CHAPTER III

METHODOLOGY

This section attempts to present a discussion of the design of the study, the setting and context, the Instrument of the Study, the technique of data collection, and the technique of data analysis also take part in this section.

3.1 Research Design

This research employs a descriptive qualitative document study method with a narrative review approach (Rother, 2007). A qualitative research design is a study that focuses on research subjects and their experiences, behavior, perception, motivation, action, opinions, and so on (Khan, 2014). Qualitative research seeks to answer questions regarding a phenomenon's underlying processes and reasons, providing detailed insight and fostering understanding (Sofaer, 1999). Therefore, this qualitative research investigates metacognitive strategies used by EFL students in learning vocabulary through in-depth study data collection.

3.3.1 Narrative Review

A narrative review seeks to identify and summarize existing literature to explore existing debates, appraise previous studies, identify knowledge gaps, and speculate on the latest interventions available (Brereton, Kitchenham, Budgen, Turner, & Khalil, 2007). Therefore, a narrative review is a type of literature review seeking to identify the available evidence on a quality assessment to determine whether the chosen studies were of sufficient quality (Noyes, Hannes, Booth,

Harris, Harden, Popay, & Pantoja, 2015). Moreover, Knopf (2006) demonstrated that a narrative review is an attempt to summarize the existing state of knowledge about a subject in research and frame the proposed research's expected contribution to knowledge.

3.2 Setting and Context

Documents are searched in the journal database, focusing on metacognitive strategies in learning vocabulary. The reviewed are 28 articles published in the last ten years (2012 until 2022) from reliable journal databases such as *tandflonline, sciencedirect, sage journals,* and *Education Resources Information Center.* Furthermore, the researcher collected the articles published in the last ten years because the research world is dynamic; there is often an update on research results based on trends at a certain period (Yan, 2014; Yan, Ding, Milojević & Sugimoto, 2012). Therefore, research with a span of the last ten years published is considered the most relevant to be used as a reference in this study.

Table 3.1 Demographic characteristic

Characteristic of participant	D1=%	D2=%	D3=%	D4=%
Gender				
- Male	14.28%	0.71%	14.28%	60%
- Female	14.28%	0.35%	0.35%	53%
Age				
- Less than 18 years	-	0.35%	0.35%	14.28%
- More than 18 years	14.28%	0.35%	0.35%	42.85%
Education				
- Secondary school	-	-	-	0.35%
- Junior high school	-	-	-	-
- Senior high school	-	0.71%	10.71%	-
- University students	-	-	-	7.14%
-	14.28%	-	-	42.85%
- Post graduation	-	-	-	-
- Graduation	-	-	-	- 10.71%
- English training				

Notes: D1(tandflonline), D2 (sciendirect), D3 (Sage journal), D4 (ERIC)

3.3 Instrument of the Study

The data for the study is the articles review that was identified according to the research objectives with 28 articles from reliable databases, such as *tandflonline, sciencedirect, sage journals,* and *ERIC*.

3.4 Technique of Data Collection

This study extensively examined published documents related to the subject to obtain data about the EFL students' metacognitive strategies in learning vocabulary. This review is guided based on the keywords (*EFL learners, metacognitive strategies, vocabulary learning*) and a clearly defined research question, and various inclusion and exclusion criteria are employed to identify the relevant documents. Defining the criteria for literature selection can be beneficial in ensuring the studies are pertinent to the topic and research question (Ferrari, 2015) and synthesizing the findings that fulfill pre-determined eligibility criteria.

Table 3.2 Table of Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Term	Year of publication between 2012- 2022	Published before 2012
Subject	EFL students	Non-EFL
Language	English	Non-English
Type of research	Research article full text	Only abstract
Keywords		*EFL learners, metacognitive strategies, vocabulary learning.*

3.5 Technique of Data Analysis

This study aims to obtain data about EFL students' metacognitive strategies in learning vocabulary. The data analysis conducted according to the data

that has been collected and coding. Using the inclusion criteria, articles collected, and a summary of each article are created. The summary is included the name of the researcher, year of publication, research title, method, and overview of results/findings. This information then added to the synthesis matrix, which can help researchers synthesize literature in an organized manner (Clark & Buckley, 2017).

