Higher Education Languages of Instruction in Morocco and their impact on the Receptive Vocabulary Size of Moroccan EFL Master Students

Abdelaziz Agrram
Department of English, Faculty of Letters and Humanities
Chouaib Doukkali University
El Jadida, Morocco

Abstract
Having a clear vocabulary profile of Moroccan master students might reveal where these participants stand compared to other countries. Therefore, the study aims to investigate the effect of languages of instruction in Morocco (e.g., Arabic vs. French) on the receptive vocabulary size of EFL Moroccan master students (e.g., departments of letters, science, and law). To this end, Meara's (2010) Yes/No test was used as an instrument to measure the overall vocabulary size of these participants. A total of 325 EFL master students took the aforementioned test. The main research question is: Does the medium of instruction have any effects on the receptive vocabulary size of these students? Descriptive statistics were employed to calculate the overall receptive vocabulary size of test-takers. It was found that Moroccan EFL master students have a total of (M= 2293) lemmas. An independent samples t-test was run to check for any statistical significance. The t-test statistic reveals that the significance level is less than the p-value (t=-4.068, p< .05, df= 323). Thus, it was concluded that there was a statistically significant difference between the French group and the Arabic group. The results of this study confirm that students who were instructed in French (M= 2417, sd= 903, N=185) outperformed the other students who were taught in Arabic (M= 2058, sd= 903, N= 140). In the current study, among various suggestions, it is proposed that the volume of 30 hours in the English module is not sufficient and should be complemented with vocabulary-based activities.

Keywords: EFL Master Students, higher education instruction in Morocco, receptive vocabulary size, the medium of instruction and vocabulary size, vocabulary breadth studies

Introduction

The status of studying vocabulary as a subject of language teaching and learning has been side-lined for a very long time. Studies on vocabulary did not receive much attention in the past neither in books that relate to curriculum design nor in books that relate to theories of language teaching (O'dell, 1997). This lack of attention probably stemmed from the influence and emphasis on structural and accuracy-based approaches to linguistics on the field of teaching and learning. However, with the recognition of communicative language teaching as an effective paradigm in teaching, vocabulary slightly gained more firm grounds in that field (Brown, 1994). Studies on vocabulary size have been conducted to estimate how many lexical items learners know.

Vocabulary breadth studies do not only aim to provide rough estimates of the total number of lexical items that learners know, either receptively or productively, they also serve to contrast them against pre-established thresholds that are needed for language skills. A case in point is reading. In order to be able to read with a fair degree of comprehension, learners need to meet the threshold of the most frequent 3000-word families in English (Laufer, 1998). As a matter of fact, it is only natural to assume that learners who have big vocabularies are much more proficient in all the four skills than those who have smaller vocabularies (Meara, 1996). A great deal of vocabulary research involves counting lexical items to discover how many vocabulary items are learned at the end of a program, or how many items a learner needs to be able to speak or read (Schmitt, 2010).

For the sake of clarity, research in vocabulary size relies on different counting units. Before delving into how many lexical items are needed, it would be best to decide on the best and suitable counting measure. In the literature, researchers use many counting units such as tokens, types, word families, and lemmas. For practical purposes, lemmas and word families are the basic counting units that are easy to interpret (Schmitt, 2010). On the one hand, Milton (2009) defines lemma as a unit of measurement that includes a headword and its frequent inflections. That is, a lemma does not involve changing the part of speech of the headword. On the other hand, unlike lemma, a word family goes beyond using the base form and its frequent inflections; it involves derivation as well. Simply put, a word family is a lemma+ derivation (Bauer & Nation, 1993). It is worth noting that lemma is the unit of measurement that was adopted in the current research.

The primary purpose of the study is to investigate the overall receptive vocabulary size of Moroccan EFL master students. Furthermore, the study also aims to examine the effect of the languages of instruction (Arabic vs. French) on the students' overall receptive vocabulary size. It is worth mentioning that in the Moroccan context, after learners pursue their higher studies, they either study in Arabic or in French, in case they do not choose the English department.

