

EFFECTIVE CONTEXTUAL CLUES FOR VOCABULARY LEARNING IN READING

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Abstract

The present quasi-experimental study, adopting a pre-test, treatment, and post-test design, attempted to find out the effective strategies that help EFL learners figure out the meanings of unknown/unfamiliar words in reading. It concerned synonymous clues, antonymous clues, morphological/derivational clues, definitional clues, example clues, French related clues, thematic/collocational clues. The study endeavours to answer the following question: Which contextual clues are the most effective for EFL vocabulary learning in reading? A pre-test, a post-test, and a semi-structured interview were used to collect the data. The materials were reading texts, and two types of vocabulary lesson plans. A sample of 110 secondary school students out of 118 students were involved in this study. The sample was composed of lower-sixth formers (SH2 students) students from Boussé, Burkina Faso. These students have spent at least six years in the learning of English as foreign language. The 110 students were divided into experimental (55) and control (55) groups. The sample is chosen using single-stage random sampling technique by considering the alphabetical list of the students. Qualitative method, quantitative method, and mixed-methods approach were used for the analysis of the data. The Statistical Package in Social Services (SPSS), version 17.0 (2008) was deployed to process the data. The results indicated that the top three effective contextual clues used for vocabulary learning are definitional clues, morphological/derivational clues, and thematic/collocational clues.

Key words: Contextual clues, Vocabulary teaching/learning, Word meaning, Reading comprehension, English as foreign language (EFL).

Introduction

As the students cannot learn all the vocabulary they need in the classroom (Ostovar and Malekpur, 2015), they need the best strategies to manage their own vocabulary learning (Pretorius, 2000). The inexistence of specific solutions to extend lexical knowledge (Nematollahi *et al.*, 2017) makes it difficult to know the best approach for vocabulary learning (Jahromi and Marzban, 2015). Because of diverse learners' outlooks and manners, the methods/techniques which work for one learner may not work for another one (Yazdi and Kafipour, 2014). The less familiar, more low-frequency words encountered by the independent readers in literary text used for reading (Pretorius, 2000) obliges the readers to be skilled at word meaning inferencing (Cain *et al.*, 2004). Thus, this study struggles to answer the research question: Which contextual clues are the most effective for EFL vocabulary learning in reading? The rationale for being interested in contextual clues is that inference skills support vocabulary development (Oakhill, n.d.) and language learners, skilled at guessing word meaning accurately, move away from dependency on dictionaries (Ahmad *et al.*, 2018, Riska *et al.*, 2019). We used the inferential approach to vocabulary learning including Oxford and Crookall's (1990) fully contextualizing strategies. This theory indicates that learners can gain self-reliance in the process of vocabulary learning (Ahmad *et al.*, 2018). It establishes a link between the constructionist theory which accounts for the knowledge-based inferences that are constructed when readers attempt to comprehend a narrative text (Graesser *et al.*, 1994) and current reading theories which assume that readers construct a coherent mental representation of the meaning of the text (Pretorius, 2000) and that reading enables vocabulary mastery (Suzuki, 2016).

1. Literature review

1. 1. The effect of reading on foreign language vocabulary learning

Experts of English as a foreign language attempted to demonstrate the effect of reading on vocabulary learning. Not only did Al-Jamal's (2018) study show that medical students seem to use different types of contextual clues at word level and sentence level but also, it revealed that the use of linguistic clues plays a role in reading comprehension. A study by Oktan and Kaymakamoglu (2017) revealed that there is consistency between EFL students' and EFL teachers' perspectives in all the categories of literary texts including vocabulary enrichment. This implies that using literary texts help especially students' vocabulary learning in a beneficial way. Not only did the findings of Shahroknī's (2009) empirical study demonstrate that a combination of text and images improve incidental vocabulary learning but also, they confirmed that multimodal annotations support components of reading conducive to incidental vocabulary learning.

1. 2. The effect of contextual clues on foreign language vocabulary in reading

Not all the studies on vocabulary learning strategies have produced the same results as far as the effect of contextual clues on vocabulary learning is concerned. Sinyashina (2020) found that there are no significant differences in the performance of the incidental-intentional and intentional-incidental conditions. By contrast, Ahmadi (2017) discovered a significant difference between the effects of incidental vocabulary learning in extensive reading and intentional vocabulary learning than intensive reading and incidental vocabulary learning. The results also showed a significant difference between the effects of the form-focused task and meaning-focused task. Karami and Bowles (2019) showed that the intentional-incidental condition was effective and that it enabled the vocabulary retention.

