

Learning Outcomes in CLIL Programmes: a Comparison of Results between Urban and Rural Environments

VÍCTOR PAVÓN VÁZQUEZ
University of Córdoba

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ABSTRACT: After approximately two decades of implementing CLIL programmes in Spain, there is still a lack of solid grounding on the effects of this kind of approach in areas other than the development of the foreign language being used as the vehicle of instruction. This study combines an analysis of the learning outcomes of the language classes of both the foreign language and the mother tongue, of science subjects, of the relationship between psycho-affective factors such as verbal reasoning, motivation, anxiety, indifference and self-demand, and of the role of extramural exposure, in two distinct contexts, rural vs. urban schools. 295 students from two different grades (in Primary Education and in Compulsory Secondary Education) have been investigated in order to examine the relative influence of all these dimensions on the success rate of the CLIL programme under implementation, with the idea that students from rural and urban schools may perform differently. Results show that even though urban students seem to perform better in some of the above dimensions, there are not many apparent differences between students in rural and urban schools and, when existing, differences are not significant in the majority of the dimensions evaluated. Data suggests that the dissimilarity of results between schools is caused by a mixture of factors in the teaching and learning process but cannot be solely accredited to the characteristics of the two distinct school settings.

Keywords: CLIL, learning outcomes, psycho-affective factors, extramural exposure, rural vs. urban

Resultados de aprendizaje de los programas CLIL: una comparación entre contextos urbanos y rurales

RESUMEN: Tras casi dos décadas de programas AICLE en España todavía existe una falta de estudios que avalen sus resultados en otros ámbitos que no sea el de la mejora de la lengua extranjera utilizada como vehículo de instrucción. Este estudio combina el análisis de resultados en la lengua extranjera y la lengua materna (español) como asignaturas curriculares, la asignatura de ciencias, la influencia de factores afectivos tales como la motivación, la ansiedad, el desinterés y la autoexigencia, y el papel de factores extramurales, en dos ámbitos distintos: el rural y el urbano. En el estudio han participado 295 alumnos de dos cursos diferentes: 6º de educación primaria y 4º de educación secundaria obligatoria, con el fin de estudiar la influencia relativa de todas esas dimensiones para el éxito del AICLE, en la idea de que los resultados pueden ser distintos ya se trate de alumnos de entornos rurales o urbanos. Los resultados obtenidos muestran que aunque estos pueden ser más positivos a favor de los alumnos de entornos urbanos en algunas de las dimensiones estudiadas, no existen diferencias significativas entre los alumnos de ambos entornos y que, cuando existen las

diferencias, no son tampoco significativas en la mayoría de las dimensiones. Estos datos, por tanto, sugieren que las diferencias encontradas entre los alumnos de los dos cursos se deben a una mezcla de factores relacionados con el proceso de enseñanza y aprendizaje más que a las características propias de los contextos rural y urbano.

Palabras clave: AICLE, resultados de aprendizaje, factores psico-afectivos, exposición extramural, rural vs. urbano.

1. INTRODUCTION

Right from the early years when educational policies in some countries, regions or even individual schools started to implement CLIL approaches, that is, the attention to the development of the foreign language in schools via the teaching of academic subjects through this foreign language, it was clear that there were some areas that had to be carefully looked into. For some it was not sufficient to declare that this kind of approach was having (and would have) a tremendous impact on education in general (Marsh, 2013), and on the upgrading of the use of the foreign language in schools in particular (Admiraal *et al.*, 2006; Lasagabaster, 2008; Brevik and Moe, 2012). Very soon, then, it became evident that it was necessary for the purported benefits of CLIL to be proven and, for this reason, for research to be carried out to reveal substantial empirical evidence of the results of CLIL (Dalton-Puffer, 2008; Pérez Cañado, 2012).

During the last two decades, bilingual education programmes and CLIL have been investigated, analysed, and reported on from several different perspectives, with attention normally being paid to four general dimensions: the policies behind these programmes, the outcomes, the language of interaction, and classroom pedagogy. More specifically, some realms have come to the fore due to mixed interest from investigators, for example, *the evaluation of these programmes* (Cenoz, 2013, 2015; Cenoz *et al.*, 2013; Dalton-Puffer *et al.*, 2014; Ruiz de Zarobe, 2013); *language outcomes* (Falcón & Lorenzo, 2015; Hermanto *et al.*, 2012; Jexenflcker & Dalton-Puffer, 2010; Llinares & Whittaker, 2010; Lorenzo & Rodríguez, 2014; Roquet & Pérez-Vidal, 2015); *content outcomes* (Fernández, *et al.*, 2017; Grandinetti *et al.*, 2013; Roquet & Pérez-Vidal, 2015; Surmont *et al.*, 2016; Ting, 2010); *the affective domain* (Ávila, 2009; Coonan, 2012; Heras & Lasagabaster, 2015; Lasagabaster & López, 2015; Seikkyla-Leino, 2007); *teachers' beliefs and perceptions* (Coonan, 2007; Hütner *et al.*, 2013; Infante *et al.*, 2009; Tan, 2011; Travé, 2013); *teacher training* (Escobar, 2013; Hillyard, 2011; Pérez Cañado, 2016a; Salaberri, 2010); *students' perceptions* (Coyle, 2013; Hunt, 2011; Merisuo-Storm, 2007); *parents' perceptions* (Pladevall-Ballester, 2015; Whiting & Feinauer, 2011); *L1 use* (Gierlinger, 2015; Lasagabaster & García, 2014; Méndez & Pavón, 2012); and *pedagogical orientation* (Coyle, 2008; de Graaf *et al.*, 2007; Meyer, 2010; Viebrock, 2012), to name some of the areas most frequently visited by a scientific eye.