The articles are read and examined to analyze the abstract and full text further. The articles are then analyzed based on the contents compared to the research objectives and results/findings. Coding is done on the journal's content to outline or identify the core of the research. Subsequently, similarities and differences between each research are determined to conclude. Therefore, in analyzing the data, this study proposed by taxonomies Gu and Johnson (1996), Schmitt (1997), Oxford (1990), and Nation (2001).

Table 3.3 List of Metacognitive Strategies

Author(s)/Year	Category/Strategies
1. Gu & Johnson's (1996)	1. Selective-attention - choosing important word - choosing the important words, - words-interested - word-note important - guessing the meaning - identifying meaning of the word 2. Self-initiation - evaluating self-progress - find out new word which previously learned - focus on related examinations - using the variety of word to making the meaning clear

Author(s)/Year	Category/Strategies
2. Schmitt's (1997)	1. Use online English- language media (songs, movies, cartoons, newcasts). 2. Self-testing using word-list 3. Using spaced word practice 4. Skip or pass new words 5. Study overtime 6. Vocabulary planning 7. observed new vocabulary when communicating
3. Oxford (1990	1. Find the suitable method 2. Stick to plan 3. self evaluation 4. self-monitoring 5. Manipulating learning processes
4. Nation (2001)	1. Using vocabulary test/exercise 2. relating newly and previously

In order to conduct a comprehensive analysis, each article underwent a meticulous review process, comprising a minimum of two readings with a focus on scrutinizing details. The primary and subsequent readings aimed to provide the researchers with an in-depth understanding of the article's content and publication. A more detailed reading was then conducted to identify and annotate the strategic metacognitive techniques employed to learn vocabulary. The data was analyzed using a matrix article review approach, as illustrated in Table 3.4. The required data has been marked in yellow, Schmitt taxonomy, Gu and Johnson taxonomy, Oxford taxonomy, and Nation taxonomy. The data were also categorized based on the context of metacognitive strategies with four taxonomies using color coding adapted from Bianco & Schettini (2018). Furthermore, after collating the types of metacognitive strategies employed by English as a Foreign Language (EFL) learners, the researcher categorized them based on taxonomies by (Gu & Johnson

(1996), Schmitt (1997), Oxford (1990), and Nation, (2001). Hence, the articles included in the review are listed in Table 3.4 as a summary data set.

Table 3.4 Summary of Article Included in Review

Article code	Author(s)	Year	Description of the study	Publisher
A1	Heidari & Ahmadian	2012	This study aimed to explore the relationship between Iranian EFL juniors' self-efficacy beliefs and their employed vocabulary learning strategies	*English language teaching,* 5(2), 174-182
A2	Rahimy & Shams	2012	This present study aimed to investigate the effectiveness of vocabulary learning strategies on Iranian EFL learners' vocabulary test score.	*International Education Studies*, *5*(5), 141-152
A3	Amirian & Heshmatifar	2013	This study aimed to investigate what strategies are more or less common for learning vocabulary among EFL university students at Hakim Sabzevari University in Iran.	*Journal of Language Teaching and Research, 4(*3) 636-641
A4	Kırmızı	2014	This present study aimed to investigate vocabulary learning strategy used by English language and literature department students in relation to academic success and vocabulary size.	*World Journal of Education, 4(6), 16-25*
A5	Yazdi & Kafipour	2014	This study aimed to investigate the real use of vocabulary learning strategies by Iranian EFL learners.	*English Language Teaching, 7*(7), 1-7
A6	Fatima & Pathan	2016	This study aimed to investigate the vocabulary learning strategies used by the undergraduate students of Sardar Bahadur Khan Women's University (SBKWU) and University of Balochistan (UOB).	*Advances in Language and Literary Studies*, 7(2), 7-12.
A7	Vo & Jaturapitakkul	2016	This study aimed to investigate the use of vocabulary learning strategies by undergraduate Thai EFL students.	*Language Education and Acquisition Research Network,* 9(2), 105-121
A8	Baskin, Iscan, Karagoz & Birol	2017	This present study aimed to determine the vocabulary learning strategies of the students in Gaziosmanpasa University Turkish Teaching and Application Center.	*Journal of education and practice,* 8(9), 126-134
A9	Chumworatayee & Pitakpong	2017	The present study aimed to investigate VLS use and	*LEARN journal: Language*