Cetinavc (2014) found that unknown words in a rich context were guessed more successfully than unknown words presented in a poor context. Similarly, Ahmad *et al.* (2018) discovered that the participants with accurate words meaning guessing and accurate selection of the most suitable contextual strategy were successful. The controversy is that other participants were unsuccessful in making correct guesses of word meanings despite similar strategy choice. With regards to these contradicting results, it is difficult to claim with certainty which strategy is the most effective for new vocabulary learning or state that this or that category of contextual clues are the best facilitators of contextual vocabulary learning during reading.

2. Research methodology

2. 1. Research site and population

This quasi-experimental study was conducted in Boussé, Burkina Faso, a West African country. Boussé is a predominantly Mooré-speaking area where 2 secondary schools, selected purposively and conveniently, represented the research site as experimental group school and control group school. The study population was composed of 118 students who had already spent at least 6 years in learning English as a language. The experimental group school was composed of 26 non-repeaters and 33 repeaters and the control group school consisted of 13 non-repeaters and 46 repeaters. All the students were aged between 16 and 24 years old. As students of the Arts option, they speak French (L2/second language) in addition to their first languages. They also learn German as school subject and are very familiar with reading comprehension and translation activities which were the main tasks during the treatment phase.

2. 2. Sampling technique

Restricted to lower sixth formers (SH2 students) of the Arts option, the sample was chosen through a simple and single-stage sampling technique also called quota sampling technique

by considering their alphabetical list. It is one of the techniques used to determine a sample from the population which has certain criteria as amount desired. With an error margin of $+/- 4\%$, a confidence error of 95%, and a 50/50 chance that the sample contained our characteristics, we arrived at 110 as a final sample of participants divided into experimental group (55) and control group (55).

2. 3. Research materials and instruments

14 vocabulary lesson plans based contextual clues and text reading, 14 classical vocabulary lesson plans, 14 selected reading texts and 7 formative vocabulary tests were deployed as research materials. The research instruments were a pre-test and post-test adapted from Pretorius (2000), and a semi-structured interview. The pre-test and post-test contained unknown/unfamiliar words whose meanings should be inferred using contextual clues in the text. These instruments could generate quantitative and qualitative data. We tested the validity of the pre-test and post-test with lower sixth formers (SH2 students) in a different secondary school before the treatment and data collection. We also measured the degree of challenge by using these two instruments with upper sixth formers (SH3 students).

2. 4. Treatment and data collection procedures

During a 7 week-treatment which took place from October 25th 2021 to January 21st 2022, the experimental group had to infer the meanings of unknown/unfamiliar words using contextual clues by themselves. The control group learnt the unknown/unfamiliar vocabulary words which were taught in isolation. The vocabulary lesson plans based on contextual clues and text reading were used with the experimental group and the classical vocabulary lesson plans were used with the control group. The experimental group were forbidden to consult dictionaries or ask questions to the teacher or peers for the meanings of the unknown/unfamiliar words. The control group

was assisted by the teacher for the learning the meanings of the words. They could ask questions to the teacher, peers or consult dictionaries. We administered the pre-test before the treatment and the post-test after the treatment. The semi-structured interviews were administered progressively as the treatment was going on.

2. 5. Methods of data analysis

The participants' scores in the pre-test and post-test served for one set of data which were analysed quantitatively using comparative statistics. Their answers and comments in the semi-structured interviews served for another set of data for both qualitative analysis and mixed-methods approach. The SPSS (Statistical Package in Social Services) software version 17.0 (2008) was deployed for the data analysis. The analysis went from intergroup in order to determine the global effectiveness of the contextual clues to intragroup in order to find out the effectiveness of the contextual clues individually. There were 7 variables with 2 categories of units of measurement. To validate the results, we considered the type of contextual clues with higher percentage than the others in terms of frequencies as the most effective.