The findings of this research provide stakeholders and decision-makers with insights about the current level of English at the tertiary level (i.e., in departments other than the English major). Moreover, the results may also indicate that introducing an English module at the master's level is not sufficient. That is, more time and attention need to be paid to learning English. Besides that, the findings might also show that studying course content in French might prove beneficial for learners because there is some positive transfer between English and French words.

The study involved 325 participants from different Moroccan universities (e.g., Mohammedia, Casablanca, Rabat, and Fes) who studied English for 30 hours in the whole program. Unfortunately, a one-shot design was followed to collect data from the informants. In other words, the participants took Meara's (2010) Yes/No test just once, without taking a pre-test prior to instruction and a post-test after instruction.

This study will attempt to answer the following research questions:
1. What is the receptive vocabulary size of Moroccan EFL master students?
2. Does the medium of instruction have any effects on the receptive vocabulary size of Moroccan master students?

By dealing with the aforementioned research questions, this study will either accept or reject the following hypothesis:
1. H0: There is no effect of the language of instruction on Moroccan EFL master students.

Literature Review
Sampling vocabulary items in tests

Traditionally, in vocabulary breadth studies, researchers had the habit of choosing very large dictionaries as a source of vocabulary items to include in their tests. The words that they chose have been selected by utilizing what is referred to in the literature as: spaced sampling procedures. That is to say, researchers worked through a dictionary from a randomly assigned point, and they chose lexical items at a specified interval, say, the first word on every fifth page of that dictionary (Goulden, Nation, & Read, 1990). Moreover, Lorge and Chall (1963) demonstrated how spaced sampling methods work in estimating the vocabulary size of a person or a group of people. They stated that vocabulary size is "estimated by multiplying the number of sample words known by the ratio that the sample of words bears to the total number of words in the dictionary." (Lorge & Chall, 1963, p.147). Plainly put, in a dictionary of 20,000 words from which a sample of 100 words is selected, if a person knows 20 vocabulary items from the 100 sampled ones, then he/she knows about (10* 20,000/100), which equals 2000 words.

As opposed to the dictionary method of sampling, there is a different paradigm, which is frequency-based. In this paradigm, researchers rely on frequency lists to estimate a person's vocabulary size. One of the most influential lists is: The teachers word book of 30,000 words (Thorndike & Lorge, 1944). It is worth noting that these lists were limited in number of words, which made them limited and not very accurate. Yet nowadays, researchers do not have to use those frequency lists, but rather they resort to more accurate frequency corpora (e.g., BNC, COCA…etc.). These corpora are made up of 400+ million words that belong to different jargons (e.g., general English, technical, academic…etc.). Corpora include a very large number of words that can be classified in terms of the highest-frequency words as well as the lowest-frequency words. Moreover, these corpora are used as input in many vocabulary breadth tests. For instance, the vocabulary items that are included in the Vocabulary Size Test (Nation & Belgar, 2007) come from the British National Corpus. To this end, one of the advantages of sampling from corpora is that they contribute to language acquisition in the sense that they provide researchers with reliable counts of the most frequent items that could be easily acquired by learners. This goes in accordance with the pedagogical claim that suggests that teachers need to teach the first 2,000 words explicitly

and, to some extent, disregard the low-frequency items (Nation,1990). Therefore, corpora bridge the gap between the highest-frequency words and the amount of vocabulary that is required for language use (Schmitt,2010).

The components of knowing a word

Testing knowledge of words is not as simple as it may seem. There are many variables that are involved in knowing a word. Nation (2001) designed a list of the different aspects of word knowledge. These are summarized in Table one:

Table 1. *Nation's list of word knowledge*

Form	Spoken	R: What does the word sound like? P: How is the word pronounced?
	Written	R: What does the word look like? P: How is the word written and spelled?
	Word parts	R: What parts are recognizable in this word? P: What word parts are needed to express this meaning?
Meaning	Form & Meaning	R: What meaning does this word form signal? P: What word form can be used to express this meaning?
	Concepts & referents	R: What is included in the concept? P: What items can the concept refer to?
	Associations	R: What other words does this make us think of? P: What other words could we use instead of this one?
Use	Grammatical functions	R: In what patterns does the word occur? P: In what patterns must we use this word?
	Collocations	R: What words or types of words occur with this one? P: What words or types of words must we use with this one?
	Constraints on use	R: Where, when, and how often would we expect to meet this word? P: Where, when, and how often can we use this word?