Article code	Author(s)	Year	Description of the study	Publisher
			usefulness as perceived by English major students in a Thai university.	*education and acquisition research network, 10*(2), 155-167
A10	Hamza, Yasin & Aladdin	2017	This study aimed to investigate how Sudanese EFL learners at Khartoum University use and evaluate vocabulary learning strategies (VLSs).	*Advances in Language and Literary Studies,* 7(2), 7-12
A11	Al-Bidawi	2018	The present study aims to examine the preferred VLS strategies for Saudi EFL students.	*English Language Teaching, 11*(12), 211-220.
A12	Faraj & Kilic	2018	This present study aims to examine the relationship between language learning strategies and vocabulary size.	*Journal on English Language Teaching,* 8(4), 21-35
A13	Memis	2018	This present study aimed to find out which vocabulary learning strategies used by learners of Turkish in Turkey and abroad.	*Educational Policy Analysis and Strategic Research,* 13(4), 164-185
A14	Goundar	2019	This present study aimed to explore the use of different vocabulary learning strategies among adult English as foreign language learners.	*English Language Teaching, 12*(5), 177-189.
A15	Noprianto & Purnawan	2019	The aim of this study is investigating the frequency of vocabulary learning strategies used by Indonesian high school students.	*Journal of Language and Linguistic Studies,* 15(*1*), 262-275
A16	Alshammari	2020	The present study aimed to explore the vocabulary level of Saudi EFL students.	*Advanced Education,* 28-38.
A17	Ghalebi & Sadighi	2020	The study aims to focus on the exploration of learners' vocabulary learning strategies, which have been demonstrated to play a prominent role in learners' life span.	*Cogent Psychology,* 7(1),
A18	Gorgoz & Tican	2020	This study aimed to investigate middle school students' self-regulation skills and vocabulary learning strategies in foreign language.	*International Journal of Educational Methodology,* 6(1), 25-42
A19	Hadi & Guo	2020	This research aims to find out the most and least strategies used in learning vocabulary adopted by EFL learners at Shaikh Zayed University	*Cogent Education,* 7(1),
A20	Yolcu & Mirioglu	2020	This present study aimed to investigate the EFL students' perception regarding the	*Asian Journal of University*

