

Análisis de secuencias didácticas AICLE para Educación Primaria

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Recibido: 05/11/2021
Aceptado: 07/03/2022

ABSTRACT

This work deals with a meta-evaluation of the Content and Language Integrated Learning (CLIL) teaching sequences (N=46) for Primary education provided by the Andalusian *Consejería de Educación*, Spain, in German and English. The objective is to present an analysis of the sequences concerning the integration of CLIL methodological principles throughout the theory-based reviews by pre-service teachers (n=42) who attended (2020-21) the subject *AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria* in German or in English of the Bachelor's Degree in Primary Education at the University of Cádiz. This is a mixed-methods research with an exploratory sequential design, in which the CIPMA questionnaire (Custodio and García Ramos, 2020) was adapted to evaluate the sequences. Also, a focus group was carried out along with a significant representation of informants. The results reveal that, although the average evaluations of the sequences vary according to the foreign language (German: 1.78; English: 3.72), the order of scoring of the questionnaire dimensions is almost identical: *Elementos Fundamentales de AICLE* or *Metodología*; *Recursos*; and *Evaluación*. Nonetheless, the sequences do not integrate some CLIL methodological principles: resources (teaching materials related to real-life situations; the use of ICT to promote interaction and self-learning; etc.) and assessment (simplification or reduction of the content; summative and formative evaluation strategies; etc.). The difficulty of some activities is noteworthy as well as the inadequate treatment of the target languages, mainly German, regarding primary school students' linguistic skills.

KEYWORDS: Bilingual Education; CLIL; Curriculum; Educational Resources; Schools; Teaching Sequences.

Analysis of CLIL teaching sequences for Primary Education

RESUMEN

Este trabajo expone una metaevaluación de las secuencias didácticas de Aprendizaje Integrado de Contenido y Lenguas Extranjeras (AICLE) (N=46) de la Consejería de Educación de la Junta de Andalucía, España, en inglés y alemán para educación primaria. El objetivo es analizar dichas secuencias a partir de la integración de los principios metodológicos AICLE según las revisiones teóricas de maestros en formación inicial (n=42) que cursaron (2020-2021) la asignatura AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria en alemán o inglés del Grado en Educación Primaria en la Universidad de Cádiz. El estudio presenta un enfoque mixto y un diseño exploratorio secuencial, habiéndose adaptado el cuestionario CIPMA (Custodio y García Ramos, 2020) para evaluar las secuencias. Además, se realizó un grupo focal con una representación significativa de informantes. Los resultados revelan que, aunque las valoraciones medias de las secuencias varían según la lengua extranjera (alemán: 1,78; inglés: 3,72), el orden de las puntuaciones de las dimensiones del cuestionario es casi idéntico: Elementos Fundamentales de AICLE o Metodología; Recursos; y Evaluación. Sin embargo, las secuencias no integran varios de los principios metodológicos AICLE: recursos (materiales didácticos relacionados con situaciones de la vida real; uso de las TIC para promover la interacción y el autoaprendizaje; etc.) y evaluación (simplificación o reducción de los contenidos; estrategias de evaluación sumativa y formativa; etc.). Cabe destacar también la dificultad de algunas actividades y el inadecuado tratamiento de las lenguas meta, especialmente el alemán, respecto a las competencias lingüísticas de los estudiantes de primaria.

PALABRAS CLAVE: AICLE; Educación bilingüe; Plan de estudios; Recursos educativos; Escuelas; Secuencias didácticas.

Introduction

In the last decades, several educational programmes have been launched in Europe with the paramount idea of promoting plurilingualism and pluriculturalism (Escobar, 2019). The purpose was to improve communication and understanding between the citizens of the member states (De la Maya and Luengo, 2015). The ultimate idea was to create a Europe constructed by multilingual societies, whose inhabitants speak two or more languages, in addition to their mother tongue (Escobar, 2019).

To stay at the forefront, the community of Andalusia, Spain, initiated in 2005 the *Plan de Fomento del Plurilingüismo*. The underlying aim was to make Andalusia become part of the social, technological, and economical change (Ramos, 2007) and shift from a monolingual to a multilingual society through education (Lorenzo et al., 2009). Five key programmes were created to achieve this goal, being the bilingual section scheme

one of them. This involved the establishment of bilingual options in primary and secondary schools across the place (Moore and Lorenzo, 2015). In 2021-2022, there are 1226 Early childhood, Primary, and Secondary education bilingual or plurilingual schools in Andalusia (Centros Bilingües y Plurilingües de Andalucía 21-22, 2022), which implies more than 472.800 students (Centros Bilingües de Andalucía, 2022).

