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Exploring SL Writing and SL Sensitivity during Writing Tasks: Poor and Advanced Writing in a Context of Second Language Other than English

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***Abstract*—**This study integrates a larger research empirical project that examines second language (SL) learners' profiles and valid procedures to perform complete and diagnostic assessment in schools. 102 learners of Portuguese as a SL aged 7 and 17 years speakers of distinct home languages were assessed in several linguistic tasks. In this article, we focused on writing performance in the specific task of narrative essay composition. The written outputs were measured using the score in six components adapted from an English SL assessment context (Alberta Education): linguistic vocabulary, grammar, syntax, strategy, socio-linguistic, and discourse. The writing processes and strategies in Portuguese language used by different immigrant students were analysed to determine features and diversity of deficits on authentic texts performed by SL writers. Differentiated performance was based on the diversity of the following variables: grades, previous schooling, home language, instruction in first language, and exposure to Portuguese as Second Language. Indo-Aryan languages speakers showed low writing scores compared to their peers and the type of language and respective cognitive mapping (such as Mandarin and Arabic) was the predictor, not linguistic distance. Home language instruction should also be prominently considered in further research to understand specificities of cognitive academic profile in a Romance languages learning context. Additionally, this study also examined the teachers' representations that will be here addressed to understand educational implications of second language teaching in psychological distress of different minorities in schools of specific host countries.

***Keywords*—**Second language, writing assessment, home language, immigrant students, Portuguese language.

I. Introduction

THIS current research in the field of second language (SL) is going in multiple ways that do not encourage consensus concerning assessment procedures and general understanding of the cognitive and academic proficiency of SL learners. We maintained that one of the main arguments is related to the type of target language education. Studies worldwide have been centred, in the last two decades, firstly on English as a SL and as a foreign language, and secondly on studying learning issues of other SL languages, such as Chinese and Spanish. The SL learning process is of upmost importance to understand the profiles of school immigrant populations and their achievement. This question leads to other crucial effect: the teaching methodologies in specific SL that are not English. There are several materials and teaching tools for learning English as a second language that cannot be transferred to the learning of other languages, such as Romance languages. The Portuguese idiom is widely present in classrooms worldwide, especially at universities, as a second or foreign language. In the last decades, enrolments in Portuguese foreign language courses have increased, after languages such as Spanish, Japanese, Chinese, Russian and Italian [1]. Our concern is the second language context. Teaching methods in the context of Romance languages are not well known and assessment instruments need to be validated to enable successful learning in young students with migratory experience. The core objective is to provide tools and scientific knowledge to promote the academic stability and involvement of minorities (new writers in SL), and also new knowledge for educational professionals and the research community.

School involvement implies that students have the cognitive and emotional predisposition to activate the teaching effect. Second language learning demands other type of attitude mainly related to cognitive adjustments and emotional adaptation. Careful and comprehensive instruments at a first phase of assessment are mandatory, but materials should be developed concerning not only specific differentiated levels but also the diversity of language speakers in the classroom. Variety of home languages, different ages and several exposures to SL will determine performance in a linguistic context. That variability should be included in the scientific rationales that underlie the production of instruments for evaluation and intervention in schools. Standard benchmarks are not the only benefit, and other criteria should be included to enable the various school populations to understand the results and ensure their placement at right settings, inside school, based on the scientific predictors obtained.

This empirical study intends to develop a diagnostic test of 15 tasks to be administered to heterogeneous groups of immigrant students, and to provide an explanation of their academic performance and cognitive processing strategies that can be predicted based on this empirical application. In addition, we are committed to disseminating materials and instruction that promote a sort of "pan-European forum", sharing knowledge and instruments with the European research community and schools. In this article, we focused the writing performance on the specific task of narrative essay

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composition. The measurement for the written test was based on the following elements: linguistic vocabulary, linguistic grammar, linguistic syntax, linguistic strategy, socio-linguistic, and discourse. These elements were adapted from Alberta Education tools (English Second Language Testing) applied to the writing assessment, considering different levels of education. The relevance of writing processes and strategies used by different immigrant students, in the Portuguese language, was perceived across a variability of authentic texts performed by SL writers, noticing specific features of comprehensibility and intelligibility. The hypotheses of this study are grounded on the impact of grades, previous schooling in the country of origin, home language type, instruction in the first language, and exposure to Portuguese as a Second Language. Based on our results, further studies in SL research should address with more prominence the impact of home language instruction to determine rationales that predict achievements, in basic and high schools, of expected cognitive academic profiles in Romance languages as a learning goal.

A. Similarities and Cross-Transference: The Case of Romance Languages and "Linguistic Distances"

According to [2], research in second language domain is dual: "linguistic-cognitive" and "socio-cognitive" or "socio-cultural", differentiated by quantitative and qualitative methods of analysis. In the first model - linguistic-cognitive – however, there are few data concerning Romance languages' (as second languages) learning and the effects of home languages in SL learning. Emotional and social availability is more linear to understand irrespective of the diversity of immigrant students, but linguistic and cognitive implications need to be observed in-depth. Reference [2] concluded that both types of research have advantages, sharing new evidence and methods gathered from one another. Additionally, we believe that education and SL research will benefit if scientific communities become more cohesive, working in their specific issues with similar traits. The European educational systems, particularly of Romance and Germanic languages speaking countries, should be aware of the lack of resources, which implies that few European countries are able to be in the frontline of education of new languages. English speaking countries have more resources for teaching and assessment than other Romance language speaking countries. More attention should be paid to Romance languages, such as Portuguese, Catalan and Italian, given that numerous SL learners are learning them in schools. The phonetics of these languages' systems has more amplitude, which enables native speakers to be more comfortable when learning new (even opaque) languages. On the contrary, Romance languages' beginners with different home languages (such as English or Urdu) struggle to decode and comprehend the phonetics and phonology of a Romance language like Portuguese. If, according to [3], diversity of style and rate in speaking affect SL vocabulary learning, we do not agree with the assumption that amplitude (in phonetics) has no impact on English native speakers' SL acquisition .