When arriving at the analysis of the outcomes of CLIL programmes in particular, we are far from reaching consensus on the benefits that CLIL can help bring about or on the factors and variables that require a much better handling in order for these benefits to be garnered (Pérez Cañado, 2016b). Thus, for some it is more relevant to explore whether the positive results in CLIL programmes stem from capacities students have previously acquired

rather than originating from the effects of the teaching and learning process (Bruton, 2011, 2013, 2015; Paran, 2013). However, while the question of whether CLIL programmes are selective or not is a potentially vital issue that is attracting the attention of academics in many different contexts (Broca, 2016), there are other spheres at the very heart of the relationship of content and language that also deserve the interest of scholars because they are intimately related to the success of these programmes: “in order to efficiently support a balanced development of content and language skills, it is crucial to conceptualise what exactly their relationship is” (Jakonen, 2016: 1). Questions such as whether the content material taught through a foreign language is assimilated and learnt effectively enough to match the outcomes of instruction taught via the mother tongue, whether the integrated learning of content and language is being built in parallel with the same standards of quality, whether an overemphasis on the foreign language may hamper the development of the mother tongue, or if there are important variables (psycho-affective, social, or contextual) other than those which are pedagogical, which might critically affect the success of the programme, are still under scrutiny.

Within this context, the aim of this study is to uncover evidence to explore the effects of social and contextual variance and, in particular, to investigate any possible discrepancy between the performance of students from rural schools and those attending urban schools (Alejo & Piquer Piriz, 2016). Among a number of studies delving into the reasons, causes, or effects which some decisive factors may play in the success (or otherwise) of CLIL programmes, this investigation is justified by the need to sound out the variables relating to the social milieu of students that may led to significantly different outcomes among them. Furthermore, given that there are very few studies broaching the nature and the impingement of this specific influence, this investigation might contribute to clarify some of the dark areas surrounding some of the influential factors at work in CLIL programmes.

2. THEORETICAL BACKGROUND

2.1. Variables accountable for the success of CLIL programmes

Following what has been pinpointed in the Introduction when dealing with the main areas of research in CLIL, there are a number of variables on whose correct or incorrect application the achievement of good or poor results depends. To begin with, it is necessary to establish the ideal profile of the teachers who impart academic content through a foreign language, as well as pinpointing what their linguistic and methodological competences should be (Pavón & Ellison, 2013), as these teachers have to exhibit three distinct kinds of abilities: knowledge of the discipline, competent use of the foreign language, and the utilisation of appropriate methodological strategies. Secondly, there are a number of initiatives that the school may implement and which may greatly determine the quality of the programme: deciding the number of subjects in terms of their cognitive demands, a time-span for the programme, choice of an adequate pedagogical approach, deployment of an effective assessment procedure for language and content, establishing a solid structure of collaboration with language teachers (Pavón, 2014), and, together with all this, creating a valid and reliable set of instruments for the evaluation of the CLIL programmes (Pérez Cañado, 2016c).

However, irrespective of the importance of identifying the important factors involved in the attainment of expected outcomes, it is the contribution of research in other important fields that should be strengthened: “the demands of different contexts have led to wide-ranging questions as to how CLIL is put into practice, taking account of social, cultural, economic and political agendas” (Coyle, 2013: 245). More specifically, as Fernández *et al.* (2017: 3) point out when weighing the necessity of further research in CLIL beyond the current search for linguistic and content academic gains, that there is a shortage of studies investigating, for example, the social milieu of CLIL and the socio-economic status of the parents of CLIL students, or the specific characteristics of the context where the bilingual teaching takes place. Moreover, a rigorous analysis of these two elements would probably contribute to extricating scholars from the on-going debate over whether or not the benefits of CLIL are produced by the inherent capacities of students previous to contact with CLIL or by the actual integration of language and content in the classroom.

2.2. Contextual differences

As we have seen, the outcomes in terms of foreign language development, or those relating to the assimilation and subsequent use of academic content, depend on a different selection of elements. However, little has been investigated in CLIL regarding the contextual variables that are associated to, for example, geographical location. In the ELT world, the analysis of the influence of this dimension has received close attention as it has been demonstrated that the location of the school, notably when the comparison was made between rural and urban schools, had a significant influence on the performance of students (Dörnyei, 2005; Dörnyei & Csizér, 2002). Thus, the family atmosphere dominant in each one of these settings, measured in terms of the social and academic background of the parents, swayed the psychological dimension of students, mainly concerning their interest and motivation regarding foreign languages and, above all, the perception that it is profitable to possess a certain degree of communicative competence in the foreign language for their academic and professional development, and even to use the language during daily activities (the internet, videogames, or social networks).

