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LEXICAL DEVELOPMENT OF LEARNERS OF PORTUGUESE AS A FOREIGN LANGUAGE

DESENVOLVIMENTO LEXICAL DE APRENDIZES DE PORTUGUÊS COMO LÍNGUA ESTRANGEIRA

DESARROLLO LÉXICO DE APRENDICES DE PORTUGUÉS COMO LENGUA EXTRANJERA

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ABSTRACT: This mixed-method case study aimed to analyze the lexical development of two students of Portuguese as a Foreign Language (PFL) as an indication of improved language proficiency as they prepared for the Certificate of Proficiency in Portuguese for Foreigners (CELPE BRAS) exam. In the study, vocabulary breadth is an impacting variable on performance in a proficiency exam and is considered a construct that encompasses a person's word knowledge, from incomplete or partial knowledge (recognition of the form or uncertain knowledge of the meaning), leading to the ability to use it in diverse contexts. For seven months, the research participants took PLE classes and completed three tasks, both oral and written, simulating the CELPE-BRAS. To verify the participants' lexical acquisition curve, two types of words were considered: valid words and non-repeated words. These variables were analyzed through multiple convergent tests (correlation, regression, and trend) to determine if there was a relationship (correlation) between the variables, if this relationship showed a constant pattern of improvement (trend), and how this improvement could be described or possibly predicted (regression). Overall, the study pointed to lexical improvement. The research brings to light the possibility of an individual in immersion continuing their lexical improvement, without excluding the possibility of lexical stabilization, which would cause the learner to use a limited quantity of words to resolve their language production activities.
KEYWORDS: Words. Breadth. Lexical knowledge.

RESUMO: Este estudo de caso qualiquantitativo objetivou analisar o desenvolvimento lexical de dois alunos de Português como Língua Estrangeira (PLE) como um indício do aperfeiçoamento da proficiência no idioma, ao se prepararem para o exame Certificado de Proficiência em Língua Portuguesa para Estrangeiros (CELPE BRAS). No estudo, a amplitude do vocabulário é uma variável impactante no desempenho em um exame de proficiência e é considerada como um construto que abrange o conhecimento

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de uma palavra, desde o conhecimento incompleto ou parcial (reconhecimento da forma ou conhecimento incerto do sentido), culminando na capacidade de uso em diversos contextos. Durante sete meses, os participantes da pesquisa tiveram aula de PLE e realizaram três tarefas, orais e escritas, simulando o CELPE-BRAS. Para se verificar a curva de aquisição lexical dos participantes dois tipos de palavras foram considerados: palavras válidas e palavras sem repetição. Essas variáveis foram analisadas através de múltiplos testes convergentes (correlação, regressão e tendência) para se constatar se houve uma relação (correlação) entre as variáveis, se essa relação demonstrou um padrão constante de aperfeiçoamento (tendência) e como esse aperfeiçoamento pode ser descrito ou talvez previsto (regressão). De uma maneira geral, o estudo apontou para o aperfeiçoamento lexical. A pesquisa traz à reflexão a possibilidade de um indivíduo em imersão prosseguir seu aperfeiçoamento lexical, sem excluir a possibilidade de que haja estabilização lexical, que fará com que o aprendiz utilize uma quantidade limitada de palavras na resolução de suas atividades de produção no idioma.
Palavras-chave: palavras. Amplitude. Conhecimento lexical .

RESUMEN: Este estudio de caso tuvo como objetivo analizar el desarrollo léxico dos estudiantes de portugués como Lengua Extranjera (PLE) como indicio de la mejora de la competencia en el idioma, mientras se preparaban para el examen del Certificado de Competencia en Lengua Portuguesa para Extranjeros (CELPE BRAS). En el estudio, la amplitud del vocabulario es una variable que influye en el rendimiento en un examen de competencia y se considera un constructo que abarca el conocimiento de una palabra, desde el conocimiento incompleto o parcial (reconocimiento de la forma o conocimiento incierto del significado), que culmina en la capacidad de uso en diversos contextos. Durante siete meses, los participantes de la investigación tomaron clases de PLE y realizaron tres tareas, orales y escritas, simulando el CELPE-BRAS. Para verificar la curva de adquisición léxica de los participantes, se consideraron dos tipos de palabras: palabras válidas y palabras sin repetición. Estas variables se analizaron mediante múltiples pruebas convergentes (correlación, regresión y tendencia) para constatar si hubo una relación entre las variables, si esa relación mostró un patrón constante de mejora y cómo esa mejora se puede describir o quizás predecir. En general, el estudio señaló una mejora léxica. La investigación invita a la reflexión sobre la posibilidad de que un individuo en inmersión continúe su perfeccionamiento léxico, sin excluir la posibilidad de que haya una estabilización léxica, que hará que el aprendiz utilice una cantidad limitada de palabras para la resolución de sus actividades.
PALABRAS-CLAVE: palabras. Amplitud. Conocimiento léxico.

1 INTRODUCTION

This is a study about words, more precisely about the impact that the knowledge of new words has on communicative performance, on how they can make messages more profound in meaning, more complex in their structures and more effective in the information that is desired to be stated. To compose messages, words need to be acquired, integrated into the system of the language in which they will be used, inflected to originate others, obey relationships, and adapt to the proper contexts of the culture in which they are being employed.

All of this sounds like demanding requirements for an act related to complex, human capacities. Berwick and Chomsky (2017, p.71) characterize language as a curious biological object, a property of the human species, which Wallace (1871, p.334) had connected to the capacity "essential to the full moral and intellectual development of human nature", and which enables humans to be creative to the point of modifying nature and interacting, even when speaking different languages.

The interaction between different languages, in addition to meeting daily needs, demonstrates itself as broadening social, cultural, and economic participation in multilingual contexts (Lightbown and Spada, 2013). From the perspective of second language acquisition research, Ellis (2002) argues that linguistic knowledge gradually emerges from use, through the frequency of exposure to the language and sensitivity to patterns that consolidate cognitively. Thus, the same principle that led communities to develop *lingua franca* or pidgins can be observed individually in an adaptive and dynamic process (Bybee, 2010; Tomasello, 2003), supported by interaction, exposure to real language use, and the constant negotiation of meaning (Swain, 2005).

And interactions happen through words. As Pinker (2024, p.185) characterizes it, the word is the fundamental symbol, due to its intrinsic and essential nature. The importance given to the word was observed by Meara (1980), who drew attention to the need to raise the level of studies on vocabulary acquisition to the same level as investigations into grammatical and phonological systems, as it involves aspects of cognition related to experimental psychology, concerning memory and verbal association, highlighting factors such as frequency of exposure, contextual richness, and the distinction between receptive and productive vocabulary. Despite his text dating from the 80s, research topics on vocabulary are still relevant in the third decade of the 21st century, such as the quantity of a word's occurrence as evidence of learning; the difference between incidental and intentional learning; and lexical retention related to memory and semantic association.