3. Results of the study

3. 1. Intergroup analysis of pre-test and post-test results

Table 1: Global effectiveness of the contextual clues for vocabulary learning

Participants' performances	Number	Experimental group				Control group			
		Minimum	Maximum	Mean	Standard Deviation	Minimum	Maximum	Mean	Standard Deviation
Pre-test	55	00	6.00	2.29 17	1.670 83	00	6.50	2.31 48	1.4803 6
Post-test	55	00	7.50	3.98 15	1.764 33	00	6.50	2.62 50	1.8273 0

Source: Field data, 2021-2022

The results above show that, with approximate mean scores in the pre-test, the experimental group ($MS=2.2917$) and the control group ($MS=2.3148$) had approximately the same level and were predisposed to guessing word meanings relying on contextual clues before the treatment. In the post-test, the experimental group ($MS=3.9815$) outperformed the control group (2.6250). The outperformance of the experimental group in the post-test is the effect of the treatment. These results indicate that using contextual clues to infer the meanings of unknown or unfamiliar words is an effective vocabulary learning strategy.

3. 2. Intragroup analysis of the pre-test and post-test results

3. 2. 1. Individual effectiveness of contextual clues for vocabulary learning

Table 2: Effectiveness of synonymous clues

Experimental group	Pre-test			Post-test		
	Frequency	%	Cumulative %	Frequency	%	Cumulative %
RMRCC	2	3.6	3.6	1	1.8	1.8
RMWCC	0	0	3.6	0	0	1.8
RMRCU	0	0	03.6	0	0	1.8
Total	55	100.0		55	100.0	

Source: Field data, 2021-2022

In the post-test, 1.8% of the participants got the right meaning of the unknown/unfamiliar word using the synonymous clue. When we look at the results in terms of details, 1.8% of the participants who got the right meaning and the right clues with certainty, 0% got the right meaning and the wrong clues with certainty, and 0% got the right meaning and the right clue with uncertainty. Considering these very low cumulative and detailed percentages, it is obvious that synonymous clues are not effective for EFL vocabulary learning. This contrasting result with those by Innaci and Sam (2017) is an effect of the far position between the unknown word and its synonym in the paragraph (Cain *et al.*, 2004).

Table 3: Effectiveness of antonymous clues

Experimental group	Pre-test			Post-test		
	Frequency	%	Cumulative %	Frequency	%	Cumulative %
RMRCC	0	0	0	0	0	0
RMWCC	0	0	0	0	0	0
RMRCU	0	0	0	0	0	0
Total	55	100.0		55	100.0	

Source: Field data, 2021-2022

In the post-test, 0% of the participants got the right meaning of the unknown/unfamiliar word using the antonymous clue. Considering the results in terms of details, 0% of the participants got the right meaning and the right clues with certainty, 0% got the right meaning and the wrong clues with certainty, and 0% got the right meaning and the right clue with uncertainty. Contrary to Tajik (2018), these results clearly indicate that antonymous clues are not effective for EFL vocabulary learning in reading.

Table 4: Effectiveness of morphological/derivational clues

Experimental group	Pre-test			Post-test		
	Frequency	%	Cumulative %	Frequency	%	Cumulative %
RMRCC	1	1.8	1.8	5	9.1	9.1
RMWCC	17	30.9	32.7	20	36.4	45.5
RMRCU	1	1.8	34.5	8	14.5	60.0
Total	55	100.0		55	100.0	

Source: Field data, 2021-2022

In the post-test, 60% of the participants got the right meaning of the unknown/unfamiliar word resorting to the morphological/ derivational clue. The detail results indicate that 9.1% of the participants got the right meaning and the right clues with certainty, 36.4% got the right meaning and the wrong clues with certainty, and 14.5% got the right meaning and the right clue with uncertainty. These detailed percentages and the high cumulative percentage are evidence that morphological clues are effective for EFL vocabulary learning.

Table 5: Effectiveness of definitional/ paraphrasal/ restatement clues

Experimen tal group	Pre-test			Post-test		
	Fre quency	%	Cumula tive %	Fre quency	%	Cumula tive %
RMRCC	15	27.3	27.3	23	41.8	41.8
RMWCC	4	7.3	34.5	15	27.3	69.1
RMRCU	1	1.8	36.4	10	18.2	87.3
Total	55	100.0		55	100.0	

Source: Field data, 2021-2022

In the post-test, 87.3% of the participants who got the right meaning of the unknown/unfamiliar word using the definitional/paraphrasal/restatement clue in the paragraph. When we look at the results in terms of details, 41.8% of the participants who got the right meaning and the right clues with certainty, 27.3% got the right meaning and the wrong clues with certainty, and 18.2% got the right meaning and the right clue with uncertainty. These detailed percentages and the very high cumulative percentage indicate that definitional/paraphrasal/ restatement clues are effective for EFL vocabulary.