In this panorama, CLIL (Content and Language Integrated Learning) (Coyle et al., 2010) has become the keystone of these agendas. Born in Europe in the 1990s, it is considered an umbrella term (Mehisto et al., 2008) covering many education approaches where language and content are integrated (Moore and Lorenzo, 2015). CLIL includes any programme where a foreign language is used as a vehicle to teach and learn non-language content (San Isidro, 2018). Moreover, it has become a powerful tool to respond to Europe's objective to become the world's most competitive knowledge-based economy (Marsh, 2002) by training learners to be competent citizens (Pérez-Cañado, 2015).

Thus, CLIL is seen as a potential trigger for change, which requires the reconfiguration of the teaching roles (Pérez-Cañado, 2015). This is due to the recent focus of education on student-centered pedagogies (Ruiz de Zarobe and Zenotz, 2015). In the words of Wolff (2012, p. 107), "CLIL teacher education, if taken seriously, constitutes a fundamental part of all teacher education, that every teacher should be educated, in fact, as a CLIL teacher". So, teacher training is key to bilingual education since it is the cornerstone of the sustainability of CLIL (Pérez-Cañado, 2017) as for elements such as foreign language treatment; 4C Framework; attention to diversity; teaching strategies, resources, assessment and so forth (Custodio and García Ramos, 2020).

However, teacher training provision has not followed its rapid spread: The new requirements laid on teachers have been largely overlooked and inadequately addressed (Pérez-Cañado, 2014). Prior research has been made around this topic (Pérez-Cañado, 2015; Jover et al., 2016; Delicado and Pavón, 2016; De la Maya and Luengo, 2015), shedding light on the most urgent needs of teachers, being materials and resources one of them (Pérez-Cañado, 2014). The lack of CLIL materials has meant an obstacle, not only for the development of teachers but also for CLIL itself (Infante et al., 2009).

From the Faculty of Education of the University of Cádiz (Andalusia, Spain), several innovative measures have been developed to ensure that future primary school teachers are sufficiently trained for CLIL teaching. In this scenario, students take plurilingual instruction in which they experience the CLIL approach as learners, preparing themselves for applying it as primary school teachers (Romero and Zayas, 2017). Within their training, one of the activities recently carried out had to do with the analysis of CLIL materials that the *Junta de Andalucía* started to provide in 2010. More specifically, teaching sequences for different CLIL subjects and foreign languages were picked.

The aim is to present an exploratory analysis of the CLIL teaching sequences¹ at the Andalusian *Consejería de Educación* about the integration of CLIL methodological

¹ <http://www.juntadeandalucia.es/educacion/webportal/web/aicle/secuencias-aicle>

principles through theory-based reviews. These were developed by the CLIL pre-service teachers currently taking the subject *AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria* of the Bachelor's Degree in Primary education (specialization: Foreign Language/CLIL) at the University of Cádiz (2020-2021). For that, an adaptation of the CIPMA questionnaire (Custodio and García Ramos, 2020) was considered. This questionnaire is a tool for measuring the teachers' competence in planning CLIL and diagnosing teacher training needs.

To address the objective, the following research questions are posed:

1. Which dimensions of the adapted CIPMA questionnaire are best and worst rated by the CLIL pre-service teachers based on the evaluations of the sequences?
2. Are there any differences between the CLIL pre-service teachers' evaluations of the sequences whether they belong to English or German considering that their theoretical knowledge of CLIL is mainly the same?

On one hand, the novelty of this work lies in the fact that a significant part of the CLIL literature cited in this manuscript refers to studies analysed in *AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria*. This is the subject in which the CLIL pre-service teachers were enrolled at the time the research was conducted. On the other hand, the main contribution of the study focuses on the extensive use of the questionnaire to analyse CLIL teaching sequences by both CLIL pre-service and in-service teachers in Andalusia/Spain.

Method

Research design

This is a mixed-methods exploratory research, in which the CIPMA questionnaire was adapted to evaluate the dimensions of CLIL teaching sequences. Furthermore, a focus group was conducted after analysing the results of the questionnaire. At this point, supporting questionnaires with focus groups implies obtaining a better interpretation of the context of analysis (Llurda, 2018). To ensure the enhanced representation of the CLIL pre-service teachers, the two foreign languages (English and German) and the content subjects (Natural Science and Arts Education) were considered, except for Physical Education as there were no teaching sequences in German for this subject.