In column 2, R= Receptive knowledge, P= productive knowledge. (Nation, 2001, p.40)

Table one divides word knowledge into three main components that involve form, meaning, and use. The first component deals with the issue of oral language that requires learners to know what a word sounds like phonologically. As far as the written mode is concerned, in order for learners to claim that they know a word receptively, they should know how a word is spelled (recognizing the target element). Another advanced aspect of knowledge has to do with word parts; that is, a learner has to be able to differentiate between the different parts of a word (suffixes and prefixes). For example, Nation (2001) gives the example of 'underdeveloped' as being composed of word

parts like *under+/develop/+ed*. With that being said, learners are required to know these parts if they are to claim that they know the meaning of the word '*underdeveloped*'. The second component of meaning tackles the issue of form and meaning correspondence. This simply means that learners are expected to know what a word means in the context in which it occurs. Moreover, concepts and referents refer to learners' ability to know the concept behind the word, which will allow for understanding the word. The last element in the second component is more or less advanced in the sense that making associations with words that relate to a concept is somewhat challenging. For example, part of knowing the word door is making an association with the concept of a knob. The last component in the Table is use. This aspect of knowledge requires learners to know about the grammatical function of a word; this means that learners are supposed to know that a word has been used correctly in the sentence in which it has been employed. Furthermore, collocations are also part of what learners need to know about words. That is, learners are supposed to know what words go together with others. The last element in the list is intricate in the sense that learners are expected to know constraints on use of certain words. For instance, part of fully knowing a word is being able to judge that a word is not used pejoratively in context. In this brief account of Nation's (2001) list, the author only focused on the R (receptive) part since the aim of the current study is to investigate receptive knowledge.

This indicates that it is very challenging to capture all the aspects of word knowledge by means of a single test, be it a receptive test or a productive one. Moreover, knowing a word does not only involve knowing the written and spoken aspects of the word but also knowledge of affixation, knowledge of the way extra parts can be added…etc. In addition to this, even knowledge of meaning is not that straightforward. That is, Knowing the core meaning of a word is not enough; what is also needed is knowing foreign counterparts, concepts, and associations that the word carries with it (Milton & Treffers-Daller, 2013).

The receptive vocabulary size of non-native speakers

To begin with, Milton and Meara (1998) estimated the receptive vocabulary size of 197 learners of foreign languages, including English, Greek, and German learners. The aim of the study was to primarily compare the vocabulary sizes of these participants as a response to one of the commonly held stereotypes about the English as bad learners of foreign languages (as the authors claimed about the English learners). The researchers used a test which is similar to Meara and Jones' 1989 vocabulary size test. The name of the test that they used is the LLEX lingua vocabulary test. This test was developed by Meara. The results revealed that the young German learners of English had a vocabulary size of 1680 lemmas, and the Greek learners had a total of 1200 lemmas. Before starting to interpret the results and making hasty claims, one had better shed light on a very important piece of information that might have an effect on these two vocabulary sizes. It is true that all participants indeed have the same age (14-15 years), but there was some difference in the amount of formal instruction they had. To illustrate, the German foreign language learners of English had about 400 hours of instruction in English distributed as follows: four classes per week (45 minutes) for four years. As for the Greek informants, they received approximately 600 hours in sum. This volume of hours was distributed as: two hours a week for four years, and they also benefited from private classes so as to prepare them for the Cambridge First Certificate Exam. Thus, one can safely conclude that the amount of formal instruction had an effect on the sizes of

the Greek and German foreign learners of English. Nonetheless, the effect was more or less slim because the Greek students had two extra years of instruction, but their vocabulary sizes did not differ noticeably.