Along with this, the socio-economic status of the family is, then, perceived in scientific literature as a powerful driver for the success of students in attaining command of a foreign language (Kormos and Kiddle, 2013). Directly or indirectly, contact with this language is present at home with regularity, and middle and upper-class families with parents holding university qualifications are reported to provide more frequent and qualitative exposure to the foreign language. In fact, the influence of extramural exposure seems to be decisive in the acquisition of a foreign language in young generations: “for many youngsters, their main contact with English occurs outside of their school day” (Sylvén, 2006: 52). In addition, it is the psycho-affective dimension which gathers the most visible gains, with students manifesting a more positive attitude to the foreign language itself and to the learning of this language (Rica & González, 2012). It must be noted that familiarisation with the foreign language in these families does not only come along through usual contact at home but also stems from additional classes in private institutions and even from the realisation of language courses

abroad, which adds a steady influence to the positive perception of the foreign language. All in all, the impact of social class on students' motivation is apparent, with motivation considered as taking a tangible interest in learning: "the effort, desire, and attitude towards learning" (Dörnyei, 2005: 68). As Coyle (2013: 247) points out, studies have identified three common elements in students' motivation: the methodological strategies used in the classroom, the students' interest and overall engagement, and the students' values, attitudes and identities. These three areas can be found in studies specifically devoted to CLIL programmes as well. Lancaster (2016) studied the perceptions of the stakeholders involved in CLIL, paying attention to a reasonable number of pertinent areas such as the level of motivation and satisfaction of students, and she concluded that it was noticeable that students were, in general, more willing and inclined to work with the foreign language in CLIL classes: "Motivation levels in the CLIL classroom are high" (p. 163). This supposition is in line with previous studies (Seikkula-Leino, 2007; Lasagabaster, 2011).

In the field of teaching and learning foreign languages the analysis of the influence of geographical and socio-economic differences is abundant (Dörnyei, 2005; Lamb, 2012; Welch *et al.*, 2007; Yashima *et al.*, 2004). But when we come to investigate the relevance that such variables may exert in students in CLIL, the number of studies is scarce. In one of the few studies analysing the relevance of the social milieu, Alejo and Piquer Píriz (2016) studied the role of motivation and differences in the linguistic development of students from rural vs. urban schools. They found that urban learners started to learn the foreign language earlier, received more support including attendance of private lessons, were less anxious, and also less likely to make an effort; whereas rural students started later, exhibited a lower level in the foreign language, received less support, were more anxious, and were more eager to make an effort. Of particular relevance was the finding that, contrarily to what might be expected, there was no connection between performance in the foreign language and general academic results of urban students. Therefore, urban students with low general marks did not obtain poor marks in the other subjects, whereas rural students with low academic marks also obtained low marks in the foreign language.

Together with the relevance of these results in a dimension yet unexplored, what is relevant in an investigation of this kind is that the schools that are compared have the same approach and programme, that the objectives are identical, the human and material resources are equal, and the regulations (which might include pedagogical orientation and assessment procedure) are all on par. This enables the researcher to assay the particular role of the independent variable, in this case, the location of the school and, beyond that, the socio-economical status. Even though the contrast between urban and rural settings may account for meaningful dissimilarities, it must also be said that the association between rural and lower socio-economic status, and between urban and higher socio-economic status, is not always straightforward. Thus, the identification of the reasons that are truly responsible for these differences are not particular to the distinction between rural and urban schools, as in some urban schools the socio-economic status of parents and students may be very low, and significantly lower than in rural settings.

3. RESEARCH METHOD

3.1. Variables

In this study, the dependent variables are:

- a) The students' English language (FL) ability (grammar, vocabulary, and the four skills).
- b) The students' Spanish language (L1) ability.
- c) The students' level of mastery of the contents of Science.

The independent variable corresponds to the CLIL programmes implemented in the different types of schools.

As moderating variables, the following have been considered:

- a) Setting (urban – rural).
- b) Motivation.
- c) Verbal intelligence.
- c) Exposure to English outside of school.

3.2. Objectives

The general purpose of this study is to search for empirical evidence endorsing the hypothesis that the performance of students may be different according to their social background, and more specifically, that the influence of the environment in terms of the urban-rural divide may bring about noticeable difference among students.

The following specific objectives have been elaborated upon:

1. Are there statistically significant differences between rural and urban schools in terms of the students' foreign language ability?
2. Are there statistically significant differences between rural and urban schools in terms of the students' capacity in their mother tongue and of the students' level of mastery of science?
3. Are there statistically significant differences between rural and urban schools in terms of the students' psycho-affective variables (motivation, anxiety, indifference, and self-demand)?
4. Are there statistically significant differences between rural and urban schools in terms of the students' extramural exposure?

3.3. Context and participants

A total number of 295 students (141 boys and 154 girls) immersed in CLIL programmes from the provinces of Jaén, Granada and Córdoba in the Spanish region of Andalusia participated in the study, 111 of them in rural schools and 184 in urban schools. The CLIL approach implemented in this region has, as one of its main components, the teaching of some subjects in the curriculum (normally Natural and Social Sciences, Arts and Crafts, and Physical Education) through a foreign language (usually English). In order to elicit data from two different educational levels, the students who participated in the study were chosen from 6th grade of Primary Education (11-12 years old), and from 4th grade of Compulsory

Secondary Education (15-16 years old). As far as the type of school is concerned, 242 were studying in state schools and 53 in private schools.