CLIL teaching sequences and sample population

This work deals with a meta-evaluation of CLIL teaching sequences (n=46; 95.9%) for Primary education (Years 1 to 6) at the *Junta de Andalucía* in English (n=39; 92.9%); and German (N=7). The sequences relate to three CLIL subjects within the Andalusian Primary education curriculum: Natural Science (n=35; 76.1%); Arts Education (n=6; 87.5%) and Physical Education (n=5; 71.4%). Moreover, the sequences are divided into Years, between 1 and 6: 1 (n=7; 15.2%); 2 (n=6; 13.0%); 3 (n=3; 13.0%); 4 (n=7; 15.2%); 5 (n=6; 13.0%); 6 (n=7; 15.2%); 1-2 (n=1; 2.2%); 3-4 (n=1; 2.2%); 5-6 (n=4;

8.6%); and 3-4 and 5-6 (n=1; 2.2%).

The participants were all the students (N=42) who took part in the continuous assessment modality of the subjects *AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria* (English and German) in 2020-2021 (see Table 1). This is a major subject in the Foreign Language/CLIL specialization of the Degree in Primary education. It should be taken into account that these subjects are the very first theoretical contact students have with CLIL, so no pre-tests on previous knowledge applies. The sample does not consider factors other than class attendance for at least 80% of the sessions. The population was selected unintentionally since no prior selection of the students to participate was made. Table 1 below includes a summary of the subjects' contents:

Table 1

Subjects' contents

| | |
|---|--|
| 1 | Basic concepts and specific tools for CLIL teaching |
| 2 | Bilingual teaching/CLIL: models, conditions, and contexts |
| 3 | Bilingual schools: Language project and CLIL teacher' skills |
| 4 | CLIL planning: analysis and practical proposals |

Concerning the procedure of the evaluations, the students received no specific training on how to carry out the analysis of the teaching sequences. Nonetheless, they were asked to apply the theoretical knowledge about CLIL learned so far in *AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria*. The students had to justify all ratings for each dimension or sub-dimension by reasoning their answers based on the theory.

Protocol for adapting the CIPMA questionnaire

The adaptation of the CIPMA questionnaire (see Annex) aims at the validity from an empirical perspective to test whether the tool is valid for measuring the degree of integration of CLIL methodological principles. The original questionnaire includes four dimensions, being the first two dimensions divided into two sub-dimensions each. Furthermore, there is a final section for general conclusions.

The questions adapted from the CIPMA questionnaire were shared with a group of three CLIL experts. They were all informed of the aim of the study and were given the original questionnaire. The adapted questionnaire includes 25 items, being question 40 deleted as it refers to a task exclusive to CLIL in-service teachers (*¿crees que planificas tu docencia?*). The experts responded to each of the 25 items on a four-point Likert scale (1: strongly disagree; 4 strongly agree).

They rated 80% of the items (1, 2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 17, 18, 20, 21, 22, 23, 24, and 25) with a score of 4 and the remaining 20% of the items (4, 8, 15, and 19) with a score of 3.3. Moreover, experts 1 and 2 made comments on some of the items. As a result, the wording of item 10 (~~*La intención de incluir estrategias para clarificar y*~~

~~ayudar a los alumnos a llegar a conclusiones por sí mismos se percibe como probable~~) was readapted (*Se percibe la intención de incluir estrategias para clarificar y ayudar a los alumnos a llegar a conclusiones por sí mismos*), while the other items (4, 8, 15, and 16) were kept, as their comments implied a modification of the types of question (10) and answer (4, 8, 15, and 16).

Data analysis

The internal consistency of the adapted questionnaire was tested using Cronbach's Alpha with excellent results (α : .896), confirming the high correlation between the 25 items. To ensure its reliability, the evaluations of the three experts were measured using the Intraclass Correlation Coefficient (ICC) (see Table 2). The ICC is 0.799, showing good reliability:

Table 2

Intraclass Correlation Coefficient (ICC)

| | ICC | 95% confidence interval | | F Test with true value 0 | | | |
|------------------|------|-------------------------|-------------|--------------------------|-----|-----|------|
| | | Lower bound | Upper bound | Value | df1 | df2 | Sig |
| Single measures | ,137 | ,010 | ,887 | 4,977 | 2 | 48 | ,011 |
| Average measures | ,799 | ,199 | ,995 | 4,977 | 2 | 48 | ,011 |

Results

The results of the evaluations of the CLIL teaching sequences are presented below. First, Table 3 shows the average rates of all dimensions. The highest rated dimensions are 1 and 2, while the lowest rated dimensions are 3 and 4 for both English and German:

Table 3

Questionnaire average rates

| | English | max. | min. | German | max. | min. |
|---------------------|---------|------|------|--------|------|------|
| Dimension 1 | 4.54 | 5.82 | 3.62 | 2.17 | 3.86 | 1.14 |
| Sub-dimension 1.1 | 4.35 | 5.00 | 3.62 | 2.54 | 3.86 | 1.86 |
| Sub-dimension 1.2 | 4.73 | 5.82 | 3.94 | 1.80 | 3.43 | 1.14 |
| Dimension 2 | 3.76 | 4.56 | 2.71 | 1.89 | 4.29 | 1.00 |
| Sub-dimension 2.1 | 4.06 | 4.56 | 3.41 | 2.04 | 4.29 | 1.00 |
| Sub-dimension 2.2 | 3.47 | 2.71 | 4.21 | 1.74 | 2.43 | 1.57 |
| Dimension 3 | 3.54 | 4.53 | 2.65 | 1.57 | 1.57 | 1.57 |
| Dimension 4 | 3.05 | 3.18 | 2.85 | 1.50 | 1.86 | 1.14 |
| General conclusions | 5.36 | 5.76 | 5.35 | 6.00 | 6.00 | 6.00 |

Second, Table 4 presents the frequency (F) (1: never; 6: always) and the percentages (%) of the 25 items considered:

Table 4

Item distribution

| Item | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | |
|------|----|------|----|------|----|------|----|------|----|------|----|------|
| | F | % | F | % | F | % | F | % | F | % | F | % |
| 1 | 6 | 13.0 | 5 | 10.9 | 7 | 15.2 | 3 | 6.5 | 15 | 32.6 | 10 | 21.7 |
| 2 | 6 | 13.0 | 3 | 6.5 | 2 | 4.3 | 4 | 8.7 | 19 | 41.3 | 12 | 26.1 |
| 3 | 5 | 10.9 | 13 | 28.3 | 7 | 15.2 | 7 | 15.2 | 9 | 19.6 | 5 | 10.9 |
| 4 | 4 | 8.7 | 2 | 4.3 | 5 | 10.1 | 5 | 10.9 | 11 | 23.9 | 19 | 41.3 |
| 5 | 5 | 10.9 | 4 | 8.7 | 1 | 2.2 | 10 | 21.7 | 18 | 39.1 | 8 | 17.4 |
| 6 | 6 | 13.0 | 2 | 4.3 | 3 | 6.5 | 8 | 17.4 | 18 | 39.1 | 9 | 19.6 |
| 7 | 6 | 13.0 | 4 | 8.7 | 4 | 8.7 | 6 | 13.0 | 18 | 39.1 | 8 | 17.4 |
| 8 | 0 | 0.0 | 1 | 2.2 | 3 | 6.5 | 2 | 4.3 | 8 | 17.4 | 32 | 69.6 |
| 9 | 5 | 10.9 | 8 | 17.4 | 9 | 19.6 | 8 | 17.4 | 8 | 17.4 | 8 | 17.4 |
| 10 | 5 | 10.9 | 5 | 10.9 | 9 | 19.6 | 6 | 13.0 | 13 | 28.3 | 8 | 17.4 |
| 11 | 3 | 6.5 | 2 | 4.3 | 6 | 13.0 | 7 | 15.2 | 12 | 26.1 | 16 | 34.8 |
| 12 | 13 | 28.3 | 11 | 23.9 | 1 | 2.2 | 6 | 13.0 | 11 | 23.9 | 4 | 8.7 |
| 13 | 10 | 21.7 | 3 | 6.5 | 7 | 15.2 | 5 | 10.9 | 14 | 30.0 | 7 | 15.2 |
| 14 | 8 | 17.4 | 8 | 17.4 | 4 | 8.7 | 5 | 10.9 | 7 | 15.2 | 14 | 30.4 |
| 15 | 4 | 8.7 | 9 | 19.6 | 10 | 21.7 | 6 | 13.0 | 5 | 10.9 | 12 | 26.1 |
| 16 | 15 | 32.6 | 12 | 26.1 | 10 | 21.7 | 3 | 6.5 | 5 | 10.9 | 1 | 2.2 |
| 17 | 5 | 10.9 | 11 | 23.9 | 11 | 23.9 | 2 | 4.3 | 13 | 28.3 | 4 | 8.7 |
| 18 | 17 | 37.0 | 8 | 17.4 | 9 | 19.6 | 3 | 6.5 | 2 | 4.3 | 7 | 15.2 |
| 19 | 8 | 17.4 | 10 | 21.7 | 7 | 15.2 | 8 | 17.4 | 11 | 23.9 | 2 | 4.3 |
| 20 | 6 | 13.0 | 4 | 8.7 | 5 | 10.9 | 7 | 15.2 | 13 | 28.3 | 11 | 23.9 |
| 21 | 21 | 45.7 | 12 | 26.1 | 4 | 8.7 | 1 | 2.2 | 4 | 8.7 | 4 | 8.7 |
| 22 | 18 | 39.1 | 8 | 17.4 | 8 | 17.4 | 4 | 8.7 | 5 | 10.9 | 3 | 6.5 |
| 23 | 12 | 26.1 | 14 | 30.4 | 5 | 10.4 | 8 | 17.4 | 4 | 8.7 | 3 | 6.5 |
| 24 | 0 | 0.0 | 0 | 0.0 | 1 | 2.2 | 0 | 0.0 | 5 | 10.9 | 40 | 87.0 |
| 25 | 0 | 0.0 | 0 | 0.0 | 3 | 6.5 | 3 | 6.5 | 8 | 17.4 | 32 | 69.6 |