Phonetics is strongly related to the writing skills of SL learners in Romance language settings. Considering the phonological system of the Portuguese idiom, the sound system is deeply complex, mainly regarding the vowels' characteristics. The Portuguese writing system has a transparent feature that enhances its acquisition by other Romance languages speakers. The same does not apply to speakers of languages whose origin is other Indo-European or no Indo-European families, such as Indo-Aryan or Afro-Asiatic idioms. Studies comparing language speakers in a second language learning situation are less recent, because the references that we found in literature date essentially to the 70s and 80s. Reference [4] focused on the contributions of previous research in contrastive analysis that explained the cross-transfer between languages, such as Spanish, Russian and English. In the past decades, contrastive analysis focused upon the omissions of words in sentences, and authors realized that the explanation for Russian speakers' omissions could not be applied to the errors made by Spanish speakers. Moreover, the analysis of incorrect answers is different or irrelevant regarding the mistakes made by monolingual speakers. Reference [4] also mentioned the importance of the "universal tendency" that trade languages (such as Creole) have to generate simplicity in language communication, but which involves development of language acquisition. Creole speakers learning Portuguese as a second language deserve further study because students from African countries where Portuguese is the official language, as shown in [5], make severe errors in linguistic performance during assessment. Compared to other language speakers, Creole speakers are expected to have serious deficits in writing production for reasons that might explain Creole speakers' errors but these reasons are not the same that may explain other speakers' limitations in writing. Cross-transfer requires further research focusing on the specificities of home languages and trade languages.

Students with different home languages operating in Romance language systems develop specific profiles that offer new insights for educational practitioners and researchers, encouraging them to respond according to each 'type' of student. Assessment should be highlighted as the first step of observation. Reference [7] ascertained recently that decoding structures and meanings would be possible for specific different language learners, such as Chinese students, if they could associate, through cognitive strategy, grammar principles never heard or learned through training (mainly with visual stimuli) and not through proficiency or great exposure: the "meaning-to-form" and "form-to-meaning" model. This is also related to the interdependence model, a theory developed in the 90s and precisely verified in Portuguese students learning English [8] in Canada: Portuguese students were struggling with reading readiness but performed well in specific English tasks due to transference and interdependence hypothesis. Portuguese speakers master complex systems (due to their native Portuguese language) and are aware of grapheme-phoneme conversion rules, which facilitate (predict) the transference to, and decoding of, opaque languages, such as English. Other

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factors that should be involved include cognition (the strategies that mother tongues provide since birth) and neural structures. However, testing that processing and those factors is the central problem.

According to [9], individuals with migratory experience are not all in the same situation (several levels of proficiency are verified, as well as different prior knowledge and school background) when it comes to starting second language learning. Immigrants come from countries that might be an important variable to predict the rhythm of SL learning at schools in the country of destination: home language (L1). Certain students from Western European countries or East Asia would be expected to have less ability and more difficulty attaining several school goals. . Depending on different geographical areas of origin, family languages are very different in phonological and writing systems. Reference [9] refers to English speakers as being more comfortable acquiring Western European languages than languages from Asia. Regarding the Portuguese language, the scenario is similar, but the Portuguese writing system is more difficult than the English appears to be at a first sight for foreign individuals. Reference [9] conducted an interesting study about linguistic distance and its effect in the choice of country of destination by immigrants around the world. Another effect studied was linguistic distance in new learning of a dominant language. Hebrew and Arabic are, for example, closer languages and learning is facilitated in these cases by the expected similarity between languages, despite the fact that the oral resemblance can mask the difference between the two writing systems. Based on the goal of linguistic distance measurement, symmetry was evaluated and indexed to compare languages and their levels of learning difficulty after weeks of training (based on previous studies and respective evidence organizing the index [9]). Authors [9] concluded that English is more difficult to be acquired by Japanese and Mandarin speakers, the Norwegian and Swedish being the least distant from English, attaining higher scores of proficiency after specific and similar periods of formal instruction. Difficulty to learn Portuguese and other Romance languages could be also investigated using the same methodology and measures. Interestingly, Mandarin speakers performed quite well comparing to other speakers in our tests [6], whereas in specific tasks other than writing, Romance language speakers had similar or lower scores compared to Chinese students.