3.4. Data-gathering instruments

Two main types of instruments were employed for information-gathering: tests and interviews (English language competence), and questionnaires (psycho-affective variables and extramural exposure). This information was completed with an analysis of the grading of two curricular subjects: 'Spanish' and 'Science'. The test and the questions used in the interviews for measuring the English language competence were designed uniquely and validated. In particular, the test consisted of three different tests with each consisting of six smaller assessments (grammar, vocabulary, reading, writing, listening, and speaking). This measurement follows the Common European Framework of Reference (CEFR) and presents contents, descriptors, and evaluation strategies focusing on grammatical, lexical, and skills-based parts. The other instruments used in the investigation were questionnaires, designed and validated in Spanish and English. They began with questions relating to demographics and background to elicit biographical information from the respondents and continued by posing opinion or value questions. They included fill-in-the-gap, short-answer, alternative answer, and Likert-scale questions (from 1 to 4, in order to avoid the central tendency error). An initial version was edited and validated via a double pilot process.

Questionnaires were first submitted to a panel of five external experts, who provided their opinion on possible problems with the content of the questionnaire, such as vague instructions, a need for clarification or a rewording of questions, missing information, specification of data, or length. Once the suggestions of the referees were introduced, a second version was piloted with a representative sample of students with exactly the same traits as the target respondents who were subsequently surveyed with the final questionnaire. Their responses allowed us to refine the questionnaires in terms of ambiguities, confusion, or redundancies and enabled the calculation of Cronbach alpha for each of its thematic blocks in order to guarantee their reliability or internal consistency.

3.5. Results and discussion

In order to respond to the specific objectives posited in this study, in the following section we will present the results of the comparison between rural and urban schools in terms of ability in the foreign language, performance in the mother tongue and in Science, the varying influence of psycho-affective factors, and the role of extramural exposure. In so far as the presentation of results in the different dimensions is concerned, it must be noted that data will be dealt with by separating the results from the 6th grade of Primary Education from the 4th grade of Compulsory Secondary Education. The purpose is to manifest the possible differences separately since these two educational levels represent visibly distinct stages in the schooling of students and it will be appropriate to analyse the outputs of the two grades to make a comparison between rural and urban settings. In addition, this will enable us to interpret the data from the perspective of how the effects of CLIL prevail after several years among students possessing quite distinct cognitive capacities.

3.5.1. Foreign language

As exposed in the descriptions of the instruments used and of the data-gathering procedure, the command of the foreign language was evaluated with the use of two specific tools: a) a test including sections related to use of English, vocabulary, listening and reading (Tables 1 and 2); and b) audio recordings of individual interviews with students in which grammatical accuracy, lexical range, fluency interaction, pronunciation and task fulfilment were measured. It should be added that both instruments were elaborated following the guidance and descriptors of the CEFRL, and that they were also designed to evaluate linguistic areas specifically related to the use of academic language in content subjects.

When comparing the results of the test regarding the level of English of students in rural and urban schools, we can observe that urban students show higher scores than rural students in 6th grade of Primary Education overall, and more importantly, that the differences are significant in general terms and in the majority of the aspects analysed (cf. Table 1). A more detailed analysis reveals that in the majority of dimensions evaluated in the test, this difference favouring urban students is again significant: use of English, listening, and reading. With regard to the analysis of oral skill (cf. Table 2), differences are again statistically significant in favour of urban students in speaking, use of grammar, lexical range, fluency and interaction, and task fulfilment. It is pertinent to point out that the difference is more visible in oral productive skill compared to the other aspects, as is demonstrated by the larger magnitudes of effect size, which suggests a possible orientation of the classes towards a high prevalence of speaking activities in urban schools. The only two linguistic sub-aspects on which no statistically significant differences can be ascertained between the rural and urban students are vocabulary and pronunciation.

Table 1. EFL results for Primary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|----------------|---------|----|-------|--------------------|-----------|---------|
| Use of English | Rural | 74 | 12.68 | 6.80 | -0.675 | <0.001 |
| | Urban | 53 | 16.98 | 5.71 | | |
| Vocabulary | Rural | 74 | 15.49 | 12.30 | 0.227 | 0.144 |
| | Urban | 53 | 13.34 | 1.98 | | |
| Listening | Rural | 74 | 11.58 | 1.84 | -1.344 | <0.001 |
| | Urban | 53 | 13.96 | 1.66 | | |
| Reading | Rural | 74 | 6.49 | 4.24 | -0.849 | <0.001 |
| | Urban | 53 | 9.81 | 3.39 | | |
| Total | Rural | 74 | 46.23 | 19.65 | -0.478 | 0.004 |
| | Urban | 53 | 54.09 | 10.41 | | |

