instruments had been piloted, then adjusted instruments could be used in the main study. The inter-rating was employed for the reliability of qualitative data analysis.

4. Results and discussion

4.1 Results

4.1.1 Non-English majors' use of VLS with TELL tools

Table 2 indicates that the total mean score is 3.49 out of 5 (SD =.73). This means that a large number of participants sometimes used VLS with TELL tools. With respect to the four groups of VLS with TELL tools, participants often employed MET strategies (M=3.69; SD=.59), SOC strategies (M=3.48; SD=.85), and MEM strategies (M=3.42; SD=.76), but they sometimes used COG strategies (M=3.37; SD=.72).

Table 2. Non-English majors' use of VLS with TELL tools

No.		N=240	
		M	**SD**
1	SOC Strategies	3.48	.85
2	MEM Strategies	3.42	.76
3	COG Strategies	3.37	.72
4	MET Strategies	3.69	.59
	Total	**3.49**	**.73**

Table 3. Non-English majors' use of VLS with TELL tools in terms of SOC strategies

No.	SOC Strategies	N=240	
		M	**SD**
1	VLS are necessary for me through the use of technology tools.	3.51	.87
2	I learn new words with other learners or foreigners to improve my English skills (listening, speaking, reading, writing) through e-websites.	3.49	.84
3	I learn new words from other materials (e.g., Google translate, dictionary, Google).	3.61	.83
4	I do vocabulary exercises with other users or teachers through e-websites or software programs.	3.39	.88
5	I join an online forum to discuss English vocabulary learning with friends.	3.38	.84
	Total	**3.48**	**.85**

The results from qualitative data also indicate that research participants employed VLS with TELL tools in terms of SOC strategies. They shared:

> *…I learn new words with other learners or foreigners to improve my English skills (listening, speaking, reading, writing) through apps and e-websites…* (S2-8)
> *…I learn new words from other Google translation, dictionary…* (S1-1)
> *…I sometimes join an online forum for discussion, and I can learn some new words from it…* (S1-2)

The results in Table 4 reveal that the participants often remember the word in its context through internet sources (item 8: M=3.64; SD=.76). They also often linked the word with a visual image that they knew in their mind (item 7: M=3.59; SD=.871), and they grouped the words in their own ways on their cell phones (item 10: M=3.42; SD=.72). The participants also admitted that they used smart phones (59.9%) more than computers (40.1%) for VLS. However, they sometimes linked the word with another English word (item 6: M=3.21; SD=.74), and they did not usually group the words in their own ways on their computers (item 9: M=3.20; SD=.74).

Table 4. Non-English majors' use of VLS with TELL tools in terms of MEM strategies

No.	MEM strategies	N=240	
		M	**SD**
6	I learn new word by linking the word with another English word through internet sources.	3.21	.74
7	I link the word with a visual image that I know in my mind through internet sources.	3.59	.87
8	I remember the word in its context through internet sources/e-websites.	3.64	.76
9	I work on my computer to group the words in my own way to remember them.	3.20	.74
10	I work on my smart phone to group the words in my own way to remember them.	3.42	.72
	Total	**3.42**	**.76**

Qualitative results show that interviewees approved that they had MEM strategies. They stated:

*...I often remember the word in its context through internet sources ....(*S2-9)
...I sometimes link the word with a visual image….(S1-3)
*...I group the words on my laptop to remember.…..(*S1-2)

The results of COG strategies (Table 6) present that the participants often pronounced the words (item 11: M=3.66; SD=.620) and listened and repeated the transcribed words through e-websites (item 12: M=3.45; SD=.799). However, they agreed that they sometimes "learn vocabulary through writing by using Microsoft Word" (item 14: M=3.20; SD=.705) and "keep an e-notebook to store new vocabulary" (item 13: M=3.18; SD=.767).

Table 6. Non-English majors' use of VLS with TELL tools in terms of COG strategies

No.	COG strategies	N=240	
		M	**SD**
11	I improve pronunciation by repeatedly pronouncing the words through e-websites or computer software (e.g., e-dictionary, Google translation, etc.).	3.66	.62
12	I learn new words by listening and repeating the transcribed words through e-websites with audio and phonetic symbols.	3.45	.79
13	I keep an e-notebook to store new vocabulary.	3.18	.76
14	I learn vocabulary through writing by using Microsoft Word (available at correction, revision, and feedback).	3.20	.70
	Total	**3.37**	**.72**

Interviewees expressed that they used COG strategies with TELL tools. They confessed that:

*...I sometimes improve pronunciation by repeatedly pronouncing the words through Google translation or dictionary….(*S1-5)
...I sometimes listen and repeat the transcribed words through e-websites….(S2-10)
...I keep an e-notebook to keep vocabulary….(S1-4)

In the respect of MET strategies as shown in Table 7, it was noticed that the participants sometimes "learn vocabulary from playing online games" (item 18: M=3.94; SD=.678), "learn vocabulary from watching English movies with subtitles on the Internet" (item 17: M=3.78; SD=.545), and "learn vocabulary from listening English songs from e-websites on cell phones" (item 16: M=3.68; SD=.555). Yet, they often "learn vocabulary through reading from internet" (item 15: M=3.34; SD=.598).