The descriptive statistics for the 25 items included in the adaptation of the CIPMA questionnaire are shown below (see Table 5) as for the CLIL teaching sequences (N=46). Regardless of the ratings of the items 24 and 25 (*Conclusiones generales*), the highest rated items are 4, 8 and 11, while the lowest rated items are 21, 16 and 22:

Table 5

Item descriptive statistics

| Item | Mean | Std. Deviation |
|------|------|----------------|
| 1 | 4,00 | 1,738 |

| | | |
|----|------|-------|
| 2 | 4,37 | 1,691 |
| 3 | 3,37 | 1,597 |
| 4 | 4,61 | 1,626 |
| 5 | 4,22 | 1,562 |
| 6 | 4,24 | 1,608 |
| 7 | 4,09 | 1,658 |
| 8 | 5,46 | 1,005 |
| 9 | 3,65 | 1,636 |
| 10 | 3,89 | 1,622 |
| 11 | 4,54 | 1,516 |
| 12 | 3,07 | 1,818 |
| 13 | 3,67 | 1,802 |
| 14 | 3,80 | 1,939 |
| 15 | 3,76 | 1,715 |
| 16 | 2,43 | 1,409 |
| 17 | 3,41 | 1,586 |
| 18 | 2,70 | 1,800 |
| 19 | 3,22 | 1,562 |
| 20 | 4,09 | 1,710 |
| 21 | 2,28 | 1,669 |
| 22 | 2,54 | 1,643 |
| 23 | 2,72 | 1,559 |
| 24 | 5,83 | 0,529 |
| 25 | 5,50 | 0,888 |

Table 6 includes the descriptive statistics for all 25 items for both languages concerning the sequences: English (n=39) and German (n=7):

Table 6

Item descriptive statistics: English and German

| Item | | Mean | Std. Deviation | Std. Error Mean |
|------|---------|------|----------------|-----------------|
| 1 | English | 4,21 | 1,625 | 0,260 |
| | German | 2,86 | 2,035 | 0,769 |
| 2 | English | 4,46 | 1,620 | 0,259 |
| | German | 3,86 | 2,116 | 0,800 |
| 3 | English | 3,59 | 1,534 | 0,246 |
| | German | 2,14 | 1,464 | 0,553 |
| 4 | English | 5,08 | 1,133 | 0,181 |
| | German | 2,00 | 1,528 | 0,577 |
| 5 | English | 4,64 | 1,224 | 0,196 |
| | German | 1,86 | 1,069 | 0,404 |
| 6 | English | 4,79 | 0,978 | 0,157 |
| | German | 1,14 | 0,378 | 0,143 |
| 7 | English | 4,62 | 1,161 | 0,186 |

| | | | | |
|----|---------|------|-------|-------|
| | German | 1,14 | 0,378 | 0,143 |
| 8 | English | 5,82 | 0,389 | 0,062 |
| | German | 3,43 | 0,976 | 0,369 |
| 9 | English | 3,97 | 1,513 | 0,242 |
| | German | 1,86 | 1,069 | 0,404 |
| 10 | English | 4,33 | 1,325 | 0,212 |
| | German | 1,43 | 0,535 | 0,202 |
| 11 | English | 4,59 | 1,551 | 0,248 |
| | German | 4,29 | 1,380 | 0,522 |
| 12 | English | 3,44 | 1,729 | 0,277 |
| | German | 1,00 | 0,000 | 0,000 |
| 13 | English | 4,08 | 1,628 | 0,261 |
| | German | 1,43 | 0,787 | 0,297 |
| 14 | English | 4,23 | 1,784 | 0,286 |
| | German | 1,43 | 0,535 | 0,202 |
| 15 | English | 4,00 | 1,717 | 0,275 |
| | German | 2,43 | 0,976 | 0,369 |
| 16 | English | 2,59 | 1,464 | 0,234 |
| | German | 1,57 | 0,535 | 0,202 |
| 17 | English | 3,74 | 1,482 | 0,237 |
| | German | 1,57 | 0,535 | 0,202 |
| 18 | English | 2,85 | 1,885 | 0,302 |
| | German | 1,86 | 0,900 | 0,340 |
| 19 | English | 3,56 | 1,429 | 0,229 |
| | German | 1,29 | 0,488 | 0,184 |
| 20 | English | 4,54 | 1,411 | 0,226 |
| | German | 1,57 | 0,787 | 0,297 |
| 21 | English | 2,41 | 1,758 | 0,281 |
| | German | 1,57 | 0,787 | 0,297 |
| 22 | English | 2,67 | 1,595 | 0,255 |
| | German | 1,86 | 1,864 | 0,705 |
| 23 | English | 3,00 | 1,522 | 0,244 |
| | German | 1,14 | 0,378 | 0,143 |
| 24 | English | 5,79 | 0,570 | 0,091 |
| | German | 6,00 | 0,000 | 0,000 |
| 25 | English | 5,41 | 0,938 | 0,150 |
| | German | 6,00 | 0,000 | 0,000 |