Table 2. Speaking results for Primary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|---------------------|---------|----|------|--------------------|-----------|---------|
| Speaking Total | Rural | 30 | 5.35 | 2.23 | -1.763 | 0.001 |
| | Urban | 5 | 9.10 | 1.08 | | |
| Grammatical | Rural | 30 | 1.03 | 0.57 | -1.226 | 0.016 |
| | Urban | 5 | 1.70 | 0.27 | | |
| Lexical/Range | Rural | 30 | .96 | 0.41 | -2.358 | <0.001 |
| | Urban | 5 | 1.90 | 0.22 | | |
| Fluency/Interaction | Rural | 30 | 1.05 | 0.49 | -1.798 | 0.001 |
| | Urban | 5 | 1.90 | 0.22 | | |
| Pronunciation | Rural | 30 | 1.31 | 0.51 | -0.978 | 0.051 |
| | Urban | 5 | 1.80 | 0.27 | | |
| Task Fulfilment | Rural | 30 | 0.98 | 0.40 | -2.090 | <0.001 |
| | Urban | 5 | 1.80 | 0.27 | | |

The comparison between rural and urban schools in 4th grade of Compulsory Secondary Education yields very interesting results which indicate that, in the long term, both groups level out in terms of linguistic attainment (cf. Tables 3 and 4). Indeed, at the end of this second educational level, no statistically significant differences can be discerned between rural and urban learners on the overall test or on use of English, vocabulary, reading, and listening. Differences do pervade, however, in terms of oral capacity and all the subcomponents contained within this area, except for fluency and interaction, again with large effect sizes. Thus, the most outstanding finding is that, as in the case of the younger grade, the area of speaking abilities is where urban students most noticeably outstrip rural ones.

Table 3. EFL results for Compulsory Secondary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|----------------|---------|-----|-------|--------------------|-----------|---------|
| Use of English | Rural | 37 | 26.89 | 10.02 | -0.350 | 0.062 |
| | Urban | 131 | 30.13 | 9.04 | | |
| Vocabulary | Rural | 37 | 9.57 | 3.44 | -0.142 | 0.441 |
| | Urban | 131 | 9.99 | 2.80 | | |
| Listening | Rural | 37 | 4.59 | 1.67 | -0.064 | 0.732 |
| | Urban | 131 | 4.69 | 1.53 | | |
| Reading | Rural | 37 | 3.38 | 1.60 | -0.261 | 0.157 |
| | Urban | 131 | 3.79 | 1.55 | | |
| Total | Rural | 37 | 44.43 | 14.46 | -0.319 | 0.089 |
| | Urban | 131 | 48.61 | 12.70 | | |

Table 4. Speaking results for Compulsory Secondary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|---------------------|---------|----|------|--------------------|-----------|---------|
| Speaking Total | Rural | 16 | 6.78 | 2.94 | -0.952 | 0.015 |
| | Urban | 22 | 8.90 | 1.54 | | |
| Grammatical | Rural | 16 | 1.28 | 0.70 | -1.031 | 0.011 |
| | Urban | 22 | 1.81 | 0.32 | | |
| Lexical/Range | Rural | 16 | 1.34 | 0.67 | -0.805 | 0.033 |
| | Urban | 22 | 1.77 | 0.40 | | |
| Fluency/Interaction | Rural | 16 | 1.43 | 0.62 | -0.631 | 0.089 |
| | Urban | 22 | 1.75 | 0.37 | | |
| Pronunciation | Rural | 16 | 1.31 | 0.51 | -0.940 | 0.013 |
| | Urban | 22 | 1.70 | 0.33 | | |
| Task Fulfilment | Rural | 16 | 1.40 | 0.55 | -1.104 | 0.006 |
| | Urban | 22 | 1.86 | 0.27 | | |

3.5.2. Mother tongue and Science

The performance outcomes in the subjects of 'Spanish' and of 'Science' were obtained directly from the students' scores in these two subjects at the end of the school year. Delving deeper into the comparison between the students' performance in the rural-urban environments in these two subjects, it can be seen that the differences found in the scores of urban and rural students in both subjects in 6th grade of Primary Education are not significant (cf. Table 5). Thus, both groups perform equally well in the subjects 'Spanish' and in the subject 'Science'.

Table 5. L1 and subject content results for Primary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|---------------|---------|----|------|--------------------|-----------|---------|
| Mother tongue | Rural | 39 | 7.33 | 1.52 | -0.429 | 0.105 |
| | Urban | 24 | 8.00 | 1.61 | | |
| Science | Rural | 39 | 7.08 | 1.79 | -0.389 | 0.137 |
| | Urban | 24 | 7.75 | 1.59 | | |

This same tendency is maintained for Compulsory Secondary Education. No differences between urban and rural learners can be detected for L1 competence, thereby indicating that the latter is acquired equally well within CLIL schools in both settings (cf. Table 6). However, an interesting difference emerges at this stage pertaining to subject content learning.

At the end of CSE, it is curiously rural students who significantly outperform their urban counterparts in the mastery of Natural Science subjects delivered in English. This piece of information reveals that the presence of a different variable may be the principal driver for such quantitative difference, probably related to the way of handling the demands of the subject in this grade and, in general, the pedagogical approach implemented in the rural schools.