B. Variability of Measurement and Assessment Issues in SL Writing

SL writing is part of the major process of SL learning (formal instruction) and acquisition (incidental exposure), which requires specific measures validated to address parts of that learning. Reference [10] began his study on the validity of language measures in SL settings, realizing that analysis of errors could inform research about students' writing production, as well as about their cognitive processes during writing. Assessment and measurement are an important mark of SL investigation and writing samples inform about cognitive strategies and developmental stages of different immigrant speakers. Considering the cognitive processing, in more in-depth analysis neurophysiological processing became, mostly since the 90s [16], a research issue of upmost importance for observing, through EEG techniques, how SL learners and bilingual learners have different neural processing from monolingual learners, and the extent to which this has implication in the educational context [13]-[15]. There is an increasing number of studies currently analysing event-related brain potentials to explain the verbal behaviour and transference strategies of second language learners. In the fields of neuropsychology or Education, the intent is to observe behaviours in reading and writing sentences, detection of semantic and syntactic violations, and vocabulary selection. Delays related to exposure are important predictors of specialization in language processing [13]-[16]. Reference [17] found, using meta-analysis research, that there are similarities to be taken into account between native speakers and second language learners regarding the decoding process and sensitivity to violations and ambiguity in grammar and syntax. Reference [19] found that late learners could experience delays processing information in a second language, which is not entirely justified by lack of proficiency. How could this be used to explain writing in SL?

More than neuroimaging studies, it is important to observe the quality and quantity of errors. This is the educational research practice. In recent years of study of SL writing, as well of general writing not only restricted to SL, the main approach is related to writing processes and not to "error-free sentences" [10] p. 3. Process-oriented research is centred on idea generation and text editing, after intensive correction feedbacks. However, we consider that authors perspective [10] on the specific area of SL writing area is a contribution to understanding writing processing through accurate evaluation measures. Reference [10] analysed several measures developed in past decades and the evaluation and score methods adopted. Counting or classifying errors, what is the most productive? Descriptive studies measured writing samples with short and long pieces of authentic texts produced by SL learners and developed intra-rater and inter-rater reliability knowledge about the measures used. On the one hand, we concluded that counting errors in word endings, use of articles and prepositions, word usage (discourse analysis), tense, error frequency, syntax maturity, average of vocabulary, and code-switching are the aspects that should be observed to code the writing ability of SL learners. On the other hand, error-counting should be carefully considered when populations are heterogeneous, which demands more accurate measures with more classification indexed. Classification differs from counting errors and might be more expansive to explain types of errors and absences, as well as ambiguities that obscure intended meanings and "awkward phrasing" [10]. For example, in the classification option, types of word-errors related to number or gender are not analysed as an emergent difficulty in processing. They are surface errors, as adopted in our classification to codify errors in Portuguese SL written texts. Measuring scores and the length of samples are

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limitations observed in this area. Authors of new tests on SL writing should provide complete information of results and reliability indices.

Despite classification and tests consistency, investigation on writing skills development of SL learners showed that the main research questions are addressed inside classrooms, testing which resources would be time-savers to the teacher [11], or in longitudinally studies, mostly ascertaining how students use strategies and make improvements after successive correction of their errors in text production [12]. From other perspective, our main focus is to analyse types of errors and to understand writing production and principles of acceptability (grammar level, for example) in an assessment context, not only considering classroom work between teachers and students. Reference [12] analysed the effect of feedback on SL students and observed that previous studies achieved positive results between the successful learning and correction feedback over a period of time. And to what extent first language (L1) would be a variable for second language writing? Reference [18] studied how translation differs from composition during the writing production task for Japanese SL learners, as they activate L1 processing abilities when thinking in SL. Lower performers tend to use translation techniques, whereas good writers make more efforts and experience more interference errors until achieving better writing productions. Direct writing (with translation strategy) did not enhance the quality of writing and showed to be based on oral exposure to SL only. Interference between languages is not related to interference between written and oral texts exposure (taking into account incidental exposure or formal instruction as variables). Grammar accuracy in the written texts of students as SL learners is dependent on composition strategies that demands thinking process over word-order rules, and is not based on oral cues that could generate misconceptions about word and semantic features in the target language [18].

In Europe we have a diversity of language identities (Romance, Slavic, Germanic, Turcoman languages) and there is no knowledge of specific diagnostic testing (only benchmarks for guidance) for European countries concerning the school population with migratory experience. Certain countries and their educational systems (such as Austria and Germany [6]) seem to be more prepared to support second language learners (English language learners) with reliable benchmarks and tested models, such as those found in American and other literature on resources and tools: Alberta Education, Teachers of English to Speakers of Other Languages (TESOL), Test of English as a Foreign Language (TOEFL), Diagnostic English Language Needs Assessment (DELNA), and [19], among other sources. Based on their specific standards and landmarks, we adapted tests and guidelines to our current scientific research (diagnostic test) applied to Portuguese immigrant children and adolescents. In the Portuguese scenario, we have tests from the Ministry of Education that are adopted by schools, under no supervision, to observe levels of proficiency of young second language learners, but those tests are not validated and they are not well used by teachers and students. We believe that there is a similar lack on tests for immigrant young students from Ministry of Education of other European countries. In this paper, we present innovative results concerning a specific diagnostic writing test applied to Portuguese second language learners, arguing about discriminatory profiles of speakers and discussing predictors and implications for proficiency and academic achievement, in addition to implications for new directions of SL research, mainly in European scientific contexts.

II. Methods

A. Participants

102 students of Portuguese as a second language, age average = 13 years (SD= 2,7), attending grades from 3 to 12 are selected. Almost all students were born outside Portugal (only 10 were born in Portugal but emigrated before schooling) and first school instruction took place mainly in their native countries. All students came from lower to middle socioeconomic backgrounds (we have identified all the current jobs of parents/tutors). Only Mandarin speakers received first language instruction in Portugal, offered as an addition to the regular school curriculum. There were no disabled individuals and mostly were right-handed (laterality was identified). All of them attended schools in the same geographical area: Lisbon.