After comparing the evaluations by items and languages, an inference and correlation analysis was carried out using an analysis of variance (One-way ANOVA). The items were interlinked with Paired Samples t-tests. The level of statistical significance recommended was selected whether equal variances were assumed or not assumed:

Table 7

Mean comparison using ANOVA on the adapted questionnaire items

| Item | t | p |
|------|--------|-------|
| 1 | 1,947 | 0,058 |
| 2 | 0,868 | 0,390 |
| 3 | 2,312 | 0,026 |
| 4 | 6,276 | 0,000 |
| 5 | 5,631 | 0,000 |
| 6 | 17,227 | 0,000 |
| 7 | 14,810 | 0,000 |
| 8 | 6,394 | 0,001 |
| 9 | 3,532 | 0,001 |
| 10 | 9,917 | 0,000 |
| 11 | 0,484 | 0,630 |
| 12 | 8,799 | 0,000 |
| 13 | 6,696 | 0,000 |
| 14 | 8,009 | 0,000 |
| 15 | 3,416 | 0,004 |
| 16 | 3,291 | 0,003 |
| 17 | 6,970 | 0,000 |
| 18 | 2,175 | 0,044 |
| 19 | 7,753 | 0,000 |
| 20 | 5,381 | 0,000 |
| 21 | 2,049 | 0,054 |
| 22 | 1,207 | 0,234 |
| 23 | 6,575 | 0,000 |
| 24 | -2,246 | 0,031 |
| 25 | -3,926 | 0,000 |

Finally, the correlations among the items were measured using Pearson’s r-test with the aim of assessing how these relate to each other and whether there is a significant direct or inverse correlation. The tables below show the Paired Samples t-test taking for all sub-dimensions, dimensions, and general conclusions. Considering Sub-dimension 1.1, the strongest correlation is found between items 4 and 5, while the weakest is situated between items 2 and 5 (see Table 8):

Table 8

Correlations: Sub-dimension 1.1

| Item | 1 | 2 | 3 | 4 | 5 |
|------|--------|--------|--------|--------|--------|
| 1 | 1 | ,582** | ,312* | ,519** | ,401** |
| 2 | ,582** | 1 | ,434** | 0,264 | 0,179 |
| 3 | ,312* | ,434** | 1 | ,382** | ,395** |

| | | | | | |
|---|--------|-------|--------|--------|--------|
| 4 | ,519** | 0,264 | ,382** | 1 | ,699** |
| 5 | ,401** | 0,179 | ,395** | ,699** | 1 |

Correlation is significant at the *0.05 level (2-tailed) / **0.01 level (2-tailed)

For Sub-dimension 1.2, items 6 and 8 present the highest correlation, in contrast to items 6 and 9, that show the lowest (see Table 9):

Table 9

Correlations: Sub-dimension 1.2

| Item | 6 | 7 | 8 | 9 | 10 |
|------|--------|--------|--------|--------|--------|
| 6 | 1 | ,734** | ,743** | ,336* | ,692** |
| 7 | ,734** | 1 | ,683** | ,454** | ,466** |
| 8 | ,743** | ,683** | 1 | ,356* | ,576** |
| 9 | ,336* | ,454** | ,356* | 1 | ,530** |
| 10 | ,692** | ,466** | ,576** | ,530** | 1 |

Correlation is significant at the *0.05 level (2-tailed) / **0.01 level (2-tailed)

Regarding Sub-dimension 2.1, the correlations between the items are significantly weak. The strongest is located between items 12 and 13, while the lowest relates items 11 and 13 (see Table 10):

Table 10

Correlations: Sub-dimension 2.1

| Item | 11 | 12 | 13 | 14 |
|------|--------|--------|--------|--------|
| 11 | 1 | -0,102 | -0,039 | -0,190 |
| 12 | -0,102 | 1 | ,536** | ,527** |
| 13 | -0,039 | ,536** | 1 | ,369* |
| 14 | -0,190 | ,527** | ,369* | 1 |

Correlation is significant at the *0.05 level (2-tailed) / **0.01 level (2-tailed).