Furthermore, Nurweni and Read's (1999) study on Indonesian first-year university students revealed that, on average, these participants had a small vocabulary size. Their overall receptive vocabulary size did not exceed the 2000-word range. The sample of this study was somewhat large; it included 324 students that were randomly selected from a sample of 1224 university students. The receptive vocabulary size that these informants had was 1226 words. This result revealed that Indonesian students were not able to read texts with that amount of words. It is worth noting that the primary aim of the study was to investigate if the participants' vocabulary size will enable them to read English materials at the university. That is why the authors, in their literature review, mentioned many studies that set thresholds for reading comprehension. For example, Nation (1990) stated that university students must have a vocabulary size of about 3000 words to be able to read university materials in English. Besides, Laufer (1992) also determined a threshold of 5000 words that was higher than the 3000 that the previous researcher mentioned. Simply put, the Indonesian students' level was not very satisfactory for the authors because they did not even reach the bare minimum that is needed in most of the references. Therefore, the authors invited other researchers to take the initiative and support or reject the claim that the students' level was insufficient.

In the same vein, Laufer (1998) investigated the vocabulary size of Israeli students and the gains they ended up with after one year of tuition. This study reported that these high school students ended up with an overall size of 1900-word families after six years of learning English. What is surprising was the fact that Laufer reported that after one year of instruction, these students' receptive vocabulary size increased by 1600-word families. This indicated that the gains could have been very beneficial if the students had received a large amount of instruction in the first year. But she also reported that this gain kept getting smaller after the first year of instruction. This sets the ground for further research, as the author suggested.

Tang (2007) conducted another pertinent study of the receptive vocabulary size of non-native speakers of English. Tang, in an exploratory study, tried to measure the overall receptive vocabulary size of Chinese primary school students by using the VLT test (Nation, 1990) and the L-Lex (Meara, Milton, & Lorenzo-Dus, 2001). The participants included two groups, primary school group and secondary school group who differ in the years of instruction. The results pointed out that for the primary school students, the informants only achieved 18.49% of the essential 5000 words that are needed. As regards the second group, they managed to get 57.83% of the basic 5000 words. In other words, the primary school students had a receptive vocabulary size of 925 words; whereas, the secondary school students had a receptive vocabulary size of 2891 words. It is clear that the second group outperformed the group of primary school students. This was primarily due to the years of tuition. It is notable that these results were empirically supported by a One-way ANOVA that was conducted by the author to investigate the effect of years of instruction on vocabulary size. The outcome of the One-way ANOVA positively confirmed some statistical significance ($F= 66.572$, $p < .001$). That is, the years of instruction had an impact on students' receptive vocabulary size by increasing it.

Receptive vocabulary size and coverage

Staehr (2008) investigated the correlation that is thought to exist among reading, listening, and writing. He found that vocabulary size can be a determinant predictor of the skills mentioned above. To be more specific, there was a robust correlation between vocabulary size and reading ($r = .83$) at an alpha level of ($p < .01$). Besides that, Adolphs and Scmitt (2003) reported that there was a correlation between vocabulary size and listening. Their conclusion was that 6000-word families were needed in order to cope with listening to authentic spoken discourse. Schmitt (2008) also confirmed that there was a relationship between vocabulary size and coverage, but he proposed daunting figures that range from 8000-word families to 9000-word families. Plainly put, if one is to compare the figures of Schmitt and those of Staehr, the differences become evident. Staehr (2008) proposed 2000- word families as a threshold for coverage in listening, writing, and reading.

In summary, based on the studies tackled in the literature review, it is evident that there is a niche in relation to the medium of instruction. In other words, there are not many studies that deal with the medium of instruction and its effect on the receptive vocabulary size of learners. Nevertheless, Belhiah and Abdelatif (2016) reported that Ph.D students, who are taught in French, have very positive attitudes towards English as the medium of instruction. That is why they might have bigger vocabulary sizes. Therefore, these positive attitudes might have an effect on the learners' vocabulary breadth. The present study intended to explore the effects of the language of instruction in universities on the overall receptive vocabulary size of participants. This is mainly in the context of Moroccan universities where students are taught in (Arabic or French). It is worth noting that there are other languages of instruction in different departments (Italian, Spanish, Russian…etc), but the researcher limited the scope to French and Arabic.

