

Porto, 12 of January 2011

Dear Mr. Clément Michaud,

I am pleased to submit for your approval the following report, resulting of the visit made to Prof. Sylvia Defior, at the University of Granada, from the 15th to 22nd December 2010. The mission was successfully executed and was extremely productive according to the scientific aims of Cost Action IS0703. This STSM permitted me to establish contact with the group of researchers that work with Prof. Sylvia, namely Prof. Francisca Serrano, and carry out, discuss and plan future experiments in a cross-linguistic perspective.

*Lénia Sofia de Almeida Carvalhais*

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### **Purpose of STSM**

The aim of this short-term scientific mission with Professor Sylvia Defior, at the University of Granada, was to improve our understanding of the spelling learning process (phonological and morphological knowledge; orthographic complexity) and to establish a cross-linguistic work plan. Specifically, we have the goal to compare materials of Portuguese and Spanish spelling tests, and to design a study of spelling acquisition so that a comparison of both languages is possible, and the role of language specificity can be assessed (this is possible because Spanish is a transparent orthography, whereas Portuguese is an orthography of intermediate depth).

### **Description of the work carried out during the STSM**

The visit started with a meeting with Prof. Sylvia Defior, at the Faculty of Psychology, University of Granada, in which the STSM work plan was discussed, after a personal introduction. I presented my actual research theme about assessment of spelling in children between 1<sup>st</sup> and 4<sup>th</sup> school grades and the PhD thesis results, presented during March 2010, and related with the assessment of Portuguese dyslexic children.

After this first contact, Prof. Sylvia invited me to participate in a research group meeting with Prof. Gracia Jimenéz-Fernandéz and Prof. Francisca Serrano, about a project related with dyslexia screening in the Spanish language. The psycholinguistic variables, more specifically the word length, complexity, frequency and lexicality were discussed. This discussion was important to define the parameters that should be used in the test's construction for Portuguese language.

During the stay, Prof. Sylvia organized another meeting with the research group that works with spelling and morphology. In this meeting participated, Dr. Ian Simpson, Dr. Aracelli Valle and Clara Gomes. The questions discussed in this meeting were related to morphological awareness assessment in primary school children and we discussed the possibility of adapting the instrument used to the Portuguese language,

considering the similarities, such as: plural forms, gender forms, adjectival forms, using pseudo words.

The mission also permitted me to attend to the Master's thesis presentation of Eduardo Onochie Quintanilla entitled "El papel de la memoria operativa en el aprendizaje de la lectora-escritura".

During the mission and according to the principal aim of this short-term scientific mission, we defined and developed a cross-linguistic work that consists in the selection of words for Portuguese tests that are cognates of the ones presented by Defior, Jiménez-Fernandéz and Serrano (2009).

### **Description of the main results obtained**

We planned the new experiments to study the assessment of spelling in a cross-linguistic perspective in children between first and fourth school grade. The study of Defior, Jiménez-Fernandéz and Serrano (2009) investigated how Spanish orthographic complexities determine the learning of how to spell. The tasks consisted in a Word Dictation Test and a Pseudo word Dictation Test, with 60 items, with bisyllabic and trisyllabic words. These words were of medium frequency and contained a complex graphoneme. The Spanish spelling complexities were grouped into the following categories: digraph; contextual effect; position effects; inconsistency; letter h+vowel; stress mark.

*Experiment 1:* After analyzing the test and variables used, we decided to maintain in the Portuguese test the same word structure, namely the same bisyllabic and trisyllabic words, with the complex graphoneme in the same position, controlling also the frequency. We decided to select the complexities that are directly comparable to the ones used in Spanish namely:

- *Digraph:* the Portuguese and Spanish digraphs RR, like “forro” and the case of LL in Spanish that corresponds to the Portuguese “lh”.
- *Contextual effect:* in this group the transcription of a phoneme depends on the sound of the accompanying vowel. The two languages have in common the case of gu-e; gu-i; qu-e; qu-i.
- *Position effect:* the transcription of the phoneme depends on the position in the word. To assess this variable, we use as in the Spanish test, the R and M, which is only spelled M when it comes before /p/ and /b/.
- *Inconsistency:* in this group we find more differences between Portuguese and Spanish. We selected the “j-i”, “j-e”, “g-e” and “g-i” that are similar in the two languages.
- *Letter H+vowel:* The letter H is a silent letter in Spanish and also in Portuguese.
- *Stress mark:* as in Spanish, the use of the stress mark in Portuguese is governed by rules. We follow the same conditions of Spanish words.

These tests will be applied, like in the Spanish study, to two hundred and eight children from the first to fourth grade of primary school. We will also use the TIL test (Sucena & Castro, 2007) to select normal readers and the Raven Test (Raven, 1995). We will follow the same procedures of the Spanish study.

#### **Future collaboration with host institution:**

After the data collection, we will analyze the results and compare them with the Spanish ones, considering the differences and similarities between the two languages, observing the complexity effect and lexicality effect. Furthermore, we will consider the submission of these results to scientific conferences and journals. The discussion about morphology knowledge in relation to early spelling abilities led us to consider further collaboration in other studies in the two languages.

### **Acknowledgements**

I would like to thank Prof. Sylvia Defior for the readiness with which she received me at the University of Granada, the kind welcome, the opportunity to discuss my research and the possibility to develop this study on the spelling abilities in a cross-linguistic perspective. This experience with Prof. Defior at the University of Granada was very valuable to me and will help me develop my current research projects.