The occurrence of a lexical item, its frequency, and its context of use are variables that influence learning at a higher level than explicit instruction (Ellis, 2002; Nation, 2001). From this perspective, vocabulary acquisition involves the detection of patterns and regularities that tend to stabilize cognitively based on the learner's experience (Bybee, 2010). Thus, learning words in a new language means participating in a process where the lexicon continuously expands and reorganizes based on its use in real contexts.

This study aimed to analyze the lexical development of two students of Portuguese as a Foreign Language (PFL) at the State University of Ceará as an indication of improved language proficiency, as they prepared for the Certificate of Proficiency in Portuguese for Foreigners (CELPE BRAS) exam. For seven months, they took PFL classes and completed three mock exams that preceded the actual test.

To verify the participants' lexical acquisition curve, two types of words were considered: valid words and non-repeated words. These variables were analyzed qualitatively and quantitatively through multiple convergent tests (correlation, regression, and trend) to ascertain if there was a relationship (correlation) between the variables, if this relationship showed a constant pattern of improvement (trend), and how this improvement could be described or perhaps predicted (regression).

This study corroborates the idea that lexical acquisition should be a target for investigation, as it can reveal traces of the construction of the new language through the lexical breadth that the learner manages to develop.

2 PORTUGUESE AS A FOREIGN LANGUAGE AND THE INTERNATIONALIZATION OF BRAZILIAN UNIVERSITIES

The teaching of Portuguese as a Foreign Language in Brazil has emerged as a means for promoting the internationalization policy of Brazilian universities through the Student Agreement Program (PEC), in its Portuguese as a Foreign Language derivation (PEC-PLE), from the Ministry of Education.

The implementation of Portuguese language courses in higher education institutions followed the establishment of the undergraduate international student program, which began in 1965, after universities expressed the need for students to use the Portuguese language in their studies (Dionísio, 2017, p. 62). Only in 1981, according to Dionísio, did the first regulation emerge regarding the inclusion of Portuguese language teaching for agreement students, albeit with terms that expressed the remedial nature of a poorly managed policy, in which the teaching of the language was treated as adequate training, and the work of teachers was meant to function as detached instruments of Brazil's cultural policy (Dionísio, 2017). Seventeen years later, in 1998, a protocol signed between the Ministry of Foreign Affairs and the Ministry of Education implemented the application of the CELPE-BRAS exam for students from non-Lusophone countries and the offering of Portuguese courses for foreigners from countries without a CELPE-BRAS application center (Dionísio, 2017, p. 65).

Sixty years later, Brazilian universities continue with the goal of internationalizing. However, the linguistic issue has been a barrier to overcome since the Student Agreement Program was created. The recruitment of students from other countries emerges as a multiplying process for internationalization and interculturality, but students need to adapt to the specific linguistic, social, and curricular reality of each institution they are assigned to.

Guimarães and Finardi (2022) surveyed the offer of PFL courses in Brazilian universities, considering these offerings as a variable related to the institutions' internationalization process. The results indicated that most of these courses are in the south and southeast regions. Studies like this were important for the Ministry of Education to start encouraging universities in other regions of the country to receive students for the Portuguese as a foreign language program.

In addition to drawing attention to the distribution of PFL courses across the country's regions, Guimarães and Finardi suggest that the Student Agreement Program brings institutions closer to the process of 'Internationalization at Home,' whose beneficiaries, according to Beelen and Jones (2015, p. 63), are all students, not just those in a mobility experience, although the exchange student's perspective is central to the meaning of internationalization.

Internationalization at Home and the practices triggered by the Student Agreement Program as a Foreign Language (PECPLE) converge on themes more focused on interculturality and informal curriculum nowadays, as these students are not yet part of formal undergraduate programs. Thus, the students' sociocultural situation in Brazil and the need to meet the goals of the CELPE-BRAS exam have been more recurrent themes in studies conducted with PECPLE student groups.

Examples of studies addressing these themes include Eiró (2020), who deals with the process of Portuguese acquisition considering the bilingual/plurilingual nature of students in immersion and the impact of culture shock and its influence on the learning process; Cândido (2019), who studied narratives of Portuguese teachers highlighting the adversities students face while studying Portuguese immersed in Brazil; and Dionísio (2017), who evaluated the CELPE-BRAS exam as a linguistic policy mechanism for those involved in a Portuguese as a foreign language course.

Besides these studies, there is research that addresses aspects more directly related to the acquisition of the Portuguese language, whether in Brazil or Portugal. Vocabulary acquisition has drawn attention to academic work, which demonstrates the importance of lexical knowledge for a student's good performance in any objectives they have when using the new language.

Studies such as Baião (2018), who analyzed vocabulary activities in a Portuguese as a Foreign Language (PFL) textbook, show that vocabulary teaching, although treated with importance in the analyzed material, emphasized semantic aspects while disregarding the context of word use.

Pereira (2019) advocated for explicit lexicon teaching, based on word formation processes, to help learners develop their morphological and lexical competence. Gouveia (2019) analyzed how forms of address are presented to learners of Portuguese as a foreign language, as these forms are subject to variations, as well as to adaptation to the communicative context, which demonstrates the need for precise explanations for oral and written uses. The study by Santos (2022) highlighted the importance of understanding idiomatic expressions at the level of linguistic awareness and developing the communicative competence of students of Portuguese as a native and non-native language.

This study follows the trend of recognizing the importance given to lexical knowledge as representative of a student's competence to produce in a new language, especially when this production requires the fulfillment of tasks in a proficiency exam.

3 VOCABULARY ACQUISITION AND PROFICIENCY EXAMS

Knowledge of a foreign language and the ability to use it in any context, environment, or purpose, regardless of a user's proficiency level, depends, among other factors, on the vocabulary of that language that is known. This foundational nature of lexical knowledge is recognized by Nation (2001) as a 'sub-goal,' among others involved in language learning.

Nation (2001) divides language learning goals into general and specific. The general ones are composed of: a) Language items; b) Ideas (content); c) Skills; and, d) Text (discourse). Vocabulary learning is placed as a specific goal within *Language Items*, alongside learning pronunciation and grammatical structures. Certainly, one cannot reduce language learning to just vocabulary knowledge,

but its importance must be recognized, as the knowledge and use of appropriate vocabulary are fundamental for achieving the general objectives.