Table 6: Effectiveness of example/explanation clues

Experimental group	Pre-test			Post-test		
	Frequency	%	Cumulative %	Frequency	%	Cumulative %
RMRCC	1	1.8	1.8	0	0	0
RMWCC	1	1.8	3.6	0	0	0
RMRCU	1	1.8	5.5	0	0	0
Total	55	100.0		55	100.0	

Source: Field data, 2021-2022

In the post-test, 0% of the participants got the meaning of the unknown/unfamiliar word relying the example/explanation. When we look at the results in terms of details, 0% of the participants who got the right meaning and the right clues with certainty, 0% got the right meaning and the wrong clues with certainty, and 0% got the right meaning and the right clue with uncertainty. Considering the very low detailed percentages and the very low cumulative percentage, it clearly appears that example/explanation clues are not effective for EFL vocabulary learning.

Table 7: Effectiveness of L2/French-related clues

Experimental group	Pre-test			Post-test		
	Frequency	%	Cumulative %	Frequency	%	Cumulative %
RMRCC	0	0	0	0	0	0
RMWCC	1	1.8	1.8	0	0	0
RMRCU	0	0	1.8	0	0	0
Total	55	100.		55	100.0	

Source: Field data, 2021-2022

In the post-test, 0% of the participants got the right meaning of the unknown/unfamiliar word resorting to the

L2/French-related clue in the paragraph. When we look at the results in terms of details, 1.8% of the participants who got the right meaning and the right clues with certainty, 0% got the right meaning and the wrong clues with certainty, and 0% got the right meaning and the right clue with uncertainty. Basing on these detailed percentages and the very low cumulative percentage, it is evident that L2/French-related clues were not effective for EFL vocabulary learning.

Table 8: Effectiveness of thematic/collocational clues

Experimen tal group	Pre-test			Post-test		
	Fre quency	%	Cumula tive %	Fre quency	%	Cumula tive %
RMRCC	0	0	0	0	0	0
RMWCC	10	18.2	18.2	14	25.5	25.5
RMRCU	0	0	18.2	6	10.9	36.4
Total	55	100.0		55	100.0	

Source: Field data, 2021-2022

In the post-test, 36.4% of the participants got the right meaning of the unknown/unfamiliar using the thematic/collocational clues in the paragraph. When we look at the results in terms of details, 0% of the participants who got the right meaning and the right clues with certainty, 25.5% got the right meaning and the wrong clues with certainty, and 10.9% got the right meaning and the right clue with uncertainty. These detailed percentages and the cumulative percentage indicate that thematic/collocational clues more or less effective EFL vocabulary learning.

In recapitulation, the results in terms of cumulative percentages as displayed in the tables above, the top three effective category of contextual clues is definitional/paraphrasal/ restatement clues, thematic/collocational clues, and synonymous clues

respectively. In terms of detailed percentages, the top three effective category of contextual clues are respectively definitional/paraphrasal/restatement clues, morphological/derivational clues, and synonymous clues in our area of study.

3. 3. Results of the semi-structured interviews

3. 3. 1. Qualitative analysis of semi-structured interviews on synonymous clues

**Concerning these two lessons, I can say that she has allow me to improved my level in English and over and above to know many words and their synonym (sic). [Concerning these two lessons, I can say that they have allowed me to improve my level in English and by and large to know many words and their synonyms]. This kind of statements were very frequent in the comment made by the interviewees denoting that they appreciated EFL vocabulary learning through reading using synonymous clues. However, other interviewees manifested their negative views about the exploitation of synonymous clues for EFL vocabulary learning through reading as illustrated in the following statement *My vocabulary learning performance basing on these two lessons is poor because I don't understand these words (sic). [My vocabulary learning performance, basing on these two lessons, was poor because I did not understand these words]*

3. 3. 2. Qualitative analysis of semi-structured interviews on antonymous clues

**The vocabulary is very successful because as students we describe the meanings of a lot of words with their antonymous clues (sic). [The vocabulary learning performance is very successful because as students we describe the meanings of a lot of words with their antonymous clues]. Not only was this kind of statements very frequent but also, they show that the interviewees appreciated EFL vocabulary learning through reading using antonymous clues. None of them expressed a*

negative view about learning vocabulary through reading using antonymous clues.