Table 6. L1 and subject content results for Compulsory Secondary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|---------------|---------|----|------|--------------------|-----------|---------|
| Mother tongue | Rural | 37 | 7.11 | 1.71 | 0.379 | 0.125 |
| | Urban | 31 | 6.42 | 1.94 | | |
| Science | Rural | 37 | 7.43 | 1.77 | 0.736 | 0.003 |
| | Urban | 31 | 5.97 | 2.21 | | |

3.5.3. Psycho-affective factors

The analysis of the psycho-affective variables reveals very encouraging results for Primary Education. Indeed, although statistically significant differences emerge between rural and urban learners in terms of verbal intelligence and in favour of the latter, no differences whatsoever can be detected in terms of the four motivational factors canvassed. This is quite a positive finding, as it transpires that in rural settings, Primary school students are just as motivated as students in urban schools (cf. Table 7).

Table 7. Summary of psycho-affective variables for Primary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|------------------|---------|-----|-------|--------------------|-----------|---------|
| Verbal reasoning | Rural | 111 | 12.18 | 3.83 | 0.150 | 0.214 |
| | Urban | 184 | 11.59 | 3.98 | | |
| Motivation | Rural | 74 | 5.14 | 1.81 | 0.206 | 0.256 |
| | Urban | 53 | 4.74 | 2.11 | | |
| Anxiety | Rural | 74 | 6.99 | 1.76 | 0.225 | 0.222 |
| | Urban | 53 | 6.62 | 1.47 | | |
| Indifference | Rural | 74 | 2.84 | 2.04 | -0.155 | 0.366 |
| | Urban | 53 | 3.13 | 1.60 | | |
| Self-demand | Rural | 71 | 1.70 | 1.41 | -0.178 | 0.334 |
| | Urban | 53 | 1.98 | 1.75 | | |

The situation, however, changes at the end of the Compulsory Secondary Education stage. At this subsequent point, the rural and urban learners level out vis-à-vis verbal intelligence, but the motivation of the rural learners wanes, especially in terms of willingness to learn and demonstrating a lack of interest in learning. In both of these dimensions, statistically significant differences can be found in favour of urban learners. Thus, it becomes incumbent to monitor the possible causes for this decline in motivation in Secondary Education and to act upon them in order to ensure it does not detrimentally impact the development of CLIL programmes in rural contexts (cf. Table 8).

Table 8. Summary of psycho-affective variables for Compulsory Secondary Education

| | Setting | N | Mean | Standard deviation | Cohen's d | p value |
|------------------|---------|-----|-------|--------------------|-----------|---------|
| Verbal reasoning | Rural | 74 | 13.28 | 3.97 | -0.467 | 0.011 |
| | Urban | 53 | 15.21 | 4.35 | | |
| Motivation | Rural | 37 | 3.76 | 1.42 | -0.373 | 0.045 |
| | Urban | 131 | 4.38 | 1.72 | | |
| Anxiety | Rural | 37 | 6.51 | 1.74 | 0.200 | 0.283 |
| | Urban | 131 | 6.12 | 2.00 | | |
| Indifference | Rural | 37 | 5.57 | 1.78 | 0.436 | 0.020 |
| | Urban | 131 | 4.73 | 1.96 | | |
| Self-demand | Rural | 37 | 1.73 | 1.57 | 0.171 | 0.419 |
| | Urban | 130 | 1.50 | 1.27 | | |

3.5.4. Extramural exposure

The whole picture concerning the number of hours in which the students of 6th Grade of Primary Education are exposed to the English language reveals that, in general terms, urban students spend more hours during the week exposed to this language, with a mean of 14,88 hours for urban students in comparison with a mean of 12,39 for rural students, and that this difference is significant (cf. Table 9). When itemising the analysis however, it was unearthed that in some dimensions the difference was significant for the group of rural students, who spent more hours than urban students exposed to the language via reading books. However, differences were significant in favour of urban students with regards to watching films, playing videogames, and listening to songs. On the contrary, differences were not significant between rural and urban students with respect to reading magazines, watching TV, using the Internet, extracurricular hours, and the number of miscellanea hours. The augmented use of books as the main resource of written material is perhaps understandable considering that younger students in areas where a more traditional perspective towards teaching prevails probably mirror the system and confine themselves to more conventional materials. Nevertheless, it is

remarkable that in one of the significant values encountered, regarding Internet usage, it is the group of rural students in this grade who spend more hours than urban students (albeit not significantly from a statistical point of view). This result is interesting as it is usually supposed that the use of the Internet is not so frequent in rural environments.

