



The use of Electronic Dictionary Strategies among English as a Foreign Language (EFL) Learners

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Abstract— *It is true that dictionaries have played an indispensable role in the process of language acquisition, and in the case of EFL learning, this is not an exception. However, in Vietnam, there have not been many studies, research, and materials exploring the use of electronic dictionaries (EDs) as well as instructing EFL learners to employ them effectively. Hence, the aim of this paper is to investigate EFL learners' use of electronic dictionary (ED) strategies at an English center in Ho Chi Minh City, Vietnam. The study involved 98 EFL learners who were asked to complete the given questionnaire. The quantitative data were analyzed by SPSS to extract their mean, standard deviation, and frequency. The results indicated that the EFL participants only made use of an average number of ED strategies. It is hoped that these introductory findings can be beneficial for other researchers in their studies related to dictionary use as well as providing potential ideas for EFL teachers who want to implement dictionary training into their lessons.*

Keywords— *electronic dictionary, electronic dictionaries, electronic dictionary strategies, English as a Foreign Language (EFL)*

I. INTRODUCTION

Ever since the production of its first prototype in the 1960s (De Schryver, 2003), EDs have developed in leaps and bounds, becoming available in various forms and devices such as smartphones, E-readers, laptops, or desktop computers. Such an expansion has led to studies related to the process of dictionary consultation (Nesi, 2014). This could be due to two reasons. Firstly, the novel construct and various features of EDs would require users to possess a particular set of strategies or skills to employ them efficiently and avoid making mistakes (Fraser, 1999; Scholfield, 1999; Gavriilidou, 2013). Secondly, dictionary reference is not a simple task since it involves language skills, knowledge of lexicography, problem-solving as well as information-processing skills (Tono, 2011). Regarding EFL learners and ED, it is observed that the majority of

previous research has focused on the effects of this device on language learning and learners' attitudes, perception, or habits of using them (Kent, 2001; Boonmoh & Nesi, 2008; Chiu & Liu, 2013; Amirian & Heshmatifar, 2013; Rezaei & Davoudi, 2016). Hence, it is true that few studies have investigated the EFL learners' understanding of ED and how they employ this tool for consultation.

Regarding the context in Vietnam, a lack of research into this particular topic has also been observed with only few existing studies like those of Nguyen (2014) and Lien (2019). In addition, there are several problems when EFL learners use EDs which could lead to linguistic errors. For example, Tono (2011) found that some would immediately jump to a section in an entry page without any consideration and end up being lost within a vast amount of information. Additionally, Nguyen (2014) revealed that

a number of her EFL participants could not decipher the meaning and usage in a dictionary and give up halfway through. It is obvious that these issues can also be true for EFL learners whose lexicographical comprehension are still limited.

Besides the above explanation, it was also recorded that a majority of high-school and university students in Vietnam possessed at least one electronic device (e.g., laptop, smartphone, or tablet). For example, according to a survey made at a Vietnamese university by Nguyen (2016), almost all of the students there had at least one electronic item and 67% of them utilized these gizmos into their language learning. Another similar observation was made by Tran (2018), who stated that a great number of university English-majored students possessed hi-tech devices but lacked the necessary competence to exploit their full potential. Thus, with such a wealth of electronic devices available to EFL university students and learners, it would be a tremendous waste not to harness the available power of technology into English study. Because of the aforementioned reasons, this study aims to answer the following question:

- Do EFL learners use ED strategies when studying at an English center in Ho Chi Minh City, Vietnam? And if they do, which strategies do they use?

II. BRIEF REVIEW OF LITERATURE

2.1. Electronic dictionary

According to Nesi (2000), an ED “can be used to refer to any reference material stored in electronic form that gives information about the spelling, meaning, or use of words” (p. 839). Nesi’s description has highlighted important characteristics of ED: a structure of digitalized data that can be harnessed and accessed through different means, improved with numerous functionalities, and employed in various settings. Another fundamental characteristic of any EDs that Nesi (2000) added is the system of retrieval and storage. Between them, the emphasis was placed on the former which revolutionarily distinguishes between EDs and their traditional paper counterparts. This was also emphasized by De Schryver (2003) and Dziemianko (2018). When a user looks up information in a hard-copy dictionary, several hurdles can arise. To start with, the