3. 3. 3. Qualitative analysis of interviews on morphological/ derivational clues

**During these two lessons my vocabulary performance basing is successful because I know how to explain a work in English to addition, I discover a new word (sic). [During these two lessons, my vocabulary learning performance was successful because I knew how to explain a word in English. In addition, I discovered new words]. This statement demonstrates that the interviewees appreciated EFL vocabulary learning through reading using morphological/derivational clues. Such statements were very frequent. However, not all them appreciated the use of morphological/derivational clues for EFL vocabulary learning through reading using. The negative views on derivational/morphological clues could be perceived through statements such *My performance your vocabulary basing on these two lessons is poor because I not understand the system to reconow the derivation of the words (sic). [My vocabulary learning performance basing on these two lessons is poor because I did not understand the method to recognize the derivation of the words]*

3. 3. 4. Qualitative analysis of semi-structured interviews on definitional clues

**I can says that the study of these two lessons my allow me include how make to find the definitions of some words (sic). [I can say that these two lessons allowed me to learn how to find the definitions of some words]. This kind of statements which were frequent showed that the interviewees were favourable at learning EFL vocabulary through reading using definitional/paraphrasal/restatement clues. Most importantly, none of them made a negative comment on this category of clues.*

3. 3. 5. Qualitative analysis of semi-structured interviews on example clues

**Conserning these two texte, I can say that I understand because these two lessons enable me to know many words and a lot of expressions (sic). [Basing on these two lessons, I can say that k8I understood because these two lessons enabled me to know many words and a lot of expressions]. Regarding the statement, it is obvious that the interviewees appreciated the use example/explanation clues for the learning of EFL vocabulary through reading. Most importantly, such statements were very frequent. However, it is not all the interviewees who expressed positive views on synonymous clues as we can notice in the following statements *Conserning the one lessons I can say that I not understand because the lessons is difficult (sic). [Basing on the lessons, I can say that I did not understand because the lessons were difficult]*

3. 3. 6. Qualitative analysis of semi-structured interviews on French-related clues

**The French-related clues is very simple to understood. I recognize the words in English by the context (sic). [The French-related clues are very simple to understand. I recognize the English words in context]. Considering that this kind of statements were very frequent, it is clear that the interviewees appreciated the learning of EFL vocabulary through reading resorting to L2/French-related clues. None of the interviewees made negative comments on L2/French-related clues.*

3. 3. 7. Qualitative analysis of interviews on thematic/ collocational clues

**The comments that make about my vocabulary learning performance basing on these two lessons is that because of these lessons I have increased my vocabulary (sic). [The comments that I can make about my vocabulary learning performance, basing on these two lessons, is that they increased my vocabulary]. Through the previous statement interviewees*

manifested the positive views about EFL vocabulary learning through reading using thematic/collocational clues. Such statements were very frequent. However, the use of thematic/collocational clues for EFL vocabulary learning through reading was not approved by all the interviewees as remarked in statements such as **My vocabulary performance basing on these two lessons is poor* (sic). [My vocabulary learning performance basing on these two lessons is poor].

3. 4. 1. Mixed-methods analysis of semi-structured interview results

Table 9: Semi-structured interview results on synonymous clues

Participants' judgements and comments	Freq .	%	Cumulative %
Very successful with positive comment about the content of the lessons.	3	7.7	7.7
Successful with positive comment about the content of the lessons.	5	12.8	20.5
Acceptable with positive comment about the content of the lessons.	11	28.2	48.7
Poor with negative comment about the contents of the lessons.	2	5.1	53.8
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	15	38.5	92.3
No answer	3	7.7	100.0
Total	39	100.0	

Source: Field data, 2021-2022

The cumulative percentage of the participants with very successful, successful, and acceptable vocabulary learning performance justified by the appreciations about synonymous clues is 48.7%. The percentage of those with poor vocabulary

learning performance supported by negative comments on synonymous clues is 5.1%. Considering the findings, it is evident that the majority of the participants found improvement in their vocabulary learning performance because of synonymous clues. They also approved the learning of unknown or unfamiliar words in reading comprehension referring to synonymous clues.