Methodology

Research design

The current study employs a quantitative research design to investigate the research questions and hypotheses. By using this design, the data analysis will mainly be carried out by means of inferential and descriptive statistics. This design will help in finding out how the independent variable of the study interacts with the dependent variable. To be more precise, the research design that was adopted in the current paper is the Ex post facto-- after the fact design-. This design starts investigation after the fact has occurred without interference from the researcher (Kerlinger & Rint, 1986).

Participants

The number of participants in this paper is 325 EFL master students who come from 17 departments. These departments could be clustered into two groups. The first group has French as the primary medium of instruction, and the second group has Modern Standard Arabic as the primary medium of instruction. These students studied English as a complementary module for roughly 30 hours, as indicated by the students and their professors.

Sampling

A non-probability sampling method was used to collect data due to the difficulty of finding master programmes that study English as a foreign language. To be more specific, a convenience sampling method- also known as availability sampling- was used in this procedure. It is a type of sampling that relies on data collection from population members who are conveniently available to participate in the study. This sampling, in this study, targeted participants with certain predefined criteria (i.e., Master students who study English as a foreign language). Throughout the procedure, the participants' selection involved the Master programs' coordinators connecting the researcher with other coordinators to arrange for a time to distribute the receptive vocabulary test. The 17 groups who took part in the study were all from intact groups.

The instrument

This paper employed one of the standard tests of receptive vocabulary knowledge that could be used with beginners. This test goes by more than one name. Some researchers call it Meara's checklist test (2010), while others refer to it as the YES/No test. It is highly appreciated because of its simplicity in the sense that testees only have to tick the words they know. Moreover, it measures a large number of items in a short period of time (Beeckmans, Eyckmans, Jansens, Dufranne & van de Velde, 2001).

It is worth noting that the Yes/No test has five levels. Each level represents the 1000 most frequent words in real life. Basically, the checklist test is based on two different source lists. The first two levels come from Meara (1992a), and the third, fourth, and fifth levels come from Hindmarsh (1980). In each level there are 40 real words and 20 nonsense words that are morphophonologically similar to real English words.

Findings

In order to get the exact score of a participant, one needs to subtract the number of hits (real words) from the number of false alarms (nonwords ticked) and then multiply this score by 25. This is done because each level in the test is composed of the 1000 frequent words in its corresponding band. The five levels of the test sample 40 real words from each band, and there are also 20 nonwords at each level. In simple terms, if we divide 1000 by 40, we get 25– that is why we multiply by this number. Thus, when we multiply the (hits- false alarms) by 25, we get the final score of the participants. To illustrate, if a test-taker has a true score of 30, we multiply it by 25 to get the final score of that band (e.g., 30*25= 750). Thus, we can safely conclude that this participant knows around 750 lemmas in that band. The final step is to add the scores of all 5 levels to get the final score of the receptive vocabulary size of the test-taker (i.e. Level 1: **750**+ Level 2: 500+ Level 3: 600+ Level 4: 250+ Level 5: 200= 2070) as the final score of the receptive vocabulary size.

Research question one

To address the first research question that is related to the overall receptive vocabulary size, the checklist test was administered to all the participants and scored by means of SPSS. The descriptive statistics of the population gave us a clear idea about the mean of all the test-takers clustered together. The results of the descriptive statistics of the participants are shown in Table two.

Table 2. *The overall receptive vocabulary size of EFL MA Students*

N	Mean	Median	Std. Deviation	Minimum	Maximum
325	2293.6154	2275.0000	929.67807	375.00	4650.00

The results reveal that the overall receptive vocabulary size of EFL Master Students is (M= 2293 lemmas), as can be observed from Table two. It appears that there is a great deal of dispersion in the participants' results. This is indicated by the high value of the standard deviation (929). Moreover, the variability of test scores is also evident when one examines minimum and maximum test scores. Therefore, it can be concluded that the majority of scores do not cluster around the mean.

Research question two
Descriptive statistics

As regards the medium of instruction as an independent variable, the first group was taught in Arabic, and the second group was taught in French. The descriptive statistics of this variable that has two levels (French group and Arabic group) are shown in Table three.