With regard to nationalities: China: 23; Brazil: 1; Ukraine: 5; Romania:5: São Tomé and Príncipe: 3; India: 3; Guinea: 5; Moldova: 15; Morocco: 1; Nepal: 5; Gabao:1; Russia: 7; Kazakhstan: 1; Angola: 3; Uzbekistan: 2; Pakistan: 2; Cape Verde: 3; Colombia: 3; Germany: 1; Cuba: 1; Israel: 1; Ecuador: 1; Bulgaria: 1. 23% came from China, the most representative nationality in this study group. As for mother tongues, 28 languages were observed. We categorized them according to language families: 31 speakers of Mandarin, 30 speakers of Romance languages, 14 speakers of Slavic languages, 11 speakers of Creole languages, 10 speakers of Indo-Aryan languages, 2 speakers of Afro-asiatic languages.

Arrival date: 14 students arrived in the interval 2001-2005, 19 in the interval 2006-2009, 54 in the interval 2010-2014. 85% arrived in more recent years. Proficiency levels: the schools informed about the proficiency level of each student but only a few evaluated them according to the European Common Framework for Languages (2001). 21 out of 102 were informed: 8 were identified as A1 level, 10 as A2, 1 at B1 and 2 as B2.

B. Instrument

Fifteen tests constructed in a Diagnostic Test (battery) in a validation process, in the research context of a post-doctoral project. The collection of data in Portuguese schools scheduled for 2014 began in May 2013. The main target of this diagnostic test was reading, writing and comprehension skills. Oral production was not evaluated. This assessment study was constructed on the following selected levels: verbal analogy, phonetics perception, foreign accent, story recall, cognates, morphological manipulation, and transference. The

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questions format was short and open-ended, also with a scale format. All answered in writing. We report preliminary data of the writing test based on a sequence of three images and descriptors in Fig. 1 [20].

Scoring: the written responses were measured considering linguistic vocabulary (lexicon used: utility, descriptive, subject-specific, academic words), linguistic grammar (evidence of verbs and respective tenses, plurals, prepositions, articles, adverbs; domain over word order and morphemes' characteristics, and also subject-verb agreement and awareness of variety of word forms), linguistic syntax (cohesion, simple or complex sentences), linguistic strategy (spelling and association with oral pronunciation), socio-linguistic (relating texts and images to own feelings and states of mind, use of templates with less or more detail), and discourse (connection of ideas and events with time and sequence markers). We measured all components based on a scale of 0: non-proficient, 1: elementary level; 2: satisfactory level; 3: proficient level. Considering the criteria of the sample selection, very few students were expected to be in the last level. The total score for the six dimensions (proficient) was 18, which corresponds to level 3 (proficient level). For example, a score of 6 (classification frequently observed in this study, 1 attributed for each dimension) corresponds to 1 (elementary). Cut points will be further investigated for refinement (the scientific community and schools will be informed through the electronic repository that will be developed in the second phase of this project, after the empirical study at schools) considering the total score and cut-offs of the 15 tests.

C. Procedure

Students were tested individually in the Portuguese language for approximately 60 minutes. Examinees were given several booklets to visualize and answer. The tests battery were administered as from May 2013 in schools, after the authorization of the schools' administrators and after concluding the selection of immigrant population that met the main criteria (7-17 years old, immigrants or with no schooling experience in Portugal before emigration, with language proficiency between A1 and B1 levels – European Common Framework - considering Portuguese language, diversity of languages spoken, state school students). All prompts were disposed on paper and on a computer screen one at a time, to listen and register the sounds and texts. The answers' format varied according to each task and few exercises presented Likert scales. The specific task – writing composition – addressed in the results section had a short question format. Participants received no feedback after the experimental trial. Schools will receive information about this study at the end of the empirical investigation. School practitioners and researchers will be introduced to the guidelines of the total rating and respective written rationales to handle a number of scoring challenges (the coding of incomplete answers to a task, different correct options for questions scenarios, counting errors, and classification of errors will be established). All data were treated with the SPSS program (version 21).

D. Results

The reliability of the writing test with regard to the six dimensions as components showed a Cronbach's alpha of .95, confirming the high internal consistency of this task.

Based on percentile analysis, using SPSS, we examined how discriminated the second-generation immigrant school children and adolescents of our sample would be, according to specific variables: grades, previous schooling in country of origin, home language type, instruction in the first language, and exposure to Portuguese as a Second Language. We summarized the results by estimating 2 positions with the percentiles (P) 25 (low-performers) and 75 (high performers). Considering the P25, we identified proficiency deficits in specific groups of SL writers. The below P25 was expected to find serious limitations that identify students at risk in second language acquisition, specifically in narrative writing. For all the other tests of the diagnostic battery (not reported here), the estimation of percentiles, in the first phase of inferential statistics, will be further conducted to determine differentiated profiles of SL learners.