Before addressing some characteristics underlying the role of vocabulary knowledge in the acquisition of a new language, it is necessary to define what is meant by 'word' or 'lexeme.' In this study, a lexical unit is considered the dictionary entry — the entries recorded in dictionaries — which represent autonomous units of meaning. This conception is based on the lexicographical and structuralist tradition proposed by Bloomfield (1933), according to which the word constitutes the smallest free form of a language. When it comes to morphology, Matthews (1974) defines the lexeme as the abstract entity that groups all inflected forms of the same word, corresponding, therefore, to what usually appears as a dictionary entry.

From a psycholinguistic perspective, Aitchison (1987) emphasizes that the mental lexicon organizes vocabulary into networks of meanings, like an internal dictionary, where each lexical item is an "entry" connected to others through semantic and morphological relationships. This perspective is also adopted in studies of second-language vocabulary acquisition, where lexical measurement is based on lexemes or entries rather than on inflected forms (Bauer; Nation, 1993; Nation, 2001). This methodological choice allows for the assessment of vocabulary growth through the incorporation of new meanings, not just predictable morphological variations.

The increase in a learner's lexical knowledge involves two constructs proposed by Gyllstad (2013), breadth and depth, which are impactful variables in studies involving vocabulary measurement. Breadth, or vocabulary size, refers to the quantity of words an individual knows; therefore, its definition is closely linked to what is considered a word, or lexeme. The term depth is related to the different types of lexical knowledge that a learner must demonstrate, such as knowing the meaning beyond the most frequent form in a dictionary, knowing about word associations and collocations, word parts, as well as the grammatical functions of lexical items.

According to Gyllstad (2013, p.25) when testing a learner's vocabulary size, one is also testing the depth of their vocabulary, because " […] for any given word in a size test, test-takers must have some sort of depth of word knowledge {…]". Thus, the author presupposes a concept of depth in which word knowledge begins with an incomplete or partial level of knowledge (mere recognition of the form or an uncertain knowledge of the meaning). By delving deeper into the semantic and morphological versatility of words, the learner will naturally tend to increase the quantity of lexical items in the new language.

The complexity involved in establishing a limit for the knowledge of a lexical item to be proven and subsequently measured is rooted in the notion of what it means to 'know a word.' Nation (2001) explores the relationship and limits between learning isolated items and learning words that are part of knowledge systems. According to the author, it is possible to learn to recognize the form of a word through memorization. However, it is also possible to learn to recognize a word by considering the systems of which it is a part, such as spelling related to the systematic correspondence with writing; collocation related to the semantic relationships with which words interact in their usage; or syntax that relates words by considering their formal functions in production that adheres to the language rules.

Nation (2001, p.27) proposes a model that emphasizes that knowing a word involves three elements: form, meaning, and use. However, to achieve knowledge of lexical items, the author considers two initial variables: the learning burden and the receptive versus productive vocabulary distinction.

The learning burden refers to the amount of effort required to learn a word. The more a word represents features and knowledge that the learner already possesses (from the first language, knowledge of other languages, or prior knowledge of the target language), the lighter the burden will be. The receptive versus productive vocabulary distinction involves the use of the learned vocabulary. Receptive use involves perceiving the form of a word while listening or reading and retrieving its meaning. Productive use involves the desire to express meaning through writing or speaking, as well as retrieving and producing the appropriate form in writing or speech.

Form, meaning, and use have their own subdivisions, which cover characteristics of the demonstration of word knowledge and its receptive and productive uses, as shown in Table 1 below:

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 the meaning?
Meaning	Form and meaning	R – What meaning does this word form signal?
		P – What word form can be used to express this meaning?
	Concept and 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 pattern does the word occur?
		P – In what pattern must we use this word?
	Colocation	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 of 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?

Table 1: What's involved in knowing a word

Source: Nation (2001, p.27)

As it has been demonstrated so far, lexical development in a foreign language involves aspects that go beyond the simple relationship of meaning between words existing in the learner's native language and the target language. The model proposed by Nation (2010) is influenced by the situation of reception or production in which the lexeme is being required. Furthermore, it characterizes what underlies the true phenomenon of 'knowing a word'. Following this process of vocabulary increase are the constructs of breadth and depth, which account for the quantity of words and variety of meanings, demonstrating that the measurement of the produced lexicon (and understood, if we add the variable of reception) is also influenced by the context of word use.

Among the contexts for using the lexicon of a developing language is learners' participation in proficiency exams, whose main objective is to certify the learner's level in the new language. Regarding the relationship between vocabulary knowledge and the proficiency levels categorized by the Common European Framework of Reference for Languages (CEFR), Milton (2010, p.212) states that:

> Broadly, this suggests that language learners, as they progress through the levels of the CEFR, will grow increasingly large, and increasingly complex, lexicons in the foreign language. This relationship between vocabulary knowledge and overall competence in a foreign language is supported by research that suggests that vocabulary knowledge is key to both comprehension and communicative ability.

Indeed, the relationship between the amount of known (and usable) vocabulary and the level of competence that a learner demonstrates in the language appears to be a consequential phenomenon. The CEFR's own level descriptors, which define the levels in terms of skills, language activities, or communicative objectives, refer to the breadth and control of vocabulary use that can be expected from learners' performance in linguistic skills. An example of this relationship is found in the descriptors that were proposed by the Council of Europe for the CEFR levels, as presented by Milton (2013, p. 215) in Table 2 below:

C2	*Has a very good command of a very broad lexical repertoire including idiomatic expressions and colloquialisms, shows awareness of connotative levels of meaning.*
C1	*Has a good command of a broad lexical repertoire allowing gaps to be readily overcome with circumlocutions; little obvious searching for expressions or avoidance strategies. Good command of idiomatic expressions and colloquialisms.*
B2	*Has a good range of vocabulary for matters connected to his or her field and most general topics. Can vary formulation to avoid repetition, but lexical gaps can still cause hesitation and circumlocution.*
B1	*Has a sufficient vocabulary to express him/herself with some circumlocutions on most topics pertinent to his/her everyday life such as family, hobbies and interests, work, travel and current events.*
A2	*Has sufficient vocabulary to conduct routine, everyday transactions involving familiar situations and topics. Has a sufficient vocabulary for the expression of basic communicative needs. Has a sufficient vocabulary for coping with simple survival needs.*
A1	*Has a basic vocabulary repertoire of isolated words and phrases related to particular concrete situations.*

Table 2: CEFR Vocabulary range descriptors
Source: Milton (2013, p.215)

Terms and expressions focused on characterizing breadth (quantity) and depth (versatility of meanings) are present in the six descriptions of each level, from A1 to C2. To characterize breadth, terms are used that resemble a continuum beginning with a very broad lexical repertoire, a broad lexical repertoire, a good range of vocabulary, sufficient vocabulary for various social interactions, sufficient vocabulary for basic communication, and finally a basic repertoire. The characterization of depth also seems to demonstrate a continuum ranging from the use of idioms, colloquialisms, and connotative meanings, through versatile use in routine language use situations, to a basic use for survival and concrete situations peculiar to the learner.

