

**THE USE OF COH-METRIX, CAF AND HOLISTIC ANALYSIS TO
ASSESS THE DEVELOPMENT OF WRITING PERFORMANCE
AT A SECONDARY SCHOOL CLIL CONTEXT**

**UTILITZACIÓ DE COH-METRIX, MESURES DE FCC I ANÀLISI
HOLÍSTIC PER AVALUAR EL DESENVOLUPAMENT DE
L'ESCRIPCIÓ EN UN ENTORN CLIL A SECUNDÀRIA**

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1. Theoretical framework

Previous research in SLA has suggested that CLIL may provide learners of a foreign language with an advantage of two school years over mainstream learners (For a critical review see Muñoz & Navés, 2007).

Nevertheless, research in this field is still scarce and almost nonexistent when the target is secondary education. In the few previous studies which tested the effectiveness of CLIL at secondary school, results were positive for CLIL students in relation to overall proficiency when compared to regular EFL learners. Dalton-Puffer (2007) suggested that the benefits of CLIL were more likely to take place in oral than in writing skills. Some studies, comparing the writing competence of CLIL and non-CLIL

groups, found however, the opposite (Miret, 2009). This study, part of ongoing research, aims at investigating students' writing development in a CLIL and EFL context.

While there is a consensus on how to measure second language (L2) learners' writing ability holistically, i.e. band scales like Hamp-Lyons (1991) or Jacobs, Zinkgraf, Wormuth, Hartfield & Hughey (1981), research on the best analytical measures for L2 learners' writing development is still controversial. Holistic scorings do not seem to work well at capturing learners' specific strengths and weaknesses in writing, especially since L2 learners are still developing their writing skills and tend to show uneven profiles across different aspects of writing (Lee, Mikesell, Joacquin, Mates & Schumann, 2009; Weigle, 2002). Most research, including ours, has used a wide range of measurements following Wolfe-Quintero, Inagaki & Kim (1998) in the areas of Lexical and Syntactic Complexity, Accuracy and Fluency (CAF) to assess L2 learners' writing development (see Pallotti, 2009, among others). Previous research (Celaya & Navés, 2009; Navés, Torras & Celaya, 2003) found not only that the components of CAF did not develop in parallel but that, depending on the learners' age and proficiency, these components interact differently. CAF metrics have been criticized on the grounds that components such as coherence and cohesion are not taken into account.

A recent computer tool Coh-Metrix (McNamara, Louwerse & Graesser, 2002) is capable of calculating not only the most widely used measures in CAF but also coherence and cohesion of texts. It remains to be seen to what extent features realizing the interpersonal function of language (Halliday & Matthiessen, 2004), or appraisal (Martin & White, 2005) can be automatically computed. Coh-Metrix was originally designed by McNamara et al. (2002) to evaluate readability, i.e. text difficulty in L1 English texts. It calculates coherence of texts on a wide range of measures. Only recently it has also been used to assess L2 learners' writing development (Kormos, 2011). Navés & Celaya (2011) have used Coh-Metrix successfully in order to assess the writing development of EFL university students. The authors found that only some of the measures discriminated among the groups of learners.

At this preliminary stage of the study, one hundred students from a secondary school in Barcelona were randomly chosen from a bigger sample to see the development of their writing ability and their proficiency in a CLIL context. Fifty CLIL

grade 7 students after 35 hours of exposure to CLIL were compared to a group of fifty Non-CLIL grade 8 learners both in proficiency and writing performance.

2. Objectives

The purpose of this study is twofold: (a) to investigate the writing development of secondary school CLIL learners and (b) to determine whether Coh-Metrix can also be used to assess secondary school students' written production.

3. Methodology

Three types of tests were administered before and after the 35 hours of CLIL:

- a) Background test. The aim of this test was to gather basic information on the previous experience of the learner. Knowing the amount of hours of instruction, previous experience on CLIL and stays abroad will be some of the objectives of this test.
- b) Writing performance test. Students were asked to write an essay on a specific topic. Their writing performance was holistically assessed using the Jacobs et al.'s (1981) scale. Later on, their compositions were analyzed for Fluency, Accuracy and Complexity. The writing development was also tested by means of Coh-Metrix, computational tool developed to describe the characteristics of narrative texts, previously used by Kormos (2011) and Navés & Celaya (2011) to assess writing development.
- c) Proficiency test. This test, an adaptation of the Oxford Placement Test, aimed at checking the proficiency level of learners before and after the treatment.

4. Results

Preliminary results showed no significant differences at syntactic and lexical levels when grade 7 learners were compared to grade 8 students. As regards Coh-Metrix, the results were in line with those found at tertiary level, i.e. CLIL students were capable of

writing more coherent texts than their counterparts, even though no significant differences were found between the two groups.

5. Conclusions

Coh-Metrix seems to be a good tool to be used to assess writing development at intensive school secondary settings like that of CLIL where students are exposed to the target language six hours a week. The measures which best captured the development of writing at secondary CLIL school settings will be discussed.

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