compulsory requirement of alphabetical navigation will render the task of lookup extremely time-consuming and tiring for those lacking this skill. Even for the capable ones, repeating a task for numerous times during consultation may also cause demotivation. Additionally, the A-Z listing system is also meaningless when the target of consultation is words relation (e.g., synonyms, antonyms, or collocations) as they are not always alphabetically close to each other. Strikingly, the birth of EDs has efficaciously resolved all of these problems with instant access to the desired data with just a few clicks. Nowadays, a dictionary application on our smartphone could easily supplant a collection of collocation, thesaurus, or idiom dictionaries, highlighting the powerful implication of the retrieval system that ED offers.

2.2. Electronic dictionary strategies

Among preceding studies on EDs and dictionaries in general, the two literature works below were specifically chosen to become the foundation for this study:

- “Development and Validation of the Strategy Inventory for Dictionary Use (S.I.D.U.)” by Gavriilidou (2013)
- “Development and Validation of the Strategy Inventory for Electronic Dictionary Use (S.I.E.D.U.)” by Mavrommatidou et al. (2019)

The first study (S.I.D.U.) produced a 36-item questionnaire aiming at necessary strategies to employ paper dictionaries proficiently. The second study is S.I.E.D.U., which could be considered as the analogous version of S.I.D.U., but instead of for paper dictionaries, it dealt with electronic ones. In this research, the authors devised a questionnaire with 32 Likert-type items to evaluate users’ strategies for ED consultation. Both of these questionnaires were meticulously crafted from previous literature, assessed by lexicography experts, and put through multiple pilot tests so as to ensure their validity and reliability. However, since their primary targets are not EFL learners, certain modifications were made. More specifically, Table 1 compares the source material and the adapted version for the EFL learners of this study.

Table 1: Comparison between the source material and the adapted questionnaire for this thesis

Source material	Adapted version	Changes
Dictionary use awareness (Gavriilidou, 2013)	Strategies for dictionary use	<u>Kept</u> : looking up meaning, spelling, pronunciation, synonym, antonym, usage, word family, expression <u>Omitted</u> : looking up etymology, syntax, translation, knowing time and location of use <u>Added</u> : looking up IPA pronunciation
Familiarity with different types of EDs and the conditions of their use (Mavrommatidou et al., 2019)	Strategies for different types of EDs and the conditions of their use	<u>Kept</u> : knowing ED platform (mobile or desktop), subscription choice <u>Omitted</u> : knowing location of use, using EDs in DVD-ROM or CD-ROM form <u>Added</u> : knowing ED type (monolingual or bilingual)
Acquaintance with dictionary conventions (Mavrommatidou et al., 2019)	Strategies for ED conventions	<u>Kept</u> : knowing ED abbreviation, structure, using recorded pronunciation, bookmark, help page <u>Added</u> : knowing ED symbol
Look-up strategies (Gavriilidou, 2013)	Look-up strategies	<u>Kept</u> : bearing the word in mind, distinguishing homonyms, checking for context appropriacy, using did-you-mean search, sound search <u>Omitted</u> : understanding alphabetical navigation (for paper dictionaries), keyword search, wildcard search, boolean search, filtered search, inflected form search, searching through menu list <u>Added</u> : using hyperlinking
Look-up strategies in new electronic environments (Mavrommatidou et al., 2019)		

III. METHOD

3.1. Research setting and participants

The research was conducted at ALT GIASU Center (ALTC). Established in 2015, they are a group of English centers whose aims are to prepare learners for the International English Language Testing System (IELTS) and overseas study. Each course lasts for two months and is divided into 24 lessons. Each lesson is two hours long and takes place three times a week. During every course, a mid-term test and another final one is conducted to assess learners' progress. These tests are designed to imitate the real IELTS test as close as possible. Another noteworthy feature of ALTC is its in-house online website/application named Starkcamp on which a wealth of materials pertaining to IELTS and English are provided for self-study. Learners can access Starkcamp to download multifarious types of books into their computers and

attempt simulated IELTS reading and listening tests with automatically generated scores afterwards. The purpose of Starkcamp is to facilitate the learning process of learners both inside and especially outside classroom.