Table 10: Semi-structured interview results on antonymous clues

Participants' judgements and comments	Freq .	%	Cumulative %
Very successful with positive comment about the content of the lessons.	11	28.2	28.2
Successful with positive comment about the content of the lessons.	12	30.8	59.0
Acceptable with positive comment about the content of the lessons.	12	30.8	89.7
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	3	7.7	97.4
No answer	1	2.6	100.0
Total	39	100.0	

Source: Field data, 2021-2022

The cumulative percentage of the participants who respectively judged their vocabulary learning performance very successful, successful and acceptable with comments appreciating the use of antonymous clues is 89.7%. That of those who did not appreciate this method is supposed to be 0% since no comment was made in this sense. Regarding this finding, it is obvious that the majority of the participants noticed improvement in their vocabulary learning performance because of antonymous clues. They were also in favour of the learning

of unknown or unfamiliar words in reading comprehension resorting to antonymous clues.

Table 11: Semi-structured interview results on morphological/derivational clues

Participants' judgements and comments	Freq .	%	Cumulative %
Very successful with positive comment about the content of the lessons.	4	10.3	10.3
Successful with positive comment about the content of the lessons.	7	17.9	28.2
Acceptable with positive comment about the content of the lessons.	21	53.8	82.1
Acceptable with negative comment about the contents of the lessons.	3	7.7	89.7
Poor and contents of the lesson not appreciated	1	2.6	92.3
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	3	7.7	100.0
Total	39	100.0	

Source: Field data, 2021-2022

The cumulative percentage of the participants who considered their vocabulary learning performance as very successful, successful and acceptable with comments appreciating positively the EFL vocabulary learning through reading comprehension using morphological/derivational clues is 82.1%. By contrast, 7.7% of the participants said that their vocabulary learning performance was acceptable but they did not appreciate the learning of EFL vocabulary in reading comprehension by resorting morphological/derivational clues and 2.6% of them judged their vocabulary learning performance poor with negative opinions about morphological/derivational

clues. For the remaining 7.7% of the participants, their vocabulary learning performance was very successful/successful/acceptable but comments about the content of the lessons were unclear. It appears undoubtedly, basing on these findings, that the majority of the participants approved the learning of unknown/unfamiliar words in reading relying on morphological/derivational clues.

Table 12: Semi-structured interview results on definitional/restatement clues

Participants' judgements and comments	Fre q.	%	Cumulat ive %
Very successful with positive comment about the content of the lessons.	5	12. 8	12.8
Successful with positive comment about the content of the lessons.	7	17. 9	30.8
Acceptable with positive comment about the content of the lessons.	21	53. 8	84.6
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	6	15. 4	100.0
Total	39	100. .0	

Source: Field data, 2021-2022

The cumulative percentage of the participants whose EFL vocabulary learning performance was judged very successful, successful and acceptable and who appreciated the exploitation of definitional, paraphrasal or restatement clues for the learning EFL vocabulary is 84.6%. That of those who did not appreciate this method is supposed to be 0% because no comment was made in this sense. This cumulative percentage (84.6%) proves that the majority of the participants whose vocabulary learning performance got improved thanks to the exploitation of definitional, paraphrasal or restatement clues approved the

learning of unknown or unfamiliar words in reading using these definitional, paraphrasal or restatement clues in reading comprehension.

Table 13: Semi-structured interview results on example/explanation clues

Participants' judgements and comments	Fre q.	%	Cumulati ve %
Very successful with positive comment about the content of the lessons.	6	15.4	15.4
Successful with positive comment about the content of the lessons.	6	15.4	30.8
Acceptable with positive comment about the content of the lessons.	16	41.0	71.8
Acceptable with negative comment appreciating the contents of the lessons.	2	5.1	76.9
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	9	23.1	100.0
Total	39	100.0	

Source: Field data, 2021-2022

The cumulative percentage of the participants who believed that their vocabulary learning performance was very successful, successful and acceptable and who appreciated the exploitations of example or explanation clues provided in the texts is 71.8%. Meanwhile, the percentage the participants for whom the vocabulary learning performance was poor and for whom the use of example or explanation clues was perceived negatively is 5.1%. With great regard to these findings, there is no doubt that the majority of the participants recognized improvement in their EFL vocabulary learning performance. It is also acknowledgeable that they approved the learning of unknown or unfamiliar words in reading relying on example or

explanation clues. These findings demonstrate that the majority of the participants' vocabulary learning performance which got improved because of the good exploitation of definitional, paraphrasal or restatement clues. They also prove that the participants approved the learning of unknown or unfamiliar words in reading using these definitional, paraphrasal or restatement clues in reading comprehension.