Table 9. Summary of extramural exposure for Primary Education

| | Setting | N | Mean | Standard deviation | Rosenthal's r | p value |
|-----------------------|---------|----|-------|--------------------|---------------|---------|
| Books hours | Rural | 69 | 1.59 | 2.50 | -0.425 | <0.001 |
| | Urban | 53 | .36 | 1.10 | | |
| Magazines hours | Rural | 67 | .86 | 2.04 | -0.015 | 0.874 |
| | Urban | 51 | .93 | 2.16 | | |
| TV hours | Rural | 67 | 1.45 | 2.79 | -0.107 | 0.244 |
| | Urban | 52 | 2.20 | 3.31 | | |
| Films hours | Rural | 66 | .92 | 1.63 | -0.217 | 0.018 |
| | Urban | 53 | 1.45 | 1.49 | | |
| Internet hours | Rural | 64 | 2.32 | 6.71 | -0.123 | 0.186 |
| | Urban | 51 | 1.65 | 3.75 | | |
| Videogames hours | Rural | 72 | 1.76 | 3.24 | -0.227 | 0.012 |
| | Urban | 50 | 2.99 | 4.79 | | |
| Songs hours | Rural | 72 | 2.91 | 4.92 | -0.352 | <0.001 |
| | Urban | 53 | 3.76 | 2.58 | | |
| Extracurr. hours | Rural | 65 | 0.99 | 1.21 | -0.014 | 0.883 |
| | Urban | 51 | 1.05 | 1.24 | | |
| Other hours | Rural | 57 | 0.69 | 1.27 | -0.133 | 0.192 |
| | Urban | 39 | 1.10 | 3.58 | | |
| Weekly exposure hours | Rural | 74 | 12.39 | 18.11 | -0.248 | 0.005 |
| | Urban | 53 | 14.88 | 10.69 | | |

On the contrary, the results regarding extramural exposure for rural and urban students in 4th grade of Compulsory Secondary Education are noticeably dissimilar (cf. Table 10). In relation to the total number of hours spent being exposed to the English language, reading magazines, watching TV, using the Internet, listening to songs, and the number of

extracurricular and miscellanea hours of contact, the differences between urban and rural students are not significant in this grade. Only in the case of reading books, watching films, and playing videogames are the differences that have been found significant and in all three cases they tilt in favour of urban students. It is important to note that the hours in contact with English through films and videogames are conspicuously higher, especially for the latter, which denotes that at this age the permeation of extramural exposure in linguistically enriched areas (different accents, registers, or styles) which derives from a varied typology of manifestations of the language is effervescent, and, consequently, may play a substantial role as a relevant influential factor. Nonetheless, it is interesting to note that both groups again level out in the long run in terms of extramural exposure to English, which seems to point to the fact that the latter reaches students in both areas at an equal rate of success (cf. Lancaster in this volume for a more fine-grained account of the relationship between extramural exposure and language attainment in CLIL scenarios).

Table 10. Summary of extramural exposure for Compulsory Secondary Education

| | Setting | N | Mean | Standard deviation | Rosenthal's r | p value |
|-----------------------|----------------|----------|-------------|---------------------------|----------------------|----------------|
| Books hours | Rural | 37 | 0.45 | .78 | -0.321 | <0.001 |
| | Urban | 97 | 1.20 | 1.47 | | |
| Magazines hours | Rural | 37 | 1.15 | 1.64 | -0.024 | 0.794 |
| | Urban | 81 | 1.13 | 2.00 | | |
| TV hours | Rural | 37 | 1.37 | 2.01 | -0.120 | 0.168 |
| | Urban | 95 | 2.35 | 3.77 | | |
| Films hours | Rural | 36 | 0.59 | 1.30 | -0.362 | <0.001 |
| | Urban | 99 | 1.51 | 2.06 | | |
| Internet hours | Rural | 35 | 3.58 | 4.31 | -0.106 | 0.207 |
| | Urban | 107 | 5.38 | 7.24 | | |
| Videogames hours | Rural | 37 | 2.08 | 4.05 | -0.192 | 0.027 |
| | Urban | 96 | 4.58 | 8.99 | | |
| Songs hours | Rural | 33 | 11.04 | 16.06 | -0.076 | 0.354 |
| | Urban | 115 | 10.02 | 12.97 | | |
| Extracurr. hours | Rural | 37 | 1.75 | 2.26 | -0.166 | 0.055 |
| | Urban | 96 | 1.95 | 1.72 | | |
| Other hours | Rural | 29 | .41 | 1.18 | -0.201 | 0.068 |
| | Urban | 53 | 7.59 | 32.24 | | |
| Weekly exposure hours | Rural | 37 | 20.96 | 21.55 | -0.035 | 0.646 |
| | Urban | 131 | 25.51 | 30.83 | | |

4. CONCLUSION

After completing the analysis of the four dimensions selected for the comparison between rural and urban environments, some interesting aspects come to the fore. The review of the data related to the first objective posited – the possible existence of a different level in the command of the foreign language in rural and urban students – reveals that the differences which show urban students obtaining better marks in total (both in the test and the interview, and in both grades) are significant in relation to students in 6th grade of Primary Education. However, differences in the test results are not significant regarding 4th grade students of Compulsory Education, whereas the differences are generally significant as far as the results of the interview are concerned. According to our findings, CLIL programmes appear to be working equally well in rural and urban settings. Indeed, *vis-à-vis* FL attainment, while there is an initial language competence differential favouring urban students in Primary Education, it diminishes in the long term since at the end of Compulsory Secondary Education, only some minor differences between both cohorts remain and these are solely related to oral skill. These results run counter to those obtained by Alejo and Piquer Piriz (2016), in which urban learners invariably outperformed rural ones in terms of linguistic attainment. Thus, it appears that time is a crucial variable for CLIL programmes to take adequate root in rural settings.