100 learners coming from four different levels namely Foundation (basic users), PRE 2 (targets at 4.5 IELTS band score, equivalent to B1 in the CEFR scale), IELTS 2 (5.5, equivalent to B2), and IELTS 4 (6.5, nearly equivalent to C1) were asked to complete the questionnaire by convenience sampling method. However, only 98 answers were received, which is the total sample size of this study. Table 2 illustrates the background information of the participants.

Table 2: General information

Background information		n (learners) = 98	
		Frequency	Percentage
Gender	Male	45	45.9%
	Female	53	54.1%
Age	Below 16 years old	6	6.1%
	16-18 years old	34	34.7%
	19-24 years old	43	43.9%
	Above 24 years old	15	15.3%
Class level	FOUNDATION	24	24.5%
	PRE 2	26	26.5%
	IELTS 2	25	25.5%
	IELTS 4	23	23.5%
Years of learning English	Less than 1 year	16	16.3%
	1-3 years	27	27.6%
	5-7 years	14	14.3%
	More than 7 years	41	41.8%
Daily hours for learning English	Less than 1 hour	44	44.9%
	1-3 hours	48	49.0%
	3-5 hours	5	5.1%
	More than 5 hours	1	1.0%
ED use	Yes	95	96.9%
	No	3	3.1%

3.2. Research instruments

Quantitative method with the employment of questionnaires was conducted to gather the desired data. The questionnaire form was created based on previous literature of Gavriilidou (2013) and Mavrommatidou et al. (2019) with modifications adjusted for EFL context. It included 34 questions in total and was divided into two sections A and B. In part A, the learners were asked to give information about their personal information namely gender, age, class level, years of learning English, daily hours of learning English, and whether or not they used EDs. Section B entailed items examining their use of ED strategies with Likert-type questions. The responses are 1 for Never, 2 for Seldom, 3 for Sometimes, 4 for Usually, and 5 for Always. The questionnaire was translated into Vietnamese to avoid any ambiguities.

3.3. Procedures for data collection and data analysis

Regarding data collection, Google Form links of the questionnaire were sent to 100 EFL learners at four campuses of ALTC, and 98 answers emerged. This was achieved thanks to the help of the admin staff at ALTC. Each learner spent five to ten minutes reading the instruction and filling out the questionnaire. All of these activities were carried out in the January of 2022.

As for data analysis, the quantitative data from all of the questionnaires were processed through SPSS 20, which, according to Saunders et al. (2019), is a software for “advanced data management and statistical analysis” (p. 556). The quantitative factors considered were frequency, mean, and standard deviation. Cronbach’s alpha measurement returned an excellent score of .90, suggesting a high internal consistency amongst the items. The meanings of the mean scores for the EFL learners’ use of ED strategies were interpreted as:

- 1-1.80: Never
- 1.81-2.60: Seldom
- 2.61-3.40: Sometimes
- 3.41- 4.20: Usually
- 4.21– 5.00: Always

IV. RESULTS

It is evident from Table 3 that the participants' use of ED strategies was neither high nor low ($M=3.27$; $SD=.56$). This total mean score indicated that the EFL learners only made use of an average number of ED strategies.

Table 3: Total mean score of the use of ED strategies

No.	Learners' use of ED strategies	n = 95	
		Mean	St. D
1	Learners' use of ED strategies	3.27	.56

Table 4 demonstrates the mean scores of each ED strategy group. It is apparent that the "Strategies for different types of EDs and the conditions of their use" ranked first in terms of the most common strategies ($M=3.50$; $SD=.46$), followed closely by "Look-up strategies" ($M=3.40$; $SD=.74$). While "Strategies for dictionary use" took the third position ($M=3.29$; $SD=.66$), the least frequently used ones were "Strategies for ED conventions" ($M=2.90$; $SD=.83$).

Table 4: Total mean scores of each ED strategy group

No. The four strategy groups		n = 95	
		Mean	St. D
1	Strategies for dictionary use	3.29	.66
2	Strategies for different types of EDs and the conditions of their use	3.50	.46
3	Strategies for ED conventions	2.90	.83
4	Look-up strategies	3.40	.74

Amongst the 98 EFL learners at ALTC who returned the questionnaire answers, three of them stated that they did not use EDs. This is a rather surprising outcome

considering the ubiquity of EDs in the EFL environment. Moreover, they all had different reasons for not using EDs. The first learner believed that the fast and excessive consultation would hamper his or her word retention while the second thought EDs contained inaccurate information. The last learner chose not to use EDs as they required Internet connection to use. Although their data on EDs could not be collected, their dissatisfaction with EDs could serve as valuable insight for lexicographers to improve their products. After depicting the overall picture of ED strategies in the EFL environment of this study, the below section would dissect them in four strategy groups.