As the CEFR hierarchy suggests that progress through the levels is related to knowing as many words as possible in the target language, knowledge of the most frequent words appears to be crucial for successful performance. Milton (2010) proposed the equivalence of this descriptive characterization of the CEFR levels with the number of words a learner should demonstrate when taking the Cambridge proficiency exams, as it is shown in Table 3:

CEFR Levels	Cambridge Exams	Amount of words (maximum 5,000)
A1	Starters, Movers and Flyers	< 1,500
A2	Kernel English Test	1,500 – 2,000
B1	Preliminary English Test	2,500 – 3,250
B2	First Certificate in English	3,250 – 3,750
C1	Cambridge Advanced English	3,750 – 4,500
C2	Cambridge Proficiency English	4,500 – 5,000

Table 3: Approximate vocabulary size scores associated with CEFR levels

Source: Milton (2010, p. 224)

The size of vocabulary (breadth), as used in an exam that has production time as an indicator of competence, is influenced by the ease and speed with which words are recalled and used in tasks, generally characterized as productive vocabulary (use, which words to use) or lexical fluency (control, how to use the words). For Milton (2010), among these three dimensions (vocabulary size, productive vocabulary, and lexical fluency), only vocabulary size has a generally accepted definition that can generate standardized tests capable of measuring vocabulary knowledge.

However, the author argues that the evidence from studies on vocabulary size has confirmed that lexical measurement can have a relationship with the CEFR levels with some degree of confidence, but it must be considered that the actual amount of vocabulary may depend on the language being tested and, perhaps, on the source of the words from which the tests were generated. For the author, the relationship between vocabulary size and the CEFR levels is sufficiently strong, despite the individual variables. This relationship is not just a matter of academic interest, and one of the most useful benefits of linking vocabulary knowledge to the CEFR is to add detail to the model that the CEFR already anticipates.

This study proposes to analyze the lexical development of students of Portuguese as a Foreign Language (PFL) as an indicator of improved language proficiency as they are being prepared to CELPE BRAS exam. Although the proposal is not to indicate the number of words that should be reached at each proficiency profile, lexical measurement is the main methodological approach of the study, which projects the profile of the participants' lexical knowledge based on valid words and non-repeated words they produced.

4 METHOD

This descriptive case study was conducted through a mixed-method evaluation of oral and written productions, following the psychometric research tradition in language teaching, which, according to Nunan (2006), involves research on gains in linguistic proficiency through different methods, materials, and treatments.

In this research, three simulations of oral and written tasks from the CELPE–BRAS exam were administered to two students of the Portuguese as a Foreign Language Course, part of the PEC Program (Exchange Students Program), at the State University of Ceará (UECE) in 2025: a 24-year-old Kenyan young man and a 19-year-old Beninese young woman. They began their Portuguese classes in February, with a daily workload of 4 hours.

The students were preparing for the CELPE-BRAS exam, which is normally held in October. Up until the end of the last data collection, which took place in July, they were still in the preparation period for the exam. The data was collected at the end of March, May, and July. The oral interviews lasted 5 minutes. They were recorded and transcribed. The written tasks lasted 50 minutes, including time to read the written text or listen to the news report and produce the required text.

The object of this research is the words produced by the two students in the three oral and written data collections described above. Daller, Milton, and Treffers-Daller (2007, p.2) emphasize that in studies dealing with word quantities, in addition to pointing out the

number of words produced (*tokens* – the total number of occurrences of lexical items), it is necessary to point out the number of different words that were produced (*types* – different words, the type, the distinct form).

In this study, words are considered based on the entries of headwords in a dictionary of the Portuguese language spoken in Brazil. Thus, for example, words inflected for gender and number, regardless of their grammatical class, are considered the same word. Homonymous words that are different parts of speech (such as *trabalho*, the noun, and *trabalho*, the verb in the first-person singular of the present indicative) are considered different words.

Lexical items, spoken or written, that have undergone some type of interference from the participants' native languages but can be understood by a native speaker of Brazilian Portuguese, are considered valid words. However, words that have no similarity whatsoever with the intended lexical item in Brazilian Portuguese in the oral or written production were not considered valid words.

According to Foster, Tonkyn, and Wigglesworth (2000, p.12), orally produced words are not considered valid for counting when they constitute phenomena recognized as dysfluency. Examples of such phenomena include repetitions, hesitations, reformulations, and word beginnings.

Regarding written texts, one situation that leads to the elimination of words considered valid is the copying (plagiarism) of an entire sentence from the source text of the written task. The words that make up this copied section are not considered valid for the count.

4.1 STATISTICAL CALCULATIONS USED IN THE ANALYSIS

For the quantitative analysis, multiple convergent tests were used. The following were used for oral data: Time Correlation Analysis, Regression Model (or Regression Analysis), and Page's Trend Test (Monotonic Trend Test). The following were used for written data: Kendall's Tau Test (τ), Spearman's Correlation (ρ), and Regression Model.

4.1.1 **Time correlation analysis**

This test checks if two things "go together" or behave similarly over time (Box, Jenkins, Reinsel, and Ljung 2015, p 430). In this study, it verifies whether the quantity of valid or **non-repeated words** changes predictably over time. In other words, if there is a direct and predictable relationship between time (the data collections) and the oral production variables (valid words and non-repeated words). That is, "as time passes, do valid words increase consistently?". The correlation, then, tells us how "synchronized" the changes in one variable (oral production) are with the changes in another (time).

4.1.2 **Regression model (Regression analysis)**

If correlation tells us if things 'move together', regression attempts to draw an imaginary 'line' through the data to predict how one thing might change based on the other (Hollander, Wolfe, and Chicken 2013, p.462). In this study, Regression Analysis (R^2) attempts to predict how oral production (valid/non-repeated words) behaves over time.

The Regression Model is applied to try to describe the relationship between time and oral production variables mathematically, and even predict how these variables may behave in the near future, if the pattern continues. The (R-squared) tells us how well time explains the changes in oral production. The goal is to get a complete picture: to know if there is a relationship (correlation), if that relationship shows a constant pattern of improvement (trend), and how that improvement can be described and perhaps predicted (regression).

4.1.3 **Page's trend test (Monotonic trend test)**

This is a tool that looks at a sequence of measurements (Collections 1, 2 and 3) and asks if there is a consistent trend of increase or decrease among them (Hollander, Wolfe, and Chicken 2013, p.304). The Page Test determines if there is a clear and constant trend of

improvement over the three collections. Is the learner consistently improving, or are the results just random? This test identifies if there is gradual progress.