As for Sub-dimension 2.2, the correlation data are also rather insubstantial. The highest point is situated between items 17 and 18, and the lowest between 15 and 17 (see Table 11):

Table 11

Correlations: Sub-dimension 2.2

| Item | 15 | 16 | 17 | 18 | 19 |
|------|----|-------|-------|-------|-------|
| 15 | 1 | ,375* | 0,029 | 0,069 | ,327* |

| | | | | | |
|----|-------|--------|--------|--------|--------|
| 16 | ,375* | 1 | 0,246 | 0,080 | ,522** |
| 17 | 0,029 | 0,246 | 1 | ,458** | ,394** |
| 18 | 0,069 | 0,080 | ,458** | 1 | 0,285 |
| 19 | ,327* | ,522** | ,394** | 0,285 | 1 |

*. Correlation is significant at the *0.05 level (2-tailed) / **0.01 level (2-tailed).

In this case, items 21 and 23 show the strongest correlation, in contrast to items 20 and 24, that present the weakest. Nonetheless, the results are also barely significant (see Table 12):

Table 12

Correlations: Dimensions 3 and 4 and General Conclusions

| Item | 20 | 21 | 22 | 23 | 24 | 25 |
|------|--------|--------|--------|--------|--------|--------|
| 20 | 1 | 0,108 | -0,065 | ,343* | -0,057 | 0,117 |
| 21 | 0,108 | 1 | 0,186 | ,433** | 0,057 | -0,262 |
| 22 | -0,065 | 0,186 | 1 | 0,226 | 0,086 | -0,282 |
| 23 | ,343* | ,433** | 0,226 | 1 | -0,142 | -0,233 |
| 24 | -0,057 | 0,057 | 0,086 | -0,142 | 1 | ,378** |
| 25 | 0,117 | -0,262 | -0,282 | -0,233 | ,378** | 1 |

Correlation is significant at the *0.05 level (2-tailed) / **0.01 level (2-tailed)

Discussion

The conclusions drawn from the analysis of the CLIL teaching sequences are presented below. The analysis is complemented by references to CLIL-related studies referred to in the subject *AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria* and the opinions of those who participated in the focus group. For that, they assume that proper teaching planning has a clear impact on students' learning and that knowing the CLIL principles will enable them to plan their teaching appropriately.

First, the dimensions most highly rated by the CLIL pre-service teachers in English are 1 (*Elementos fundamentales de AICLE*) (4.54) and 2 (*Metodología*) (3.76). In this case, Sub-dimension 1.2 (*Integración de las 4 ces*) is rated more positively (4.73) than Sub-dimension 1.1 (*Tratamiento del lenguaje*) (4.35). For the evaluation of the sequences, they know that the 4Cs Framework is not only about the theoretical foundations of CLIL, but also about teaching practice, as Coyle (Centro del Profesorado de Granada, 2014) said. Therefore, the evaluations of Sub-dimension 1.2 justify the integration of this Framework into the sequences. More specifically, they rate very positively the fact that the activities are related to the curricular contents of the subject area(s) and school year(s) (5.82). Additionally, they are less positive about the lack of supporting strategies and activities to encourage and guide classroom interaction (3.97).

Vis-à-vis Sub-dimension 1.1 (4.35), they start evaluating the sequences from the premise that, as Halbach stands out, "language cannot be taken for granted [in CLIL]"

(Cambridge University Press ELT, 2018, 2m14s). Bearing in mind that CLIL teachers are “generally untrained in teaching second language learners” (Mahan, 2020), they rate positively the inclusion of strategies for learning content-related vocabulary (5.08). Instead, their opinions change when they evaluate whether the sequences involve oral and written comprehension activities, in that order (3.59). In this respect, an informant stated that the sequence she had evaluated (The Orchestra, Arts Education, Years 5-6) did not involve oral activities in the target language (student 2, personal communication, May 14, 2021).

This pattern appears for the CLIL pre-service teachers in German, being Dimensions 1 (2.17) and 2 (1.89) the most highly rated. Regarding Dimension 1, there exists a shift in the order of the sub-dimensions since Sub-dimension 1.1 is better rated (2.54) than Sub-dimension 1.2 (1.80). Starting with Sub-dimension 1.1, for the informants, the inclusion of activities that evaluated the foreign language was a positive aspect (3.86). Nevertheless, they agreed with the fact that the resources used to support the linguistic demands of the contents were scarce (1.86), making the activities very difficult for a non-native German user (student 5, personal communication, May 14, 2021). As for Sub-dimension 1.2, they coincide with their English peers in that the activities relate to the curricular contents of the subject area(s) and school year(s) (3.43). Instead, they feel that both the cognitive difficulty of the activities (1.14) and the oral and written texts (1.14) included are not adapted to the competence level of the students. As addressed: “the texts were too dense and long” (student 7, personal communication, May 14, 2021).