4.1. Strategies for dictionary use

Concerning the first strategy group, Table 6 illustrates the ten types of lexicographical information that a dictionary user could look up. The total mean score of these items ($M=3.29$; $SD=.66$) indicated that the EFL learners taking part in this study had a relatively good grasp of the items in this category. Undoubtedly, word meaning was the most searched data (item 1.1: $M=4.27$; $SD=.68$) since it is the primary function of a dictionary. It was followed by spelling (item 1.2: $M=3.63$; $SD=1.05$), IPA pronunciation (item 1.3: $M=3.46$; $SD=1.06$), synonyms (item 1.4: $M=3.44$; $SD=.92$), word usage (item 1.6: $M=3.33$; $SD=1.03$), and antonyms (item 1.5: $M=3.22$; $SD=.99$), which were also typical reasons for dictionary consultation. However, more advanced linguistic items received noticeably lower mean scores. They were phrasal verb (item 1.9: $M=3.08$; $SD=1.08$), word family (item 1.7: $M=2.93$; $SD=1.02$), collocation (item 1.8: $M=2.81$; $SD=1.11$), and idiom (item 1.10: $M=2.71$; $SD=1.08$).

Finally, except for word meaning, the remaining items (varied from .92 to 1.11) all had high standard deviations, which came as no surprise given the wide range of English levels of the participants. Such a dispersion can be explained when considering the fact that there were different needs for consultation amongst learners of different levels. For example, low-level learners were less likely to make use of phrasal and idiomatic expressions while the opposite was true for the advanced ones.

Table 6: EFL learners' use of strategies for dictionary use

No.	Strategies for dictionary use	n = 95	
		Mean	St. D
1.1	I use EDs to find the meaning of a word	4.27	.68

1.2	I use EDs to find the spelling of a word	3.63	1.05
1.3	I use EDs to find the IPA pronunciation of a word	3.46	1.06
1.4	I use EDs to find the synonyms of a word	3.44	.92
1.5	I use EDs to find the antonyms of a word	3.22	.99
1.6	I use EDs to check how a word is used	3.33	1.03
1.7	I use EDs to find the word family of a word	2.93	1.02
1.8	I use EDs to find the collocation of a word	2.81	1.11
1.9	I use EDs to find the phrasal verb of a word	3.08	1.03
1.10	I use EDs to find the idiom of a word	2.71	1.08
	Total	3.29	.66

4.2. Strategies for different types of EDs and the conditions of their use

In respect of the second set of strategies, which is concerned with the selection of EDs, as can be seen from Table 7, the EFL participants showed great frequency of use for each category except for “pay[ing] money to gain access to premium content or features in EDs” (item 2.5: $M=1.77$; $SD=1.05$). As for the choice between

monolingual and bilingual EDs, monolingual products (item 2.1: $M=3.41$; $SD=1.09$) were noticeably lower than bilingual ones (item 2.2: $M=4.07$; $SD=.84$). The same was true for desktop EDs as more learners “use[d] EDs on [their] smartphone or tablet” (item 2.4: $M=4.26$; $SD=.73$) than those who “use[d] EDs on [their] desktop computer or laptop” (item 2.3: $M=3.96$; $SD=.90$). Nonetheless, the total mean scores of both of them were still markedly high.

