



### 1. Introduction

According to previous framework, the main factors which explain the second language learners differences are the linguistic knowledge, psychological and affective variables, gender, neuronal and cognitive maturation, and age. Related to the last factors, we find the critical period principle, and the effects are present both in first and second language acquisition contexts. The critical period explains how the youngest learners have more success with the languages acquisition, with several timings to reach the linguistic and metalinguistic levels. The phonological awareness, as one of many cognitive abilities, with processes, is a competence and also a cognitive space where the learner could grow to an accuracy level of phonological discrimination and processing. It is believed that after the critical period, several code levels fossilize such as the phonological code and phonetics identity, the 'language processor' (Klein, in Magnusson, 1996) declines. Here will be presented and discussed some results of our study, particularly regarding the phonemic blending and alliteration judgement skills.

#### Data Analysis

We achieve the average, standard deviation, frequencies, percentages, Pearson correlations, independent samples t tests, factorial analysis with Varimax rotation method and Kaiser normalization, as well as Crosstabs tests. To achieve this we used the programme SPSS 15.0.

### 3. Results

**Hypothesis window** –the phonological sensitivity is more evident in the early learners at the several levels of phonologics. The children perform better than older second language learners in cognitive demands such as phoneme blending and alliteration judgement due to their attention and memory skills.

Age Groups	Count	Phonemic Blending (words number)					Total	13-15	Count	0	1	5	7	16
		0	1,00	2,00	3,00	4,00								
7-9	11	% within Age					100,0%	16-18	Count	1	0	2	4	7
		% within Phonemic blending					100,0%							
		% of Total					1,0%							
		% within Phonemic blending					100,0%							
10-12	9	% within Age					100,0%	24-30	Count	5	1	5	9	16
		% within Phonemic blending					100,0%							
		% of Total					1,0%							
		% within Phonemic blending					100,0%							
16-18	11	% within Age					100,0%	13-15	Count	0	1	5	7	16
		% within Phonemic blending					100,0%							
		% of Total					1,0%							
		% within Phonemic blending					100,0%							

Table: Performance in Phonemic Blending test by the 3 groups (determined by age).

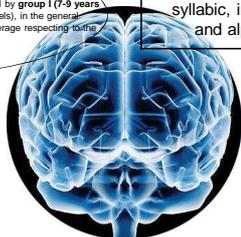
$(\chi^2=25.593; g.l._{15}; p_{.043}; \eta^2=.327)$  - Phonemic Blending  
The IV Group (16-18 years old) presents more incorrect answers (14,3%), followed by the Group I (7-9 years old-9,1%). The group with more positive answers is the V (19-23 years old-10% of 11 subjects have correct answer 90,9%).

$(\chi^2=22,828; g.l._{10}; p_{.011}; \eta^2=.376)$  - alliteration judgement

Group III (13-15) leads with 3 registers of alliteration with vowel basis (100%), followed by group I (7-9 years old- 100%) with 2 registers of frequency. In a comparative analysis between tasks (levels), in the general Alliteration Identification Task, the group III (13-15 years old) also shows the higher average respecting to the correct answers done.

**Cognitive abilities:**  
Phonological awareness, sequencing, vocabulary, phonological memory, auditory discrimination and processing.

**Phonological levels:**  
syllabic, intra-syllabic and alphabetic



### 2. Method

#### Participants

64 second language learners, different languages speakers, and with different nationalities, arrived in Portugal not more than four years ago (most arrived during 2006), with proficiency levels in Portuguese between A1 and B1 (QECL, 2001). The sample was selected in order to integrate three age groups - children (7-12 years), adolescents (13-17 years) and adults (18-30 years). Within each of these groups there are sub-groups (7-9; 10-12; 13-15; 16-18; 19-23; 24-30). The individuals are students of Basic Education (all the cycles), High School and Higher Education, from several schools of the district of Aveiro, Portugal.

#### Materials and Procedures

Tests battery, in electronic format, composed by the following tasks: dichotic hearing, perception of rhyme, alliteration and syllable, grapheme write conditioned, phoneme blending, alphabetical ordinance, phoneme discrimination and sequencing, words spelling, detection of minimum pairs, syntactical awareness, lexicon, reading, and phonetic identity judgement. The second language learners (sample) were assessed, between January and April 2007, in their schools. The application of the battery of tests was done individually, taking each application 35 to 100 minutes, at school of the individual, who must fulfil the test in computer. For the application of the test, it was necessary, besides the computer, headphones and microphone. All procedures were previously carried out to get the necessary authorizations from the schools, teachers and tutors of the students.

### 4. Discussion and theoretical considerations

Regarding results we verify that children identify more vocalic alliteration due to the fact that the phonetic profile of vowels is more familiar to children decoding skill. With empirical study, Rimol (2006), in the dichotic hearing field, had detected that the sounds (sequences) with vocalic predominance were the ones that disclosed greater right ear advantage. Regarding research such as Best's (1999) is suggested that adults show easiness in the discrimination at the consonant level because the consonants sounds are codified as not speech event, applying the two hemispheres activation and not only from the left hemisphere. In fact, the vowel is more recognized as speech tone by the child, more than by the adult who follows more the consonantal trace. On the other hand, in the first development stages of the language, the child is attracted by phonemes with vowel characteristics and shows easiness with the detection of rhymes and alliteration. At the phonemic blending level, this is an ability achieved by six years old, but we found that age is not influencing the results in this task type because the children show the most false answers while the adults (19-24 years old) perform better. This type of task requires abstraction strategies and the adult, we consider, develop them already. Although studies disclose that children are privileged by their selective attention (Bialystok, 2006), favored by an emotional latency, however, the biggest dexterity that normally is attributed to the children, mainly to the second language learners, at the phoneme discrimination and identification levels becomes a controversy (Hollingsworth, 1983). According to the languages spoken at home as a variable, we can verify that children, even the most bilingual, as a linguistic advantage and considering all the sample, do not show the flexibility and phonological decision expected, in the general results attained with the battery application. One hypothesis is the linguistic interference. In other hand, the mother tongues could be a variable that explains this low performance, because the majority of children has slavik languages as mother tongue, which are languages with a distinct phonological system.