E. Samples of Writing

According to Alberta principles in SL testing and to Alberta K-12 English Second Language Proficiency Benchmarks [20], [21] educational practitioners would benefit from authentic samples of students' writing for their own understanding of the writing competencies and deficits that specific students might have. In this current study, we intend to present a few examples of written texts from several language speakers' profiles. We followed the instructions of the Alberta samples index and the evaluation rationale to achieve the definition of standards and specificities of writing in Portuguese as SL was the ultimate goal of this project. Fig. 1 shows seven samples of the different performances in that order: Arabic, Mandarin, African Creoles (Guiné), Indo-Aryan (Urdu), Slavic (Russian) and Romance (Romaine) languages speakers in the Portuguese language writing composition evaluation task. The images' sequence was stated as the original test [20]. The text' length and sentence structures are very different and few editing was observed.

All samples indicate different word-errors and sentence constructions across the diversity of language speakers, which were analysed to determine expected writing profiles according to their samples of written texts and types of errors. Indo-Aryan languages' speakers showed less command of Portuguese language rules and their sentences and vocabulary features reflected deficits resulting probably from linguistic distance and cross-transferences. The time and sequence markers were mostly identified with simple conjunctions (with no variety) along with little occurrence of different tenses. Some morphological limitations were perceived, but, generally, subject-verb agreement was frequently accurate. Complex sentences were avoided, probably due to the limited proficiency of Portuguese grammar. Descriptive vocabulary was frequently detected.

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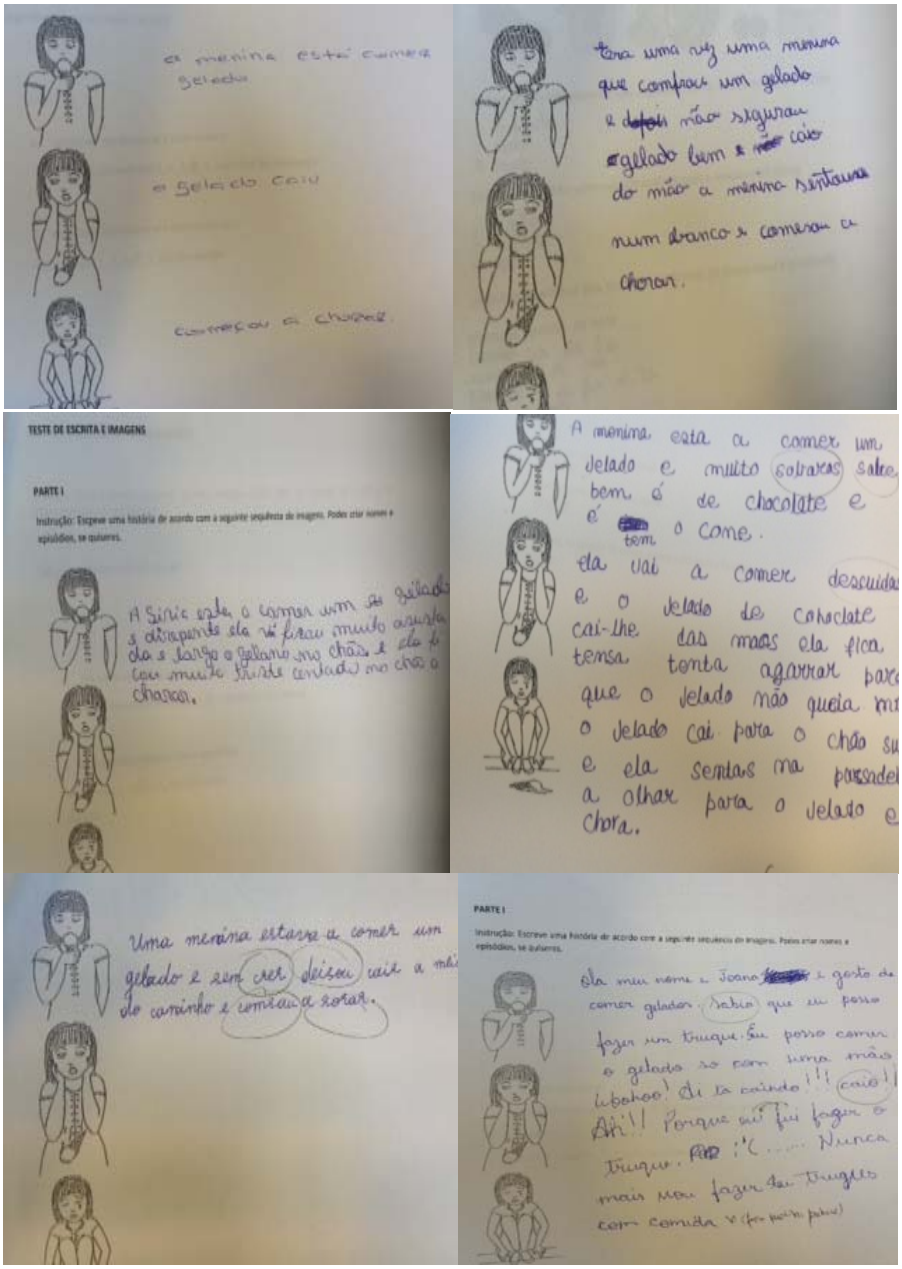


Fig. 1 Samples of writing from different language speakers

F. Writing Performance and First Languages

Hypothesis 1: Linguistic distance (different home languages among the participants' group) might explain difficulties in Portuguese in a second language context.

Considering preliminary data, speakers of Mandarin and of Afro-Asiatic languages (like Arabic) performed similarly (P25: between 5 and 6) to speakers of other languages such as Romance or Slavic, from Indo-European group. On the other hand, speakers of Indo-Aryan languages (a very representative sample in Portuguese schools, also expected in general European schools) showed problems in the writing task (P25: no correct answer was identified, no dimension was classified positively in the writing answers of those speakers). With regard to the percentile 75, Romance languages' speakers performed better than the Chinese sample.