4.1.4 **Kendall's tau test (τ)**

The Kendall Tau test is a non-parametric correlation measure that serves to measure the degree of association, or relationship, between two ordered variables, i.e., variables that participate in an ordering, such as: low, medium, high, without requiring the data to follow a normal distribution. The test attempts to indicate how much two variables increase or decrease together (Hollander, Wolfe, and Chicken 2013, p.393).

4.1.5 **Spearman's correlation (ρ)**

This is a non-parametric test used to measure the degree of association between two variables. It checks whether, as one variable increases, the other tends to increase or decrease, without requiring the relationship to be linear and without requiring the data to be normally distributed (Hollander, Wolfe, and Chicken 2013, p.427). It is used when the data are ordinal or when it cannot be guaranteed that the data have a normal distribution. More specifically when:
a) the data are put into positions (rankings) or can be positioned;
b) the expected relationship between the variables is monotonic, meaning one variable grows when the other also grows or decreases;
c) it cannot be assumed that the relationship is linear.

4.2 ORAL PRODUCTION EVOLUTION ANALYSIS

This analysis examined the evolution of oral production (valid words and non-repeated words) based on the results of the statistical calculations.

Tables 4 and 5 below present the collected data (valid words and non-repeated words) as a function of time (the speaking time that each of the three collections presented). The relationship between the lexical variables as a function of speaking time generated a result of spoken words per minute and a unique proportion that was calculated from the quotient generated by the relationship non-repeated words/valid words, per minute.

Student 1

Data collection	Spoken time	Valid words	Non-repeated words	Valid words/min	Non-repeated words/min	Unique proportion (%)
1	3'56"	152	72	38.6	18.3	0,47
2	3'10"	220	77	69.5	24.3	0,35
3	3'38"	284	125	78.2	34.4	0,44

Table 4: Raw numbers/time – Student 1 oral
Source: Author

Student 2

Data collection	Spoken time	Valid words	Non-repeated words	Valid words/min	Non-repeated words/min	Unique proportion (%)
1	3'15"	157	66	48.3	20.3	0,42
2	3'30"	240	88	68.5	25.1	0,37
3	3'08"	221	88	70.5	28.1	0,40

Table 5: Raw numbers/time – Student 2 oral

Source: Author

The numbers extracted, before the statistical treatment, show that out of the five minutes of duration of an oral collection, both spoke for about three minutes. Student 1's speaking time indices are higher, despite Student 2 having spoken for more time in the second collection. When crossing the speaking time with the quantity of valid words, it is noticed that the rates of valid words per minute are somewhat equivalent, suggesting that the students present an equivalent level of fluency. When it comes to the quantity of non-repeated words, Student 1 demonstrated higher numbers than Student 2, however the indices seem to be equivalent when considering the quantity of non-repeated words produced as a function of time. Despite this equivalence, an important piece of data emerged regarding Student 2, the same index of non-repeated words between collections 2 and 3, which may suggest the beginning of a lexical stabilization for Student 2. The tables end with the unique proportion data showing a certain similarity between the production of valid and non-repeated words as a function of time, on the part of the students.

4.2.1 **Main results**

The results presented here (Tables 6,7,8, and 9) indicate the degree of statistical significance obtained by the tests: Temporal Correlation Analysis, Regression Model (Regression Analysis) and Page Test (Monotonic Trend Test).

Student 1

Time Correlation	r = 1.000, p = 0.011	ok
Monotonic Trend Test	Page Test Z = 355.565, p < 0.001	ok
Regression Model	R^2 = 1.000, p=0.011	ok

Table 6: Valid words: significant – Oral – Student 1

Source: Author

Time Correlation	r = 0.906, p = 0.279	X
Monotonic Trend Test	Page Test Z = 146.977, p < 0.001	ok
Regression Model	R^2 = 0.820, p=0.279	X

Table 7: Valid words: non-significant – Oral – Student 1

Source: Author

In the variable 'valid words,' Student 1 obtained statistically significant indices: in the Temporal Correlation Analysis, indicating that the quantity of valid words increases proportionally and predictably with the passing of time; in the Regression Model, indicating that the increase in valid words behaves predictably and trend-like with the passing of time; in the Monotonic Trend Test, indicating that the progress in valid words is not random.

However, in the 'non-repeated words' variable, only the Monotonic Trend Test indicated that the progress in non-repeated words is not random. The Temporal Correlation Analysis index indicated a positive, but not perfect, correlation between the variable and time, thus, the Regression Model index suggests there is a possible predictable behavior for the increase in non-repeated words.

Student 2

Time Correlation	$r = 0.736$, $p = 0.474$	X
Monotonic Trend Test	Page Test $Z = 3176.988$, $p < 0.001$	ok
Regression Model	$R^2 = 0.542$, $p=0.474$	X

Table 8: Valid words: non-significant – Oral – Student 2
Source: Author

Time Correlation	$r = 0.866$, $p = 0.333$	X
Monotonic Trend Test	Page Test $Z = 1232.093$, $p < 0.001$	ok
Regression Model	$R^2 = 0.750$, $p=0.333$	X

Table 9: Non-repeated words: non-significant – Oral – Student 2
Source: Author

In both variables, 'valid words' and 'non-repeated words', Student 2 did not obtain a statistically significant index in the Temporal Correlation Analysis. The value indicates a positive, but not perfect, correlation between the increase of the variables and time. The Regression Model also did not indicate a significant index, but that there is a possible predictable behavior for the increase of valid and non-repeated words. The Monotonic Trend Test, in turn, obtained a significant index and indicated that the progress in valid words and non-repeated words is not random.

Tables 10 and 11 present a summary of the improvement indices per student, considering the variables valid words and non-repeated words, in a total manner and by collection, as well as the average quantity of words that increased per collection.

Student 1 Percentage changes

Valid words	+86.8% total improvement	collection 1 – 2	+44.7%
		collection 2 – 3	+29.1%
Non-repeated words	+73.6% total improvement	collection 1 – 2	+6,9%
		collection 2 – 3	+62,3%

Improvement per collection

Valid words: +66.0
Non-repeated words: +26.5

Table 10: Oral improvement summary – Student 1
Source: Author

The results for Student 1 demonstrate the practical relevance of the association between the variables (valid words and non-repeated words), as it is possible to observe an increase in the indices in each compared interval.