Table 7: EFL learners' use of strategies for different types of EDs and the conditions of their use

No.	Strategies for different types of EDs and the conditions of their use	n = 95	
		Mean	St. D
2.1	I use monolingual EDs for studying English	3.41	1.09
2.2	I use bilingual EDs for studying English	4.07	.84
2.3	I use EDs on my desktop computer or laptop	3.96	.90
2.4	I use EDs on my smartphone or tablet	4.26	.73
2.5	I pay money to gain access to premium content or features in EDs	1.77	1.05
	Total	3.50	.46

4.3. Strategies for ED conventions

It is evident from Table 8 that the use frequency of these strategies was not as high as the others since the total mean score only remained at 2.90. More specifically, moderately few learners “carefully stud[ied] the list of abbreviations and symbols” inside EDs (item 3.1: $M=2.61$; $SD=1.09$). Likewise, the acts of studying their structure were not a common sight (item 3.2: $M=2.63$; $SD=1.11$ and item 3.3: $M=2.78$; $SD=1.17$). Regarding ED novel features, synthesized speech or recorded pronunciation was highly utilized as an assistive tool for pronunciation checking (item 3.4: $M=3.86$; $SD=1.11$). One underlying cause for

this can be owing to the lack of knowledge about IPA phonetic transcription; hence, simply tapping or clicking on the enunciation button (usually appears as a speaker icon) would be a preferable choice. In a similar vein, a decent number of EFL learners also used the “History” or “Bookmark” feature in EDs to review recent searches (item 3.5: $M=3.23$; $SD=1.22$). The least prevalent feature was “Help” pages (item 3.6: $M=2.43$; $SD=1.19$). While the first assumption for this is that most of them did not meet any difficulties, the second one would be because they did not even know the existence of these pages.

Table 8: EFL learners' use of strategies for ED conventions

No.	Strategies for ED conventions	n = 95	
		Mean	St. D
3.1	While using an ED, I carefully study the list of abbreviations and symbols (if there are any)	2.61	1.09
3.2	While using an ED, I study the information describing the structure of the dictionary and its entries	2.63	1.11
3.3	While using an ED, I browse the webpage to understand its main structure	2.78	1.17
3.4	While using an ED, I use the application of synthesized speech or recorded pronunciation to check the pronunciation of a word	3.86	1.11
3.5	While using an ED, I use the feature "History" or "Bookmark" to have access to the most recent searches I have carried out	3.23	1.22
3.6	While using an ED, I use the feature "Help" to solve questions and problems I may encounter	2.43	1.19
	Total	2.90	.83

4.4. Look-up strategies

As shown in Table 9, "Look-up strategies", which is related to how EFL learners look up new words in EDs, received the second highest total mean score ($M=3.40$, $SD=.74$). The strategy which required the learners to identify the correct definition of a word having multiple meanings claimed the highest mean score (item 4.2: $M=3.78$; $SD=.87$). In a similar fashion, the other two look-up strategies related to thinking process also possessed high mean scores: "While looking up for a word, [they] constantly bear[ed] it in [their] mind during the search" (item 4.1: $M=3.56$; $SD=.88$) and "While looking up for a word, when [they found] the word that [they were] searching for, [they] return[ed] to the text to confirm that the word matches the context" (item 4.3: $M=3.73$; $SD=.93$). Such findings indicated that a large number of EFL learners were attentive and had conscious thoughts in the process of ED consultation.

The last three strategies involved the abilities to utilize technological functions in EDs to assist lookup. "Fuzzy search" or "Did-you-mean?" function was averagely used (item 4.4: $M=3.12$; $SD=1.23$). In addition, sound search was not a prevalent function amongst the learners (item 4.5: $M=2.82$; $SD=1.23$) despite its convenience. One explanation for this can be owing to the learners' struggle to enunciate English words in order for EDs to recognize the correct words. Additionally, the function of hyperlinking only received a moderate score (item 4.6: $M=3.47$; $SD=1.17$).

Finally, it is observed that first three strategies (which dealt with the inner thoughts of learners during lookup) had noticeably lower standard deviations than the last three ones (which concerned the digitalized features in EDs). Hence, while the thinking process of EFL learners during consultation were similar (to a certain extent), the use of technological search functions varied dramatically amongst them.