G. Writing Performance and Instruction in Mother Tongue

Hypothesis 2: Instruction in a second language would have a positive effect on second language learning (and also bilingualism development).

Statistical tests (percentile estimates) confirmed that writing results were better in the group that received instruction in the home language (mostly Chinese students) in P25 and P75 (7.25 and 14.75 of the classification, respectively) compared to the group who declared receiving no instruction in the home language (P25: 6, P75: 11 of classification, see more detailed data on Table I).

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H. Writing Performance and Grades

Hypothesis 3: Better writing outputs are expected in higher school levels.

The percentiles obtained for Basic and High School (different groups inside Portuguese Basic School) showed that 1st cycle (3rd and 4th grades) had the highest performance in P25, with a classification of 7, even higher than high school students (6). There was more variety of writing results in the percentile 75 because the more advanced school levels showed better classification (1st grades with 9.75; high school with 18, the maximum, see Table II).

TABLE I
PERFORMANCE OF SL WRITERS ACCORDING TO HOME LANGUAGE INSTRUCTION

0	Instruction in home language (no)	Percentiles	
	N	Valid	76
		Missing	5
	Mean		8,47
0	Std. Deviation		4,591
	Percentiles	25	6,00
		50	7,00
		75	11,00
	Instruction in home language (Yes)		
	N	Valid	8
		Missing	8
	Mean		11,00
sim	Std. Deviation		4,000
	Percentiles	25	7,25
		50	10,50
		75	14,75

From another perspective, considering the years of schooling in the countries of origin, these immigrant students showed differences that should be outlined. Students with no schooling experience in their home country performed better in P25 (7.5) and P75 (13) than others exposed to Portuguese school instruction only (with a classification between 4.25 and 6 in P25. Similar values were found in those who were exposed to schooling and those who started their education in Portugal with regard to P25, with the exception of high schools students who produced narratives that attained a higher score in P25 (13 points), but the same score (13) in P75, the same as the grade obtained by the group who started schooling in their countries of origin.

I. Writing Performance and Exposure to Second Language

Hypothesis 4: Less exposure to second language generates more constraints for new language learning.

Three intervals (2001-2005; 2006-2009; 2010-2014) were considered to organise students since their arrival to Portuguese schools. With regard to the writing task, there was no difference in the three groups in percentile 25 (they had the same classification: 6, see Table III). Differences were only noted in the highest percentile (75), showing that students with medium (in the second group) exposure to Portuguese language had the highest score (15).

TABLE II
PERFORMANCE OF SL WRITERS ACCORDING TO HOME SCHOOL LEVELS

School levels and experience			Percentiles
No previous schooling in home country	N	Valid	9
		Missing	2
	Mean		10,22
	Std. Deviation		3,073
	Percentiles	25	7,50
		50	10,00
		75	13,00
1.st Cycle (Basic School)	N	Valid	10
		Missing	5
	Mean		7,90
	Std. Deviation		4,818
	Percentiles	25	4,50
		50	7,00
		75	13,00
2.nd Cycle (Basic School)	N	Valid	12
		Missing	0
	Mean		7,08
	Std. Deviation		3,528
	Percentiles	25	4,25
		50	7,00
		75	10,00
3. rd Cycle (Basic School)	N	Valid	11
		Missing	2
	Mean		12,45
	Std. Deviation		7,005
	Percentiles	25	6,00
		50	16,00
		75	17,00
High School	N	Valid	1
		Missing	1
	Mean		13,00
	Percentiles	25	13,00
		50	13,00
		75	13,00

TABLE III
PERFORMANCE OF SL WRITERS ACCORDING TO EXPOSURE TO PORTUGUESE SL

Arrival dates			Percentiles
2001-2005	N	Valid	12
		Missing	2
	Mean		9,33
	Std. Deviation		4,697
	Percentiles	25	6,00
		50	8,00
		75	12,50
2006-2009	N	Valid	15
		Missing	4
	Mean		9,80
	Std. Deviation		5,621
	Percentiles	25	6,00
		50	10,00
		75	15,00
2010-2014	N	Valid	49
		Missing	5
	Mean		8,00
	Std. Deviation		4,057
	Percentiles	25	6,00
		50	7,00
		75	11,00

III. DISCUSSION

The discussion will be based on the confirmation of the hypotheses that support the study design. Regarding

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Hypothesis 1 there is the assumption that, when placed in a context of second language instruction (Portuguese, in this case), speakers of very distinct language systems (phonologic, semantic, syntactic levels) would struggle and face more disadvantages in the new language acquisition. Accordingly, speakers of Indo-Aryan languages are expected to have more cognitive and proficiency limitations in Romance language decoding, such as the Portuguese language. To explore the effect of the first language and the type of mother tongues spoken by the students (alphabet, language family, grammar principles, phonetics, cognates) on writing performance, the percentiles partially reject our hypothesis. There was no consistent evidence of the influence of mother tongue orthographies on new languages' learning, even knowing that opaque linguistic systems are more complex for learning [8], [22], [23]. Considering the argument of linguistic distance, Indo-Aryan speakers denoted more limited proficiency during the writing task, as expected. However, Afro-asiatic and Chinese students presented higher results, similar to Romance languages' speakers. Linguistic distance could not be solely the reason. The type of home language would be the predictor, not the distance between phonological and writing systems.