Table 7. Non-English majors' use of VLS with TELL tools in terms of MET strategies

No.	MET strategies	N=240	
		M	**SD**
15	I learn vocabulary through reading from internet (e.g., web pages, e-books, etc.)	3.34	.59
16	I learn vocabulary through listening to English songs from e-websites or app on my computer or in my smart phones.	3.68	.55
17	I learn vocabulary from watching English movies with subtitles on the Internet.	3.78	.54
18	I learn vocabulary from playing online games.	3.94	.67
	Total	**3.69**	**.59**

All of the interviewees often used MET strategies with TELL tools. They shared:

*...I usually watch English movies with subtitles on the Internet.....(*S2-11)
...I often listen to English songs from e-websites....(S2-7)
...I often learn vocabulary from playing online games....(S1-3)

4.1.2 Differences in non-English majors' use of VLS with TELL tools in terms of levels of academic year

Table 8 shows that there was a significant difference in the mean of the first-year students (M=2.85, SD=.40) and second-year fellows (M=3.47, SD=.61) in terms of VLS with TELL tools (t=.444; p = .0028). This can be understood that the second-year students employed VLS with TELL tools more often than the first-year students.

Table 8. Differences in non-English majors' use of VLS with TELL tools in terms of levels of academic year

	t	**Sig.**	**1st year students (n=120)**	**2nd year students (n=120)**
			M(SD)	**M(SD)**
VLS with TELL tools	.444	.0028	2.85(.40)	3.47(.61)

4.2 Discussions

This study has indicated some major findings. Firstly, it was found that the participants often used VLS with TELL tools. Such a finding may infer that student were aware of the importance of TELL tools in their vocabulary learning, and they tried to employ VLS with TELL tools as often as possible. The explanation to such a finding may be that most of students (85%) had smart phones connected to WIFI/4G, so they could learn English vocabulary whenever they were free. The finding is partially in alignment with those in Blanka and Petra's (2020) study which pointed out the learners employed different strategies for learning vocabulary with TELL tools.

Regarding the four groups of VLS, participants utilized SOC strategies, MEM and MET strategies more often than COG strategies. It seems that students may learn vocabulary with others and from online resources and try to memorize new words more frequently than learning vocabulary by repeating and using vocabulary and keeping an e-notebook of vocabulary. This finding is partially supported Schmitt (2000) who has found that interacting with others may help learners to improve their vocabulary.

It is also found that MET strategies were most employed by participants who learned vocabulary by playing online games, watching online English motives, and listening to online English songs. Therefore, it can be said that participants used TELL tools to relax and learn vocabulary simultaneously. A possible explanation for this may be the fact that participants were still young, and they loved doing something enjoyable and relaxing.

Another major finding indicated that non-English majored students used VLS with TELL tools significantly differently in terms of levels of academic year. To put it simply, the second-year students utilized

VLS with TELL tools more often than the first-year fellows. This may be due to the fact that the older students were, the more they experienced in using TELL tools to learn vocabulary. This study resonates with the view of Tran, Duong and Huynh (2019) who have discovered that learners' use of TELL tools for English language learning in general and vocabulary learning can be influenced by their levels of study.

5. Conclusions

The study reveals that non-English majored students employed English VLS with TELL tools at a moderate level and there was much difference in the use of TELL tools for English vocabulary learning between the first- and second-year participants. Accordingly, some recommendations are drawn. Firstly, the English lecturers should help the non-English majored students fully understand the usefulness and effectiveness of English vocabulary learning through TELL tools so that students can use suitable VLS with TELL tools. Teachers should design both inside and outside classes tasks and exercises in accordance with TELL tools applying apps, software, e-website such as Android Games, Play Kahoot, video clips (songs, movies, short talks, dialogues, pictures, flashcards, so on). Secondly, students should be aware of the usefulness and effectiveness of TELL tools in English vocabulary learning. They should be active in learning English vocabulary on their own. Thirdly, there should be workshops, training courses, English speaking clubs, and demonstration classes related to the practice of English VLS with TELL tools. Through those occasions, both the lecturers and the students would obtain better awareness of English vocabulary teaching and learning through TELL tools.

Some limitations appear in this study. This study was conducted on 240 participants at one research, so further research can involve more participants from more research contexts. Additionally, the study employed two research instruments (questionnaire and interview), so the future study can use more research instruments such as observation and checklist to get in-depth data and triangulate the data.

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