Table 9: EFL learners' use of look-up strategies

No.	Look-up strategies	n = 95	
		Mean	St. D
4.1	While looking up for a word, I constantly bear it in my mind during the search	3.56	.88
4.2	While looking up for a word, when I realize that the word I am looking for has various different meanings, I go through them all one by one, assisted by the example sentences	3.78	.87

4.3	While looking up for a word, when I find the word that I was searching for, I return to the text to confirm that the word matches the context	3.73	.93
4.4	While looking up for a word, when listening to a word I do not understand, I look it up even without knowing the proper spelling, utilizing the “Did-you-mean?” function of my ED	3.12	1.23
4.5	While looking up for a word, to find a word in EDs, I attempt sound search	2.82	1.23
4.6	While looking up for a word, when I encounter an unknown word in EDs, I click or tap on it to immediately access its entry page.	3.47	1.17
	Total	3.40	.74

V. DISCUSSION

In light of the quantitative analysis of EFL learners at ALTC through questionnaires, it was revealed that they only employed an average number of ED strategies, which was in line with preceding research by Nguyen (2014) and Kunnu et al. (2020). Moreover, there were no distinct differences amongst the use of ED strategies amongst the four class levels, except for the FOUNDATION classes, which had a comparatively lower mean score than the other three. On the one hand, the case of the FOUNDATION classes was expected since the learners had not had much knowledge of English, and therefore, of how to use dictionaries properly. On the other hand, the outcome similarity of the other three can be rationalized by the fact that the questionnaire items were concerned with not only linguistic knowledge but also the technical understanding of EDs. Thus, the categorization of English levels might not be proportionate to that of ED strategies.

With respect to the first group “Strategies for dictionary use”, while the learners frequently searched for rudimentary items like definitions or spellings, more advanced information such as collocations and phrasal verbs received noticeably lower attention. These results are similar to those of Chi (1998), Hamouda (2013), Nguyen (2014), and Alhaisoni (2016). One reasonable explanation for this can be due to the lack of English proficiency for a number of elementary or intermediate learners. It is unlikely that these learners would look for phrasal or idiomatic expressions if their focus was still on how to use the correct nouns or verbs in a sentence.

The results from the second group “Strategies for different types of EDs and the conditions of their use”, which aims to find out how learners selected different types and platforms of EDs, revealed that bilingual dictionaries were more commonly used than monolingual ones, which came as no surprise since bilingual dictionaries can be harnessed by learners from almost every level. By reading the Vietnamese definitions and

explanations of a word, they could work out its meaning and usage without having to exert too much mental effort. This result bore a strong resemblance to that of the research by Nguyen (2014) and Lien (2019). Nonetheless, monolingual dictionaries, despite being less favored than bilingual ones, also possessed a fair number of users, which signified a positive learning strategy. This is because native dictionaries can contain more accurate and detailed linguistic information (Laufer & Hadar, 1997) and expose the learners to the target language, leading to more incidental learning (Turnbull, 2001). As for the selection of EDs on mobile or desktop platforms, the learners were more in favor of using EDs on mobile/tablet devices instead of EDs on computers and laptops. However, the mean scores of these two items were both above average, suggesting an existing awareness of using EDs on multiple forms. Ultimately, there were very few learners who paid money to have premium content or upgraded features in EDs.

With respect to the third group “Strategies for ED conventions”, which delves into how EFL learners understood ED construct and its features, the results from the questionnaire showed that the majority of them did not exert the time and effort to study the helpful abbreviations and symbols inside EDs. This opens up two possible conclusions: whether they had already known such information or simply lacked the awareness to use it for navigation or learning purposes, which calls for further investigation. In terms of the technological facet of EDs, the feature receiving the highest frequency of use was the application of recorded pronunciation, which can be a lifesaver without the knowledge of IPA. Chen (2010) explained that such a result was due to the lack of confidence in pronunciation of students in the L2 environment. On the other hand, other features were noticeably less utilized.

The final group is “Look-up strategies”, which targets at finding out how the learners located desired words within EDs. Unexpectedly, the strategies related to the cognitive

process during consultation were decently employed. The quantitative data showed that a great number of the learners knew to bear the word in mind during the search, read through various definitions and examples of a polysemous word for the needed information, and returned to the context to check for appropriacy. These strategies were well regarded by Tono (2011) who claimed that the act of processing all of the meanings and examples in dictionaries could contribute to more learning. On the other hand, the look-up strategies employing the technological features of EDs namely “Did-you-mean” search, sound search, and hyperlinking were not commonly implemented.