According to Hypothesis 2, continued instruction in the home language parallel to second language instruction could be an advantage for bilingual language development. The group receiving home language instruction at school showed more writing strategies than peers who did not receive that instruction. These results will be further analysed when the empirical study is concluded in all schools, but they already suggest new insight for second language research with implications for new methodologies to be adopted by schools (maintaining instruction in home languages, empowering writing skills as bilingual [8]). With regard to Hypothesis 3, the association between quality of narrative composition and school grades suggested non-linear results because better results are expected in higher school levels, but probably compromised by lack of linguistic structures that should be learned in early years (of age and school instruction). Contrary to this, the youngest participants had more positive outputs, which might suggest better predisposition and attention to writing processes related to young ages. The compositions were more complete despite the poor vocabulary observed. In fact the lower proficiency in lexicon is commonly considered as predictable as a disadvantage for a child' knowledge in second language. Considering the values obtained in general, the writing samples showed low performance in Portuguese SL, as expected, considering no long period of exposure to SL. The hypothesis was partially confirmed due to the variety of results across the percentiles. Additional data suggested that previous instruction in schools of home countries would be a positive predictor for SL development once the learners adopt certain academic abilities that could be transferred.

Finally, regarding Hypothesis 4, that exposure to second language is strongly related to arrival date and that it is expected that less exposure generates more constraints for new language learning. The language distance would improve that constraint in Romance languages' acquisition. This hypothesis was not confirmed. The participants who arrived between 2006 and 2009 had better writing scores, which denote some controversy that requires further examination. According to [16] and recent other studies [17], [24], judgment accuracies for grammar, semantic and syntax change with exposure, but in a non-linear manner according to very specific lengths of time and delays. Further investigation on writing profiles, observing grammar acceptability, vocabulary frequency, syntactic norms, and pragmatics should be conducted in Romance languages as a second language. There is major scientific evidence regarding English as a second language and performance of new learners in English speaking countries, mainly from non-European countries. Given the fact that Portuguese is a well-known language in several countries worldwide, and the increase of tuition fees (mainly in universities) in Portuguese language, Romance languages as second languages might be a strong subject for future studies. The current study involves evaluation practice (through the creation of new instruments and validation process) and the analysis of the processing strategies of immigrant students from several levels of education until the age of 17. Conventional rules used in other second languages, such as English or Chinese, are not the same rules to be adopted in Romance languages like Portuguese. A set of multiword, variability of grammar structures and discourse segments should be addressed carefully in a linguistic and also cognitive analysis. To this end, for the writing evaluation we adapted a test from Alberta Education and administered it to a large sample of SL learners in order to identify specific traits of written texts and specific profiles. These profiles are related to distinct performances with regard to home languages, first language instruction, grades and exposure to SL. The written texts allow us to identify Indo-Aryan speakers as students at risk in language learning and suggest placement issues in language support programmes. Speakers of Indo-Aryan languages showed less command of Portuguese language structures and their sentence frames indicated several deficiencies that are due to linguistic distance and cross-transferences.

The judgments made by students over the images' sequence (visual stimuli to develop the writing essay) provided some insights on their representations of the Portuguese writing system. Rate and style in writing were preliminary detected in this task. More proficiency deficits were observed in the use of simple and repeated conjunctions and prepositions. Descriptive words were more difficult to write than utility words. Children followed patterns of vocabulary more related to familiar actions and topics ('a girl who likes to receive ice cream from her mother, and her sadness when the ice cream dropped'). The present and past tenses were the mostly used and complex sentences were also avoided. Older writers attempted to write more compound sentences even if they did not agree, but also tended to produce shorter texts than their younger peers. The length of the text might be related to awareness of error avoidance by writing sentence templates with no high range of grammatical structures that could affect the text intelligibility. Repeated sentence frames were extensively observed, which

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gives the text the appearance of linguistic blocks clustering. Older learners were expected to be conscious of their limited control of linguistic rules. Creativity in events writing was more detected in children's essays. Time markers were frequently used to divide the events on the composition and the main word-errors were related to spelling based on language oral cues (error examples of foreigners in Portuguese: churar, detrai-se, chegó, de repente, caio). These errors reflected the individual's pronunciation, and the oral features determined the spelling result. These types of errors also prove the influence of transparency of language in word spelling and recognition [25]. Portuguese words with full correspondence between oral and spelling proved to be easier for SL learners' to understand. Correctly spelled words corresponded to transparent words in the Portuguese idiom.

We found some limitations in this test related to the length of the performances, but all students were encouraged to write free texts with specific episodes and names for people, places and objects in their compositions. Short texts were more frequent in this evaluation task and reflected the level of exposure to SL. Results suggest that the diversity of vocabulary and grammar rules was limited for majority of participants. Conjunctions were mostly time markers that serve as sequence markers and simple paragraphs were preferred to the cohesive and complex blocks of sentences; no variety of tenses and rarely irregularly spelled words; and repeated words with no variety of form. Several errors were found in the plural use and gender (minor importance, in our analysis). Also, in the cross-transference domain, we identified specific cases of foreign words (from learner's mother tongue) that were not edited by the writers during the composition, which proves the influence of the home language (with no awareness of that) during the writing-processing task. Subject-verb agreement appeared to be easily acquired by SL participants in the Portuguese language system. In general, the writing samples of our evaluation study had a simple structure with very few compound sentences (mainly simple conjunctions) and deficit at control over the words and grammar. The more unstructured texts had more descriptive than utility words, as the temporal markers were solely the most evident forms used to organize the narrative events.