Table 3. *Descriptive statistics for the medium of instruction*

Languages of instruction	N	Mean	Median	Std. Deviation	Minimum	Maximum
Arabic	140	2058.035	2025.000	903.755	375.00	4175.00
French	185	2471.891	2550.000	911.438	500.00	4650.00
Total	325	2293.615	2275.000	929.678	375.00	4650.00

The first group that was taught with Arabic has a mean score of (M= 2058 lemmas), and the second group has a mean of (M= 2471 lemmas). It appears that the language of instruction plays an essential role in increasing receptive vocabulary size. This is manifested by the fact that these numbers show that the French group outperformed the Arabic group by a total of 413 lemmas. This difference is expected since the students from the departments that rely on French (or any Indo-European language) are more likely to encounter cognates that may help them in answering the test (Meara, 2010). Thus, the group that studies in French may have the upper hand if they are compared to speakers of other languages, especially Arabic.

As for standard deviations, the data seems dispersed since the standard deviation of the Arabic group is (SD= 903.75), and the standard deviation of the French group is (SD= 911.43). This dispersion is caused by the variability in test scores regarding the medium of instruction. This heterogeneity of test scores has an impact on the high values of standard deviations for the two groups (SD= 903, SD= 911). According to conventional wisdom, when the value of standard deviation is large, the distribution seems more scattered and not clustered around the mean.
Inferential statistics

To see whether the difference between the means of the two groups is significant, an independent-samples t-test was run to check for any statistical significance. Table four shows the output of the SPSS package regarding the test statistic and Levene's equality of variances.

Table 4. *Independent-samples t-test for the difference in receptive vocabulary size between the Arabic and French groups*

	Levene's test for equality of variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean differences	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances Assumed	.631	.42	-4.068-	323	.000	-413.85-	101.72	-613.99-	-213.72-

The table shows that the F statistics for Levene's test is greater than the p-value (p> .05). Therefore, our groups' variances can be treated as equal. Moreover, for the results of the test (French group: M= 2417, sd= 903, N=185; Arabic group: M= 2058, sd= 903, N= 140), the 95% confidence interval for the difference in means is -613.99, -213.72. The t-test statistic points out that the significance level is less than the p-value (t= -4.068, p< .05, df= 323). Therefore, it is possible to conclude that the null hypothesis that states that there is no difference between the two groups' mean scores is rejected.

Discussion

Concerning the first research question on the overall receptive vocabulary size, the results show that Moroccan Master students have an overall of 2293 lemmas. In comparison with previous, these results indicate that our participants performed just slightly better than other non-native speakers of English. This is because it is often reported that non-native speakers of English have a receptive vocabulary size that does not exceed 2000 words (Laufer, 1998; Milton & Meara, 1998; Nurweni & Read, 1999). Moreover, since the EFL M.A Students exceeded the 2000 lemmas' ceiling, this would enable them to communicate without having a problem conveying basic ideas. This conclusion goes hand in hand with what Meara (2010) states in his description of the first and second vocabulary levels; he states that if test-takers are familiar with the most frequent 2000 words they will be able to understand and communicate basic ideas.

However, if one is to consider coverage, then it would be possible to claim that the overall receptive vocabulary size of the participants does not allow them to perform well in relation to the four skills. In other words, for reading, it appears that the 2293 lemmas will not enable the subjects to read academic texts because it is less than the threshold that is set by researchers (Laufer, 1992; Nation, 2006; Schmitt, 2008). Nevertheless, the participants' performance seems to go hand in

hand with the threshold that was set by (Staehr, 2008) for reading. Therefore, it is probable to conclude that the participants might be able to read some texts which are not academic. Regarding writing, the overall receptive vocabulary size of our participants will enable them to write adequately (Staehr, 2008). In addition to this, for the ability to listen, research confirms that the respondents' score will not allow them to listen and understand adequately (Adolphs & Schmitt, 2003; Nation, 2006). Moreover, when it comes to speaking, it appears that the participants' receptive vocabulary size would enable them to speak and communicate to a fair extent (Meara, 2010; Milton, 2009).