Article code	Author(s)	Year	Description of the study	Publisher
			importance and use of L2 vocabulary learning strategies and to investigate.	*Education, 16*(1), 32-4
A21	Fu	2021	This present study aims to investigate the types of vocabulary learning strategies used by Chinese EFL students and factors for their VLS use.	*English Language Teaching, 14*(12), 117-125
A22	Ghalebi & Bagheri	2021	The present study aimed investigate the differences of VLSs used between Iranian high and low English vocabulary learners.	*Cogent education, 8*(1), 1834933
A23	Okyar	2021	This present study aimed to identify vocabulary learning strategies used by Turkish EFL learners and determine the use of varies VLSs by gender.	*Journal of English Teaching, 7*(1), 43-54
A24	Thiendathong & Sukying	2021	This present study aims to identify the frequency of vocabulary learning strategies used by high school students in various program.	*Arab World English Journal,* 12 (2) 306 -317.
A25	Al Zahrani & Chaudhary	2021	The aim of this study is exploring the knowledge level and preferences regarding vocabulary learning strategies among the EFL university students studying English for Specific Purposes courses and investigated the impact of vocabulary learning strategies on EFL learners' performance	*Arab World English Journal*, 13(*1*), 382-393
A26	Benedic & Shabdin	2021	This present study aimed to identify the vocabulary learning strategies used by band 5 and band 3.	*Language Education and Acquisition Research Network,* 14(2), 222-246
A27	Alsharif	2022	This present study aimed to identify the type of vocabulary learning strategies more frequently used among Saudi female EFL learners.	*International Journal of Education and Literacy Studies, 10*(1), 188-197
A28	Behforouz & Al Ghaithi	2022	This study aimed to investigate the vocabulary learning strategies of 42 Omani EFL learners and measure the effect of gender in strategy selection among them.	*Arab World English Journal, 13* (1) 285- 299

Moreover, Table 3.4 is an illustrative instance of matrix review coding, a systematic method employed in academic research to analyze and categorize data. For a comprehensive depiction of the matrix table, including all relevant details, readers are directed to consult Appendix 1 of this paper, particularly on page 74.

Table 3.5. Example of Matrix Data Coding

No	Title	Author (s)/ year	Context/ Taxonomies adopted of VLS	Participant/ Instrument/ Research Design/ Data Analysis	Aims	Research Question and Findings
1	A survey of beliefs and vocabulary learning strategies adopted by EFL learners at Shaikh Zayed University	Hadi and Guo (2020)	Shaikh Zayed University, Khost, Afganistan. Gu and Johnson	This study involved 177 undergraduate students consisting of 155 males and 22 females. This study used quantitative method with questionnaire instrument. While analyzing the data, researchers analyzed using SPSersion 20.	This research aims to find out the most and least strategies used in learning vocabulary adopted by EFL learners at Shaikh Zayed University.	1. What are the beliefs of learners about vocabulary learning at SZU? 2. What are the most and least strategies used by EFL learners at SZU? *Students' beliefs of VL:* Students believed that vocabulary should be memorized and also believed that vocabulary should be learned through use contextual learning, even though they believed that more words should be memorized, but they don't trust that learning the meaning of all words in their native language would help them to retain the words in a long-term memory. *Most and least strategy used:* To examine the VLSs most and least used by EFL learners at SZU, the taxonomies by Gu and Johnson used in this study to analyzed the data. The classification contained

No	Title	Author (s)/ year	Context/ Taxonomies adopted of VLS	Participant/ Instrument/ Research Design/ Data Analysis	Aims	Research Question and Findings
						three types of VLSs: metacognitive (selective attention and self-Iniation) In the three dimensions of vocabulary learning strategies, cognitive strategies are the most frequently used strategies, followed by affective strategies and metacognitive strategies. Among the two sub-categories on metacognitive, selective attention was frequently used strategy while self-initiation was the least used strategies.
2	A study of vocabulary learning strategies among high and low Iranian English vocabulary learners	Ghalebi and Bagheri (2021)	English language studies at an Iranian university (Iran) Schmitt (1997)	In this study involved 148 teaching students, 39 translation students, and 31 linguistics literature students. This study used quantitative method with vocabulary part of OPT and questionnaire instrument. While in analyzing the data researchers used SPSS.	The present study aimed to investigate the differences of VLSs used between Iranian high and low English vocabulary learners.	1. What the differences of the used VLSs between high and low Iranian learners? 2. What the significant differences of the most and least VLSs used between high and low Iranian learners? *VLSs taxonomy:* metacognitive (plan goals, vocabulary notebooks, using articles), Based on the finding of this study the most frequently used are