Table 14: Semi-structured interview results on L2/French-related clues

Participants' judgements and comments	Freq.	%	Cumulative %
Very successful with positive comment about the content of the lessons.	5	12.8	12.8
Successful with positive comment about the content of the lessons.	8	20.5	33.3
Acceptable with positive comment about the content of the lessons.	17	43.6	76.9
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	8	20.5	97.4
No answer	1	2.6	100.0
Total	39	100.0	

Source: Field data, 2021-2022

The cumulative percentage of the participants who believed their vocabulary learning performance very successful, successful and acceptable and who appreciated the use of L2 or French-related clues for EFL vocabulary learning in context is 76.9%. That of those who depreciated this method is supposed to be 0% as no comment was made in this sense. In view of this cumulative percentage (76.9%) it is evident that the majority of the participants appear to be successful in learning EFL vocabulary in context and that they also approved the learning

of unknown or unfamiliar words in reading relying on L2 or French-related clues.

Table 15: Semi-structured interview results on thematic/collocational clues

Participants' judgements and comments	Freq .	%	Cumulative %
Very successful with positive comment about the content of the lessons.	3	7.7	7.7
Successful with positive comment about the content of the lessons.	4	10.3	17.9
Acceptable with positive comment about the content of the lessons.	17	43.6	61.5
Acceptable with negative comments about the contents of the lessons.	3	7.7	69.2
Very successful / Successful / Acceptable with unclear comments about the content of the lesson.	12	30.8	100.0
Total	39	100.0	

Source: Field data, 2021-2022

The cumulative percentage of the participants with very successful, successful and acceptable vocabulary learning performance and who appreciated the use of thematic or collocational clue for EFL vocabulary learning in context is 61.5%. That of those with poor vocabulary learning performance and who depreciated the use of thematic or collocational clues is 7.7%. These findings are surely evidence that thematic or collocational clues enhanced the participants' vocabulary learning performance and that they approve the understanding of unknown or unfamiliar referring to thematic or collocational clues.

4. Discussion of the results

The pre-test and post-test results which revealed that the top three effective vocabulary learning strategies are definitional/restatement clues, morphological/derivational clues, and thematic/collocational clues respectively or definitional/paraphrasal/restatement clues, morphological/derivational clues, and thematic/collocational clues respectively corroborates with those of Ahmad *et al.* (2018) who characterized the participants with accurate guessing of word meanings because of the selection of the most suitable contextual strategy as successful learners. These results are also similar to those of (Savignon, n.d.) who found that definitions, and synonyms are part of the teaching strategies which enhance vocabulary learning. The results of the semi-structured interviews through the qualitative analysis and the mixed-methods analysis are congruent as far as the top three effective contextual clues are concerned. They also support those of the pre-test and post-test. Considering that learners' attitudes are determinants for the design of a language curriculum (Nation and Macalister, 2010), the semi-structured interview results are very significant. The majority of the participants were very favourable at resorting to all the 7 contextual clues for learning vocabulary in reading.

Conclusion

This quasi-experimental study yielded results which demonstrated that globally speaking, inferring unknown words meanings resorting to contextual clues is an effective vocabulary learning strategy in reading. When we consider the clues individually and in terms of cumulative percentages, the top three effective contextual clues used for unknown word inferencing are definitional/restatement clues with 87.3%, morphological/derivational clues with 60.0%, and thematic/collocational clues with 36.4%. Considering the

detailed percentages, the top three effective contextual clues are definitional/paraphrasal/restatement clues, thematic/collocational clues, and morphological clues. These results are limited because they are based on a quasi-experimental study. They need to be supported by results of a longitudinal experimental study in order to find the possible reasons for which some strategies appear to be less effective.

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