It is noticeable that the strategies dealing with the technological features in EDs in both of the third and fourth group were not as highly used as the others. This can be because when consulting dictionaries, EFL learners’ main focus was only on the lexicographical information that helped them decode a linguistic problem or produce meaningful sentences. Hence, these technological features, which could potentially make their consultation process faster and easier, were ultimately neglected.

VI. CONCLUSION

Quantitative data gathered from the participants at ALTC revealed that the use of these strategies was only average. The statistics of the first group “Strategies for dictionary use” indicated that fundamental information (e.g., meaning, spelling, and pronunciation) was noticeably looked up more than advanced items like collocation, phrasal verb, and idiom. While word meaning was the most searched information, idiomatic expression remained the least. The data on the second group “Strategies for different types of EDs and the conditions of their use” depicted a disparity between monolingual and bilingual dictionaries with a higher frequency of use for the latter. In a similar vein, EDs in mobile devices were the more common choices than those in computers and laptops. In addition, only a minimal number of learners chose to pay money to possess the upgraded or advanced version of their EDs. Concerning the third group “Strategies for ED conventions”, a majority of the learners did not read or study the information describing lexicographical abbreviations, symbols, and structure. The features of recorded pronunciation and bookmark were decently used while the “Help” page received little attention. In terms of the last group “Look-up strategies”, the participants showed a decent awareness for the necessary cognitive process during consultation as well as returning to the context to check for appropriacy. However, the look-up

strategies related to the technological facet of EDs like sound search, “Did-you-mean” search, or hyperlinking were not highly utilized.

From the above findings, some implications of this study could be made. As expected, the EFL learners of this study did not employ a large number of ED strategies. This could be due to the fact that the teaching of ED or dictionary strategies in general has been neglected by the majority of teachers and instructors (Chi, 1998; Lew & Galas, 2008; Kondal, 2018). Hence, the training in this matter should be encouraged not only in English centers but also schools and university. Admittedly, the training in dictionary use should just be a supplementary section in the whole curriculum so as not to take away too much time from the primary lessons. In this regard, González and Martínez (2011) believed that ED strategies should not be instructed all at one. Instead, they should become regular training sessions during the course so that the learners can acquire a good habit of using EDs and an adequate understanding of their strategies. This could be an effective approach to teaching ED strategies as it would ensure that the learners can become competent ED users without interfering too much in their studying. Finally, teachers should also equip themselves with sufficient knowledge of this tool and how to effectively impart its strategies to the learners.

Although the author has tried his best to produce a reliable, generalizable, and informative study as much as possible, it is inevitable that this study can still contain limitations. First of all, the study only employed one data gathering instrument, which was a questionnaire, to gauge the EFL learners’ use of ED strategies. Thus, a more elaborate experiment with a pretest and a posttest would be definitely better for the job. Another shortcoming of this research was the limited number of participants, which was only 98. There is no doubt that with an additional research design and a larger sample size, the study would have depicted ED strategies in the EFL context more accurately.

REFERENCES

- [1] Alhaisoni, E. (2016). EFL Teachers' and Students' Perceptions of Dictionary Use and Preferences. *International Journal of Linguistics*, 31-52.
- [2] Amirian, S., & Heshmatifar, Z. (2013). The Impact of Using Electronic Dictionary on Vocabulary Learning and Retention of Iranian EFL Learners. *International Journal of Research Studies in Educational Technology*, 2(1), 35-44.
- [3] Boonmoh, A., & Nesi, H. (2008). A Survey of Dictionary Use by Thai University Staff and Students, with Special