No	Title	Author (s)/ year	Context/ Taxonomies adopted of VLS	Participant/ Instrument/ Research Design/ Data Analysis	Aims	Research Question and Findings
						cognitive and metacognitive strategies and the least strategies used is determination strategies. The metacognitive strategies used by EFL students are plan the objective and using articles.
3	Vocabulary Learning Strategies of Turkish EFL Learners: A Focus on Gender	Okyar (2021)	Turkey Schmitt (1997), Nation (2001) and Oxford (1990)	In this study involved 209 Turkish EFL students with 108 males and 101 females. This study used a qualitative method with a questionnaire instrument. While analyzing the data researcher used descriptive statistics.	This present study aimed to identify vocabulary learning strategies used by Turkish EFL learners and determine the use of varies VLSs by gender.	1. What kind of VLSs do Turkish EFL students report to use? 2. Do male and female students differ in terms of VLS use? *There are six types of VLSs*: metacognitive (using vocabulary test, find the suitable method, and stick to plan). The most frequently used VLS was affective strategies followed by metacognitive strategies and the least frequently used strategy among the other VLS subcategories was social strategies. For four metacognitive strategies students preferred use pronunciation and the meaning of the words and trying to find the best method to learn words while the least strategies used is stick to plan.

No	Title	Author (s)/ year	Context/ Taxonomies adopted of VLS	Participant/ Instrument/ Research Design/ Data Analysis	Aims	Research Question and Findings
4	A Survey on Vocabulary Learning Strategies: A Case of Iranian EFL University Students	Amirian and Heshmatifar (2013)	Schmitt (1997)	This study involved 74 EFL students (18 males and 56 females) from Hakim Sabzevari University participated in the study, eighteen postgraduate students majoring in TEFL (teaching English as foreign language), and 56 undergraduate students majoring in English literature. 21 were males and 53 were females semi-structured interviews and questionnaire Statistical analysis was carried out using the Statistical Package for the Social Sciences (SPSS, version 17.0)	This study aimed to investigate what strategies are more or less common for learning vocabulary among EFL university students at Hakim Sabzevari University in Iran.	1. What are the most common vocabulary learning strategies used by Iranian college EFL learners? 2. What are the least common vocabulary learning strategies used by Iranian college EFL learners? *Schmitt taxonomy*: metacognitive (using flashcards and skip or pass new word). Based on the result of this study metacognitive was the fourth frequently strategies used by the students and the most frequently used is first item which is using flashcards while learning new vocabulary and the other strategies used is skip or pass new word.
6	Relationship between Vocabulary Learning Strategies and Vocabulary Size: Evidence from Saudi Female EFL Learners	Alsharif (2022)	Schmitt (1997) and Nation (2001)	The study involved 116 Saudi EFL learners from Saudi Arabia. All were female undergraduates studying English language and linguistics. This study	This study aimed to identify the type of vocabulary learning strategies more frequently used among Saudi	1. What are the most and least frequent vocabulary learning strategies used by Saudi female EFL learners? 2. What is the relationship between strategy use and vocabulary size among Saudi female EFL learners?

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No	Title	Author (s)/ year	Context/ Taxonomies adopted of VLS	Participant/ Instrument/ Research Design/ Data Analysis	Aims	Research Question and Findings
				used qualitative method with vocabulary size test and questionnaire instruments. While in analyze the data researcher used IBM SPSS (Version 26)	female EFL learners.	VLSs taxonomy: memory, social, cognitive, compensation, metacognitive (using movie subtitles, listening songs, using article, listening radio, doing extra-curriculum exercises from different sources, self-testing with word list) and determination. *The most and least metacognitive strategies used:* Based on the finding of this study, Saudi EFL students more likely used non-conventional learning strategies in learning new words. For instance, they prefer to learn new words from films and TV programs. However, Saudi EFL students seem to be less reliant on making word lists or doing extra-curriculum exercises. The least frequent metacognitive strategies among Saudi female EFL learners used are self-testing with word list and extra-curriculum exercises.