As regards the second research question, Meara (2010) claims that the test-takers who are native speakers of Indo-European languages, in our case French, are believed to outperform the other test-takers who are not native speakers of Indo-European languages. This claim stems from the fact that the Yes/No test contains many cognates that may facilitate the participants' recognition of the words. Moreover, in the Moroccan context, the participants who major in French in particular or study by means of French are more proficient in English than those who study in Arabic. There is not any single study that confirms this speculation, but as the test results indicate, the French participants outperformed the other participants by an overall of 413 lemmas.

Furthermore, the participants who use French as the medium of instruction believe that English is the world's lingua franca of science, which is why they seek to develop their English skills. This claim has been explored by Belhiah and Abdelatif (2016) who reported that Ph.D students who use French as the sole medium of instruction have very strong positive attitudes towards English as the language of instruction. This might relate in some way to the results concluded in this part of the study. Now, one can safely conclude that the medium of instruction does have an effect on the overall receptive vocabulary size of EFL Master Students.

Conclusion

Vocabulary breadth studies involve counting the number of lexical items that people know, either receptively or productively. Nonetheless, very little research has been conducted to investigate the effect of language of instruction on receptive vocabulary breadth. The current study came up with some suggestions for the betterment of learning English vocabulary in the Moroccan context. Moreover, the present study also attempted to provide some rough estimates about the overall receptive vocabulary size of Moroccan EFL master students of the letters, science, and law departments.

The present study aimed to explore the overall receptive vocabulary size of Moroccan EFL Master students. The results showed that the participants scored slightly better than other non-native speakers around the world. Moreover, the findings also demonstrate that the participants can deal with basic communicative skills and reading non-academic texts.

In addition to this, the study also aimed to explore the effects of languages of instruction on vocabulary breadth. The results indicated that the group that was instructed in French outperformed the other group that was taught in Arabic. This claim was confirmed by means of inferential statistics (independent-samples t-test).

Pedagogical implications

The study seems to yield interesting pedagogical implications. Given the positive role of vocabulary in teaching suggested by this study and as well by previous research, it follows that teachers of English should rely on strategies that promote vocabulary learning. Since students only receive 30 hours of English, the focus of the activities should not target accuracy, as is the case in the Moroccan system. Vocabulary has to occupy a better position in the teaching of English because it the skeleton of proficiency in the four skills, as was concluded.

As for decision-makers, we would like to raise their awareness of the importance of including a module of English (complementary module) in all the four semesters of the M.A program. That is, it is not consistent to introduce English in one semester for 30 hours, and then students stop studying it. This sounds meaningless and has very little impact, if not zero impact, on students' proficiency in English.

About the author:

Abdelaziz Agrram is a certified high school English teacher in Casablanca, Morocco. He is a doctoral candidate in the department of English at Chouaib Doukkali university, El Jadida. Besides that, he has a Master degree in Applied Linguistics and English Language Teaching from Mohammed the fifth university, Rabat Faculty of education.
 ORCID: https://orcid.org/0000-0003-3999-8608

References

Adolphs, S. and Schmitt, N. (2003). Lexical Coverage of Spoken Discourse. *Applied Linguistics 24*, (4): 425–438. https://doi.org/10.1093/applin/24.4.425

Bauer, L., & Nation, I.S.P. (1993). Word Families. *International Journal of Lexicography*, *6*(4), 253-279. doi:10.1093/ijl/6.4.253.

Beeckmans, R., Eyckmans, J., Jansens, V., Dufranne, M., & van de Velde, H. (2001). Examining the Yes/No Vocabulary Test: Some Methodological Issues in Theory and Practice. *Language Testing 18*, (3): 235–274.
https://doi.org/10.1177/026553220101800301

Belhiah, H. (2016). English as a Medium of Instruction in Moroccan Higher Education. *SSRN Electronic Journal, 7(3), 227-238*. doi: 10.2139/ssrn.2895569.