Student 2 Percentage changes			
Valid words	+40.8% total improvement	collection 1 – 2	+52.9%
		collection 2 – 3	-7.9%
Non-repeated words	+33.3% total improvement	collection 1 – 2	+33,3%
		collection 2 – 3	+0.0%
Improvement per collection			
Valid words: +64.0 Non-repeated words: +22.0			

Table 11: Oral improvement summary – Student 2
Source: Author

The results for Student 2, despite a negative index in valid words between collections 2–3 and a stagnation in non-repeated words also in the comparison between collections 2–3, still showed evolution in overall improvement, so it can be considered that such data also demonstrate practical relevance between the variables.

4.2.2 **Time**

Time (the number of collections) was a relevant variable in this study. Another aspect related to time was the duration of the speech. Each interview, simulating the oral task of the CELPEBRAS exam, lasted 5 minutes. This time includes, in addition to the participants' speech, the interviewer's questions and speech, as well as the pauses made by the student.

The indices presented in Tables 12 and 13 below highlight the pattern of evolution per collection and the temporal efficiency, considering the lexical variables based on the speaking time in minutes for both students.

Evolution Standard	
Collection 1 – 2	Primary focus on quantity (valid words +44.7%) Less gain in diversity (non-repeated words +6.9%)
Collection 2 – 3	Ballanced improvement Valid words: +29.1% Great gain in diversity: +62.3%
Timing efficiency	
Production index	Consistent improvement
Valid words/minute	38.6 – 69.5 – 78.2
Non-repeated words/minute	18.3 – 24.3 – 34.4

Table 12: Evolution per time – Student 1
Source: Author

The comparison between collections 1 and 2 for Student 1 shows that during this period there was a significant vocabulary gain, although the diversity of words did not keep pace with the number of valid words used orally. The comparison between collections 2 and 3 showed a balance of lexical gain, meaning Student 1 continued to demonstrate a vocabulary increase over time, and this characteristic was confirmed by the jump in the index of different words between collections 2 and 3. The raw numbers related to the variables, as a function of speaking time, demonstrate a consistent and constant lexical improvement in oral production.

Evolution Standard

Collection 1 – 2	Primary focus in quantity (valid words +52.9%) Higher gain in diversity (non-repeated words +33.3%)
Collection 2 – 3	Demonstrated stabilization Valid words: -7.9% No diversity: 0.0%

Timing Efficiency

Production index	Evolution, despite the decrease of speaking time
Valid words/minute	48.3 – 68.5 – 70.5
Non-repeated words/minute	20.3 – 25.1 – 28.1

Table 13: Evolution per time – Student 2
Source: Author

The comparison between collections 1 and 2 for Student 2 shows that during this period there was a significant vocabulary gain and their best moment in demonstrating the ability to use different words in their oral speech. The comparison between collections 2 and 3 showed a decrease in the use of words and the consequent stabilization of the use of different words. This fact may indicate a tendency towards lexical stabilization on the part of Student 2. Despite this, the raw numbers related to the variables, as a function of speaking time, show a timid, but constant, lexical improvement in oral production.

4.3 WRITTEN PRODUCTION EVOLUTION ANALYSIS

This analysis examined the evolution of the students' written production considering the variables: valid words and non-repeated words. The tasks lasted 50 minutes each, but the written production time was not considered.

Tables 14 and 15 below refer to the raw values of the words measured in each written text, considering the word exclusion criteria that were described in the methodology section. In general, these numbers show an increase for both students, mainly in the quantity of valid words. The non-repeated words show differences between the participants, with Student 1 maintaining the word index from the second to the third collection, while Student 2 showed a decrease.

Student 1

Collection	Valid words	Non-repeated words
1	127	60
2	236	113
3	254	113

Student 2

Collection	Valid words	Non-repeated words
1	92	76
2	151	97
3	157	79

Table 14: Raw numbers – Student 1 and 2 written

Source: Author

The values in the tables below considered a variation between collections 1 and 3 due to the number of collections and the quantity of variables (the production time variable was not considered). It is observed that the Total Variation of student 1 reached 100% in valid words and a considerable increase in non-repeated words (88.3%). Student 2, despite the timid evolution between collections 2 and 3, showed a variation of 70.7% in valid words and, even with the decrease in non-repeated words between collections 2 and 3, demonstrated a positive variation of 3.9%.

Student 1

Valid words		Non-repeated words	
Mean	205.67	Mean	95.33
Median	236.00	Median	113.00
Standard deviation	68.72	Standard deviation	30.60
Total variation (collection 1 – 3)	+100.0%	Total variation (collection 1 – 3)	+88.3%

Student 2

Valid words		Non-repeated words	
Mean	133.33	Mean	84.00
Median	151.00	Median	79.00
Standard deviation	35.92	Standard deviation	11.36
Total variation (collection 1 – 3)	+70.7%	Total variation (collection 1 – 3)	+3.9%

Table 15: Variation of written indices – Students 1 and 2

Source: Author

4.3.1 Statistical results

For the statistical analysis across the 3 collections, the Kendall Tau (τ) and Spearman's Correlation (ρ) tests were used. These tests measure the degree of association or relationship between two variables (valid words and non-repeated words) to indicate how much both variables increase or decrease together. Additionally, a Regression Model was used to determine if there is a possible predictable behavior for the increase of the variables. The calculated indices are presented in Tables 16, 17, 18, and 19.

Student 1 valid words

Kendall Tau:	$\tau = 1.0000$, p-valor = 0.3333
Spearman ρ:	$\rho = 1.0000$, p-valor = 0.0000
Linear Regression:	$R^2 = 0.8539$, p-valor = 0.2497

Conclusion: Significant growing trend

Table 16: Written valid-words indices – Student 1

Source: Author

The table above presents a statistically significant improvement in Student 1's written production of valid words. According to the Kendall Tau and Spearman indices, the valid words variable tends to grow along with the number of collections. The Linear Regression index ratifies this trend, indicating that there is a possibility to predict how the valid words variable might behave in future collections. Therefore, the conclusion for this variable is a significant growing trend for Student 1.

Student 1 non-repeated words

Kendall Tau:	$\tau = 0.8165$, p-valor = 0.2207
Spearman ρ:	$\rho = 0.8660$, p-valor = 0.3333
Linear Regression:	$R^2 = 0.7500$, p-valor = 0.3333

Conclusion: No significant growing trend

Table 17: Written non-repeated words indices – Student 1

Source: Author

The table above demonstrates that the 88.3% increase between collections 1 and 3 does not reach statistical significance in the written production of non-repeated words for Student 1. According to the Kendall Tau and Spearman indices, the non-repeated words variable shows a strong positive correlation, suggesting that the quantity of these words tends to grow along with the number of collections. The Linear Regression index indicates a strong prediction for the variable. However, the conclusion for this variable is a lack of a significant growing trend for Student 1.