The original test, from the Alberta battery [20], has seven dimensions. The editing component (revision and rewriting) was not considered in this study because few editing actions were observed in the texts' construction. Considering the texts' genres, there were no significant cases of argumentative skills in the narratives, despite the promptly suggested free writing activity based on the sequence of images. Still, strategies related to transference between first and second language (transference of vocabulary and of syntactic structures, the most verified) were more common, which resulted in frequent errors (we concluded that oral exposure influences spelling constraints). [26] established that native-like selections have diminished influence when exposure to second language advances. More exposure to SL moderates the interference effect of native-like selection in SL learning and improves language acquisition. Despite the theories related to SL acquisition dealing with the impact of transference across languages, the unified competition model [25] is more appropriated to explain these results and differentiation of learner's profiles, considering the competition between first and second languages during the coding process. The storage development in a second language evolves by chunking, code switching and adjustments in second languages where errors are stages [27]. Chunking is the combination of words and frames that will be stored in the mental lexicon and changes as the learning advances. Adults and children will process chunks differently and the universal process of syllables and small units' acquisition in a first language, during childhood, will not necessarily be replicated in SL acquisition [27]. Mapping is distinct in the heads of children and adults. We suppose that older adolescents face more constraints in chunking than younger learners.

The competition model of [27] is useful to comprehend our results because "(…) in production, forms compete to express underlying instructions or functions. In comprehension, functions or interpretations competes on the basis of cues from surface forms" (p. 6). In fact, the relevance of cues is determinant to the competition effect in new acquisitions accomplished in Portuguese language learning. The participants in this study could feel threatened in their coding and decoding processing when identifying the information of functions, such as number or gender, and the extent to which that contributes to the meaning of words and the production of acceptable texts. In English, the preverbal positioning is a relevant cue to understand what options individuals have during decoding, whereas in Portuguese that information has a different function. McWhinney addresses briefly the differences between Indo-European languages and the importance of resonance in cognition focusing on second language learning. The order of words is important in the English writing system but not in Romance languages like Italian or Spanish, which are essentially prepositional. Different positioning is fully considered in other languages, such as Arabic. These characteristics are important for the resonance effect that underlies the cognitive processing involved in second language acquisition. Individuals have strategies to register (storage) the comprehended inputs to produce "full-independent output" in SL, which implies reporting errors and lack of grammar acceptability, generating a new temporary system: 'interlanguage'. The information that SL learners apprehend and code new material for several outputs during production is an action that [27] calls "to convert it to a production structure". These are cognitive strategies (of resonance) that have more results when the home language and the second language are similar (same language family) and when there is less blocking in transfer operations. Less transference is also related to close conceptual match between languages.

Interference has more impact between distant languages but also when the SL is not such a marked language, like Portuguese. Portuguese has several tonal and phonetic features, as well as grammar specificities, which results in great complexity to be acquired. Considering the previous

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discussion, the competition model is more adequate to understand the new data, as opposed to the universal hierarchy in SL acquisition theory [25], which underestimates the influence of the first language as a strong predictor in examining SL processing. Resonance in the competition model is crucial to understand the cognitive implication of SL acquisition. Resonance is not related only to transference, chunking or storage but also to the strategies of integrating all these operations and of converting inputs and structures in attempts to produce with near-native style. This is to make connections between forms and functions and to apprehend concepts, which demands investment and extent of loading between languages, and depends on age and exposure to SL. In a writing specific setting, based on this research study, long texts were essentially supported by creativity and did not reflect grammar control or high proficiency. The length of sentences and words were undifferentiated across ages, although these data were not reported here. Specific range of phenomena were presented in this task, generating new insights about specificities of second language learners, mainly considering home languages and instruction in first language. The theory of transference and the old Contrastive Analysis [4] might have other nuances when used to explain SL acquisition in a Romance languages' context. Other variables are emphasized, such as first language instruction and specific profiles of speakers who are expected to experience more difficulties in Portuguese language learning.

IV. Conclusion

The differences across the percentiles, considering all the hypotheses proposed, reinforce the need to conduct more studies about the writing predisposition and profiles of immigrant students in this scenario. The scores observed, based on the six dimensions of the writing test, will guide the definition of cut-off and profiles of proficiency. Immigrant students need to have more reliable indicators of proficiency levels not restricted to [28] and the proficiency construct itself should be reviewed. Most cases showed no complete proficient learners in the Portuguese language, as expected. The 25th percentile was established as the minimum to identify low performers and showed values mostly positioned in the 6 classification (with exception of school levels as a variable for differentiated writing performance), which we defined as "elementary" level (computation of the six components evaluated with 1 point each - see detailed information in the instrument section). Further analysis will be made along this project research to determine new marks in SL studies and new scientific evidence addressing writing and other contexts. Teachers will be provided with examples and evaluation standards of student writing to determine profiles and offer new understanding of the writing strategies and specificities of second language learners. Those specificities consider a context of second language different from the English SL one, and useful validated data for teachers and students from larger contexts and other languages involved in SL area will be provided. Scientific projects in the field of foreign language learning should create new assessment and learning tools, and even be encouraged to adapt important investigation instruments in English as a SL.

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