Brown, H. D. (1994). *Teaching by Principles: An Interactive Approach to Language Pedagogy*. White Plains, NY: Longman.

Goulden, R., Nation, P., & Read, J. (1990). How Large Can a Receptive Vocabulary Be? *Applied Linguistics 11*(4), 341–363. https://doi.org/10.1093/applin/11.4.341

Hindmarsh, R. (1980) *Cambridge English Lexicon*. Cambridge: Cambridge University Press.

Kerlinger, F. N. (1986). *Foundations of behavioral research*. New York: Holt, Rinehart and Winston.

Laufer, B. (1992). How much lexis is necessary for reading comprehension? In P.J.L. Arnaud, & Béjoint, (eds.), *Vocabulary and Applied Linguistics* (pp.126-132). London: Macmillan.

Laufer, B. (1998). The development of passive and active vocabulary in a second language: Same or different? *Applied Linguistics, 19*(2), 255–271.
https://doi.org/10.1093/applin/19.2.255

Lorge, I., & Chall, J. (1963). Estimating the size of vocabularies of children and adults: An analysis of methodological issues. *Journal of Experimental Education, 32*(2), 147–57. https://doi.org/10.1080/00220973.1963.11010819

Meara, P. & Jones, G. (1989). Eurocentres Vocabulary Test 10 KA. Zurich: Eurocentres.

Meara, P. (2010). EFL vocabulary tests. Swansea, Wales: Lognostics. Available online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.717.2438&rep=rep1&type=pd.

Meara, P. 1992: *EFL vocabulary tests*. Swansea: Centre for Applied Language Studies, University College Swansea.

Meara, P., Milton, J. & Lorenzo-Dus, N. (2001) *Language Aptitude Tests*. Newbury: Express.

Meara, P.M. (1996). The dimensions of lexical competence. In G. Brown, K. Malmkjaer, & J. Williams, (eds), *Performance and Competence in Second Language Acquisition* (pp.35-53). Cambridge: Cambridge University Press.

Milton, J. (2009). *Measuring Second Language Vocabulary Acquisition.* Bristol: Channel View Publications.

Milton, J., & Meara, P. (1998). Are the British really bad at learning foreign languages? *Language Learning Journal, 18*(1*)*, 68–76.

https://doi.org/10.1080/09571739885200291

Milton, J., & Treffers-Daller, J. (2013). Vocabulary size revisited: The link between vocabulary size and academic achievement. *Applied Linguistics Review*, *4*(1). 151-172. doi: 10.1515/applirev-2013-0007.

Nation, I. S. P. (1990). *Teaching and Learning Vocabulary*. New York: Newbury House.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge, UK: Cambridge University Press.

Nation, I.S.P. (2006). How large a vocabulary is needed for reading and listening? *The Canadian Modern Language Review, 63(*1*)*, 59-82. doi:10.3138/cmlr.63.1.59.

Nation, I.S.P., & Beglar, D. (2007). A vocabulary size test. *The Language Teacher*, *31*(7), 9-13.

Nurweni, A., & Read, J. (1999). The English vocabulary knowledge of Indonesian university students. *English for Specific Purposes 18*(2), 161–175.

O'Dell, F. (1997) Incorporating vocabulary into the syllabus. In N. Schmitt, M. McCarthy (eds.), Vocabulary: Description, Acquisition and Pedagogy (pp. 258278). Cambridge: Cambridge University Press.

Schmitt, N. (2008). Review article: Instructed Second Language Vocabulary Learning. *Language Teaching Research*, *12*(3), 329-363. doi: 10.1177/1362168808089921.

Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Basingstoke: Palgrave Macmillan.

Stæhr, L.S. (2008) Vocabulary size and the skills of listening, reading and writing. *Language Learning Journal, 36(*2), 139-152, doi: 10.1080/09571730802389975.

Tang, E. (2007). An Exploratory study of the English vocabulary size of Hong Kong primary and junior secondary school students. *The Journal of Asia TEFL, 4*(1), 125-144.

Thorndike, E.L., & Lorge, I. (1944). *The Teacher's Word Book of 30,000 Words*. New York: Teachers College, Columbia University.