Student 2 valid words

Kendall Tau:	$\tau = 1.0000$, p-valor = 0.3333
Spearman ρ:	$\rho = 1.0000$, p-valor = 0.0000
Linear Regression:	$R^2 = 0.8186$, p-valor = 0.2801

Conclusion: Significant growing trend

Table 18: Written valid-words indices – Student 2
Source: Author

Just like Student 1, the table above shows a statistically significant improvement in Student 2's written production of valid words. According to the Kendall Tau and Spearman indices, the valid words variable tends to grow along with the number of collections. The Linear Regression index ratifies this trend, indicating that there is a possibility to predict how the valid words variable might behave in future collections. Therefore, the conclusion for this variable is a significant growing trend for Student 2.

Student 2 non-repeated words

Kendall Tau:	$\tau = 0.3333$, p-valor = 1.0000
Spearman ρ:	$\rho = 0.5000$, p-valor = 0.6667
Linear Regression:	$R^2 = 0.0174$, p-valor = 0.9157

Conclusion: No significant growing trend

Table 19: Written non-repeated words indices – Student 2
Source: Author

The table above demonstrates that there is no statistical evidence of improvement in Student 2's lexical diversity throughout the 3 collections. The Kendall Tau index showed a weak associative tendency and the Spearman index showed a moderate positive tendency for the quantity of these non-repeated words to grow along with the number of collections. The Linear Regression index indicates that there might be a relationship between the collections and the increase in non-repeated words, but the number of collections is not enough to explain the modification of Student 2's indices. Thus, the conclusion for this variable is a lack of statistical evidence of improvement in lexical diversity for Student 2.

4.4 QUALITATIVE ANALYSIS

Among the indices that increase, remain stable, or decrease, there is interference from factors that were not considered, despite influencing the learners' production. Since their first moments in Brazil, the learners have faced situations that may have impacted their language acquisition, including their relationship with the culture, the environments, and the local people. However, the learners' native language remained present when they communicated with speakers of the same language, in person or remotely, or when they felt the interference of the native language system when producing in Portuguese.

Student 1, a Kenyan with Swahili as his native language and an English speaker, did not have any classmates who spoke the same languages. Although English is a lingua franca and he could find English speakers more easily, communication had to happen in Portuguese because the other students were speakers of Spanish, French, or Tetum. Student 2, a native of Benin and a French speaker,

shared the classroom with Francophone students. There was, therefore, the possibility of using the French language among them, which may have impacted the progress in Portuguese, as it would decrease the time spent using the target language.

This contextual difference in the use of the Portuguese language between Student 1 and Student 2 may account for the differences in the indices presented in the quantitative analysis, in which Student 1 showed greater oral and written lexical increases than Student 2, despite both demonstrating lexical improvement. This study aimed at the development of the construct of breadth (quantity) (Gyllstad, 2013), as the variables valid words and non-repeated words were measured.

Lexical breadth is a determining factor in oral assessment, according to the Face-to-Face Interaction Assessment Grid – Observer/Assessor (Brasil, 2020, p.50) of CELPE-BRAS, under the criterion of Lexical Adequacy. For this criterion, five parameters are indicated to guide the assessor, as Table 20 shows:

Lexical Adequacy

Level	Description
5	*Wide and appropriate vocabulary for discussing everyday topics and for expressing ideas and opinions on various subjects. Rare interference from other languages.*
4	*Wide and appropriate vocabulary for discussing everyday topics and for expressing ideas and opinions on various subjects. Some interference from other languages.*
3	*Adequate vocabulary for discussing everyday topics and expressing ideas and opinions on various subjects. Some interference from other languages, occasionally compromising the interaction.*
2	*Adequate vocabulary for discussing everyday topics, with some limitations that may interfere with the development of ideas. Some interference from the native language, causing some compromise to the interaction.*
1	*Inadequate and/or limited vocabulary for discussing everyday topics and for expressing ideas and opinions on various subjects. Frequent interference from other languages, causing frequent compromise to the interaction.*
0	*Very inadequate and/or limited vocabulary for discussing everyday topics and for expressing ideas and opinions on various subjects. Much interference from other languages, compromising the interaction.*

Table 20: Face-to-Face Interaction Assessment Grid – Observer/Assessor
Source: Brasil (2020 – Adapted)

It can be observed from the description of the parameters (from 0 to 5) that two factors are considered in the assessment of Lexical Adequacy: the size of the vocabulary and interference from other languages. The size, or breadth, varies between 'wide and appropriate,' 'appropriate,' 'appropriate with some limitations,' 'inadequate and/or limited' and 'very inadequate and/or limited.' One of the motivations for this study has been to describe how wide and how inadequate and/or limited this vocabulary can be, considering that there is no parametrization between the quantity of words one must know in the Portuguese language to achieve a certain level of proficiency, unlike what Milton (2010) proposed for the English language.

The indices described here demonstrate the condition of the student's lexical ability so that oral and written tasks can be resolved with some level of success. Certainly, the students who participated in this study do not know only a few dozen words in the Portuguese language, but they manage to turn the words they do know into a productive lexicon.

The concept of production and reception proposed by Nation (2001) is appropriate for the reality of the students' lexical production. Regarding form, the lexicon produced in written and oral form represents the words whose structures are known to the students, including their affixes, endings, and inflections. Few words were excluded from the analyses for not conforming to the form of the

Portuguese language, all produced by Student 1: (DIMUNIZADO, ABROU, PRENCHADO, COMENCAR, POSSIBILE, GAVALO, ILASTRÃO, PROVIDIR, ENVIROMENTO).

The fact that only Student 1 produced words that disobey the formal rules of the Portuguese language may be an indication of the influence of their mother tongue (or of the English language, which is very present in the daily life of Kenyans), but it may also indicate their propensity to take risks when producing orally or in writing (Swain, 2005), without much influence of self-monitoring (Krashen, 1985).

Regarding meaning, the words produced evidenced that the students knew how to adequately use the meaning within the context, the possibility of the lexicon referring to contextual elements and associating with the words used. Practically all the words used maintained their basic meanings in the Portuguese language; they did not use metaphors or figures of speech to refer to textual elements.

Regarding usage, the students demonstrated using words according to their grammatical functions, contextual collocations, and usage limitations. However, their productions showed that, over time, the lexical evolution of both did not happen in an analogous way. The excerpts below were taken from the oral data. The comments that follow them show that Student 1, in fact, maintained a greater tendency for lexical evolution that facilitates their production, while Student 2 seems to tend towards an early stabilization.

The examples below illustrate the evolution of the relationships between words in Student 1's productions.