Results regarding the second objective, performance in the subjects of ‘Spanish’ and ‘Science’ show that the differences between rural and urban students are not significant in the subject ‘Language’ for students of both grades, and the differences in favour of urban students are only significant in the subject of ‘Science’ amongst students of 4th grade of Compulsory Secondary Education. This dissimilarity of results makes it difficult to assert that the rural-urban divide is the crucial factor in explaining performance in these two subjects for this particular objective. However, the data allows us to conclude that the effect of CLIL can be clearly observed in a content subject among students who have undergone some years of education using this approach. Both groups acquire L1 competence and learn subject matter taught through the FL equally well at both educational levels, except for content learning in ‘Science’, where it is the rural students who outstrip their urban counterparts.

With regard to the third specific objective, the role of psycho-affective factors, there seems to be an apparent conflict in the results as the majority of the differences found between rural and urban students are not significant in 6th grade of Primary Education (namely motivation, absence of anxiety, indifference, and self-demand). However, in 4th grade of Compulsory Secondary Education, differences are not significant in verbal reasoning, anxiety, and self-demand, but they are significant in motivation and indifference. Again, the data obtained do not enable us to assert that the rural-urban divide cannot account for the psycho-affective differences. On the contrary, they seem to suggest that the agent responsible for the differences observed is in fact the level of students and not the environment. A more worrying outcome is obtained in terms of motivation: whereas no differences emerge in Primary Education, rural students in CSE exhibit significantly lower motivation in terms of willingness to learn and a significantly higher lack of interest in learning. This result departs from the findings of Alejo and Piquer Piriz (2016), as the rural and urban learners in their study seemed to share a quite similar motivational profile and, if anything, rural learners appeared to be more willing to put extra effort into the CLIL enterprise than their urban counterparts.

Finally, when it comes to the presentation of the results associated with the fourth specific objective, the amount and quality of extramural exposure, the most apparent conclusion is that, in general, the differences between urban and rural students are not conclusive. The itemised analysis reveals that the differences might be significant in a small number of items in one of the grades but, on the contrary, they were not significant in the other. Even the comparison of the total amount of hours of contact with the foreign language shows that this is true for the students of 6th grade of Primary Education, but the differences between the rural and urban students in the 4th Grade of Compulsory Secondary Education are not significant. We cannot conclude, thus, that rural students outstrip urban ones, or vice-versa, but only that, in general, the number of hours of extramural exposure is quantitatively and qualitatively higher for urban students than for rural ones in the youngest learners. Extramural exposure to English also levels out in the long run: whereas in Primary Education there are more differences in favour of urban learners (except in relation to reading books, to which the rural learners devote a significantly greater number of hours), these greatly diminish overall by the end of CSE, where it appears that learners in both settings seek out and obtain extramural exposure in largely similar quantities. This outcome concurs with the findings of Alejo and Piquer Piriz (2016: 13), who ascertained that “the frequency with which students’ self-report being in contact with English in extramural contexts has been shown to be no different in the two milieus studied”.

The interpretation of these results yields some interesting inferences. Firstly, in many of the dimensions and areas evaluated in the two grades there are not noticeable differences detected between rural and urban students. This finding may lead to the conclusion that this variable is not the main factor responsible for the creation of differences between students in these two settings, which contradicts the results of the study by Alejo and Piquer Piriz (2016). Secondly, when the differences are significant, the variation is normally stable and consistent in the majority of the areas in favour of urban students. However, there are items in which, contrarily to what was expected in terms of the influence of environment, rural students display better results than urban students. Thirdly, with respect to certain aspects, and particularly to some variables, rural and urban students show distinctly significant values in the two grades; that is, in one of the grades the difference might be higher among rural students but for the same variable urban students might display higher scores in the other grade. Fourthly, there are other variables at work; for example, the academic ability of the students or even the pedagogical principles, whose influence in determining differences between students may be termed as more relevant, and which would consequently deserve further specific research. Finally, in our view, one of the most interesting conclusions is that which derives from the existence of visible differences with younger students and from the dilution of such differences with older students. While there are significant differences between rural and urban students at lower educational stages, these dimensions are levelled out as the students grow up.

Therefore, as a general conclusion, it cannot be stated that a different environment exerts a consistent influence in the behaviour of rural vs. urban students in CLIL programmes. Moreover, the permeation of all the different variables in the performance of rural and urban students cannot be associated directly in all cases to the differences in setting, given the fact that the variation is in some cases negligible, not significant, or in some others opposed to what was expected. Also, it has been observed that in some areas the cause-effect relationship

is not so straightforward and clear. It follows from the data, thus, that the difference in terms of rural and urban environments cannot be considered as a crucial factor when accounting for variation in CLIL programmes. Without undermining the relevance of this variable in other dimensions, an evident suggestion is that more research needs to be conducted in order to provide complementary data in support of the hypothesis that the rural-urban divide may be responsible for major differences in CLIL. Consequently, some areas other than those analysed in this study, for example, the pedagogical practices (how the role of the teacher and the proposed activities may or may not affect the results), the economic and educational status of parents and students, or the social background where the urban school is located, are in need of further investigation.

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