- Reference to Pocket Electronic Dictionaries. *Horizontes de Linguística Aplicada*, 6(2), 79-90.
- [4] Chen, Y. (2010). Dictionary Use and EFL Learning. A Contrastive Study of Pocket Electronic Dictionaries and Paper Dictionaries. *International Journal of Lexicography*, 275-306.
- [5] Chi, A. (1998). Teaching Dictionary Skills in the Classroom. *EURALEX '98 PROCEEDINGS*, 565-578.
- [6] Chiu, L.-L., & Liu, G.-Z. (2013). Effects of Printed, Pocket Electronic, and Online Dictionaries on High School Students' English Vocabulary Retention. *Asia-Pacific Education Researcher*, 22(4), 619-634.
- [7] De Schryver, G.-M. (2003). Lexicographers' Dreams in the Electronic Dictionary Age. *International Journal of Lexicography*, 16(2), 143-199.
- [8] Dziemianko, A. (2018). Electronic Dictionaries. In P. A. Fuertes-Olivera (Ed.), *The Routledge Handbook of Lexicography* (pp. 663-683). Routledge.
- [9] Fraser, C. (1999). The Role of Consulting a Dictionary in Reading and Vocabulary Learning. *Canadian Journal of Applied Linguistics*, 73-89.
- [10] Gavriilidou, Z. (2013). Development and Validation of the Strategy Inventory for Dictionary Use. *International Journal of Lexicography*, 26(2), 135-153.
- [11] González, M. C., & Martínez, C. T. (2011). The Effect of Dictionary Training in the Teaching of English as a Foreign Language. *Revista Alicantina de Estudios Ingleses*, 31-52.
- [12] Hamouda, A. (2013). A Study of Dictionary Use by Saudi EFL Students at Qassim University. *Study in English Language Teaching*, 1(1), 227-257.
- [13] Kent, D. (2001). Korean University Freshmen's Dictionary Use and Perceptions Regarding Dictionaries. *The Korea TESOL Journal*, 4(1), 73-92.
- [14] Kondal, B. (2018). The Benefits of using Dictionary Skills among the Third Year. *International Journal of Management and Social Sciences Research*, 1-6.
- [15] Kunnu, W., Sukwises, A., Wangsomchok, C., Kanchalika, Treeklangdorn, & Phuboonsri, P. (2020). The Development of Students' Online Dictionary Skills. *The International Journal on Business Tourism and Applied Science*, 122-127.
- [16] Laufer, B., & Hadar, L. (1997). Assessing the Effectiveness of Monolingual, Bilingual, and "Bilingualised" Dictionaries in the Comprehension and Production of New Words. *The Modern Language Journal*, 189-196.
- [17] Lew, R., & Galas, K. (2008). Can Dictionary Skills Be Taught? The Effectiveness of Lexicographic Training for Primary-School-Level Polish Learners of English. *Proceedings of the XIII EURALEX International Congress*, 1273-1285.
- [18] Lien, T. M. (2019). Vietnamese EFL Students' Habits of Using Dictionaries in Translation Practice in ESP Courses. *The Journal of English Language Teaching and Linguistics*, 4(3), 305-108.
- [19] Mavrommatidou, S., Gavriilidou, Z., & Markos, A. (2019). Development and Validation of The Strategy Inventory for Electronic Dictionary Use. *International Journal of Lexicography*, 32(4), 393-410.
- [20] Nesi, H. (2000). Electronic Dictionaries in Second Language Vocabulary Comprehension and Acquisition: the State of the Art. *Proceedings of EURALEX 2000*, 839-847.
- [21] Nesi, H. (2014). Dictionary Use by English Language Learners. *Language Teaching*, 47(1), 38-55.
- [22] Nguyen, H. T. (2014). *A Study of Using Dictionaries in Learning and Teaching at Lam Son High School for the Gifted, Thanh Hóa*. (Master's thesis, Vietnam National University, Hanoi, Vietnam).
- [23] Nguyen, V. N. (2016). Mobile Learning in Language Teaching Context of Vietnam: an Evaluation of Students' Readiness. *HCMC University of Education - Journal of Science*, 7(85), 16-27.
- [24] Rezaei, M., & Davoudi, M. (2016). Knowledge, The Influence of Electronic Dictionaries on Vocabulary. *Journal of Education and Learning*, 5(3), 139-148.
- [25] Saunders, M. N., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students* (8th ed.). Harlow: Pearson.
- [26] Scholfield, P. (1999). Dictionary Use in Reception. *International Journal of Lexicography*, 12(1), 13-34.
- [27] Tono, Y. (2011). Application of Eye-Tracking in EFL Learners' Dictionary Look-Up Process Research. *International Journal of Lexicography*, 24(1), 124-153.
- [28] Tran, T. Q. (2018). The Role of Technology in Promoting English-Majored Learner Autonomy: A Critical Look at HUTECH Context. *Technology in ELT*, 344-348.
- [29] Turnbull, M. (2001). There Is a Role for the L1 in Second and Foreign Language Teaching, But... *Canadian Modern Language Review*, 531-540.