Collection 1:
(2') É...para mim, eu procurar mais itens e tecnologia e... por exemplo...por exemplo... é...celular... é... cargador... é... smartwatch...é... tá...itens tecnologia, é... meu favorito (2'30"). (Oral information)

Collection 2:
(2'40") Eu prefiro comprar em lojas físicas porque... porque é... lojas físicas eu ... é é possibile eu vir o produtos... a... anteriormente é... eu comprar produtos (3'05"). (Oral information)

Collection 3:
(56") A... sim... acho que tem impacto no vida de todo mundo... porque o desmatamento vai afetar o clima de qualquer lugar que você mora, vai afetar a alimentação porque a... as pessoas depende muito nos... árvores... para providir a... alimentação... a... para providir madeira para construir casas... coisas assim... então... eu acho depende de lugar, mas todo mundo vai sentir o efeita de desmatamento (1'39"). (Oral information)

The excerpt illustrating Student 1's first oral collection shows that, despite difficulties with verb and gender inflections, the semantic relationship between the words used is well-applied, even though the use of prepositions and conjunctions also eludes them. In the second collection, the inclusion of conjunctive elements is noticeable, despite imperfections in the use of verbs. The third collection's excerpt illustrates that interferences from the English language persist, such as gender inflection errors and the ellipsis of 'que' in 'eu acho depende' ['I think depends'], but there is more use of sentences joined by prepositions and conjunctions, as well as the use of the future formed by 'ir' followed by an infinitive, as a strategy to avoid verbal conjugation, something that Brazilians do naturally.

The examples below illustrate the evolution of the relationships between words in Student 2's productions:

Collection 1:
(3'39") Às vezes... as pessoas não... compram os vestidos... eu não sei porque... eu não sei o que mais, eu acho que pode ser hum... é não... da conferência das pessoas... ou... às vezes... quando ela... ela faz... hum... quando ela com... quando ela compra ou ela pre... ela precisa de comprar os vestidos, ele não chega no tempo que ela, ela quer (4'35"). (Oral information)

Collection 2:

(6'43") Na minha opinião é porque a primeira é conscientizar as crianças sobre … os papels da rede social. e também os país da criança também pode ficar com as crianças quando eles tava usando a rede social… para ver como as crianças usava a rede social. (7'19"). (Oral information)

Collection 3
(2'28") Eu tenho uma relação muito boa com a natureza... e para mim, eu não gosto muito de... desa... desmatamento porque é, pra mim é... coisa muito... impactos negativo na natureza... então eu não gosto disso. Eu prefiro... a... uma natureza... que não morta... eu prefiro... uma lugar... tipo de planta e... prefiro a preservação da natureza. E você, qual é, qual é a relação de você com a natureza? (3'24") (Oral information)

The primary characteristic observed in Student 2's production regarding the use of productive words, as proposed by Nation (2001), is the utilization of more mutually well-employed words, making the discourse more fluid, with fewer repetitions, especially when discussing a topic that seems more comfortable for her. The excerpt from collection 3 was the longest moment in this task but featured significant repetition of words and inadequate usage constructions stemming from false starts ('para mim é... coisa muito... impactos negativos na natureza' ['for me it's... very thing... negative impacts on nature']) or a lack of words in more complex constructions, such as the need for a subjunctive in 'eu prefiro ... a ... uma natureza ... que não morta' ['I prefer... a... a nature... that is not dead']. The quantitative data suggest a timid evolution from Student 2 regarding lexical usage. This result may have been impacted by the textual genre of the elicitation element in collection 3, a cartoon, with less written text to support oral production. However, the performance in this task still demonstrates signs of language acquisition.

The qualitative analysis of the study sought to show in some productions what the numerical indices pointed out, an evolution in the lexical breadth of the participants in their productions, even if unequal between them. This inequality tends to point to a constant evolution for Student 1, while Student 2 may be heading toward a process of stabilization of the Portuguese language, but the topics on which he was instigated to produce may have influenced her performance. Furthermore, this analysis tried to contribute to the description of a profile of a learner of Portuguese as a foreign language, immersed in Brazil, who will take a proficiency exam in this language, highlighting his capacity for lexical use in oral and written tasks.

5 CONCLUDING REMARKS

This study analyzed the lexical development of Portuguese learners in an immersion setting. Over seven months, the two participants, who were preparing for the CELPE BRAS exam, completed three oral and written activities that simulated those they would encounter in the exam. The texts produced in these tasks were transcribed and generated the data analyzed in this study.
The quantitative oral analysis of Student 1 showed that, regarding the variable of valid words, the indices are statistically significant, indicating that the quantity of valid words increases proportionally and predictably over the three collections. Concerning non-repeated words, the indices indicate that the progress is not random; however, the increase in the use of non-repeated words did not show a statistically significant index considering the time variable, which indicates that the increase is only predictable.

Regarding Student 2, the quantitative oral analysis showed that in both variables, valid words and non-repeated words, statistically significant indices were not obtained, considering the increased use of the words as a function of time. Although the increase was characterized as non-random, there is a possible predictable behavior for the increase of both variables.

The quantitative written analysis of Student 1 indicated a statistically significant improvement for valid words. They tended to increase with the passage of the collections, and there is a possibility of predicting how they may behave in future data collections. The variable of non-repeated words did not show a statistically significant tendency for improvement over time. This tendency was characterized as positively strong (but not certain).

Regarding Student 2, the quantitative analysis of the written data for valid words was similar to that of Student 1; that is, there was a statistically significant improvement for valid words, which tend to increase over the collections, just as there is a possibility of

predicting how they may behave in future collections. The variable of non-repeated words did not show statistical evidence of improvement, indicating a weak tendency for the increase of these words in future collections.

Qualitatively, the increase in the quantity of valid and non-repeated words demonstrates that the construct of lexical breadth is, without a doubt, impacted in immersion contexts, as learners acquire new vocabulary. The increase in the use of words in oral and written texts appears to have been influenced by the topics of the tasks to which the participants were subjected.

Despite this contextual influence, the participants were able to demonstrate a profile of acquisition through the analysis of the lexical increment. Student 1 appears to be following a tendency toward evolution in the language. After seven months in immersed contact with Portuguese, he tends to continue adding new lexical items to his repertoire. On the other hand, Student 2 appears to be entering a process of lexical stabilization, in which his Portuguese language repertoire seems to be the one that will be used to solve the communicative tasks that arise in his trajectory as a speaker of Brazilian Portuguese.

Overall, this study pointed to lexical improvement in immersion, and despite not having controlled for contextual variables present in the tasks completed by the participants, it brings to light the possibility of an individual in immersion continuing their lexical improvement, but it also does not exclude the possibility of lexical stabilization, which will cause the new language speaker to use a limited number of words in solving their activities where language production is required.

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