Dimension 2 is the second most highly rated one by the CLIL pre-service teachers in English (3.76). It comprises Sub-dimension 2.1 (*Atención a la diversidad*) (4.06) and Sub-dimension 2.2 (*Estrategias metodológicas*) (3.47). Regarding Sub-dimension 2.1, the most highly rated item (4.59) is that the sequences somehow reflect the relationship between the activities and the subject competences developed by the learners. In this sense, they assume that “both language and content are vehicles for the development of subject competences [...] and that language and content are never, as it were, aims in themselves” (Ball, 2016, p. 19). On the contrary, the lowest rated item (3.44) indicates that the sequences do not include specific activities to learn about the students’ learning styles. This contrasts with another CLIL theoretical underpinning presented to the participants, which states that CLIL “accommodate[s] different learning styles and activate[s] various language skills” (Meyer, 2010, p. 23). However, in terms of language acquisition, they should recognise that “we [(people)] all learn the same way” (F. Trujillo, personal communication, April 12, 2021). In any case, one informant suggested that in her sequence (The Hydrosphere, Natural Science, Year 6), “student diversity is not considered at all [since] everything [(content)] is the same throughout the whole sequence” (student 3, personal communication, May 14, 2021).

About Sub-dimension 2.2, they rate positively (4.00) that the sequences include pair or group work activities, bearing in mind that CLIL should facilitate opportunities for language interaction: “CLIL is a tsunami of input and output” (P. Ball, personal communication, June 1, 2018). Additionally, they evaluate more negatively (2.59) the scarcity of problem-solving strategies, learning-by-discovery activities, projects, etc.

Very explicitly, a participant stated that: “The level of the activities in the whole sequence was this [she makes a gesture with her right hand showing a straight horizontal line meaning ‘homogeneous’]” (student 2, personal communication, May 14, 2021).

As for the CLIL pre-service teachers in German, Dimension 2 is also the second best rated (1.89). Regarding Sub-dimension 2.1 (2,04), these informants have also considered positively the reflection of the relationship between the activities and the competences developed by the learners in the sequences (4.29). Nevertheless, matching the responses of their peers in English, the lowest rated item (1,00) also shows the lack of activities aimed to learn about the students’ learning styles. So, they claimed that they “found very easy or very difficult activities, which even we didn’t know how to do” (student 7, personal communication, May 14, 2021).

Regarding Sub-dimension 2.2 (1.74), the results are quite more critical. The best ranked item (2,43) is the same as for their peers in English. However, the results are significantly lower. As they expressed, “including a pair of group activities within the whole sequence means nothing [to me]” (student 6, personal communication, May 14, 2021). Furthermore, they are even more pessimistic about the inclusion of strategies to clarify and help students come to conclusions by themselves (1.29) since all the knowledge is given, and there is no room for discovery (student 6, personal communication, May 14, 2021). In this respect, both groups of participants are aware of research studies that reveal that “task-based learning offers the ideal conditions for the development of interaction and cooperative learning, even though the students’ linguistic competence is not high” (Pavón et al., 2015, p. 83).

Second, the dimensions least valued by the CLIL pre-service teachers in English are 3 (*Recursos*) (3.54) and 4 (*Evaluación*) (3.05). Regarding Dimension 3, the informants react negatively (2.41) to the absence of use of ICT as a resource to promote interaction and autonomous learning among the students. In fact, ICT in CLIL “are used to promote understanding of concepts conveyed through a foreign language, to boost the construction of knowledge, and to provide opportunities to develop online collaborative work and student-centered activities” (Nieto, 2018, p. 82). Touching upon interaction, they know that the CLIL classroom should serve as a context for “meaningful language use and situated language learning” (Nikula, 2016, p. 1), which favours language acquisition (Maillat, 2010). As for the learner autonomous work, participants notice the lack of learning materials in the sequences that “promote [...] learner autonomy” (Mehisto, 2012, p. 16). Both elements (interaction and learner autonomy) can be further developed in the CLIL classroom through the advantages provided by using ICT (López-Pérez and Galván, 2017). In this respect, one informant even exclaimed that, concerning the sequence she was assigned to evaluate (The Orchestra, Arts Education, Years 5-6), “the topic would have been better developed by adding ICT: audio, video...” (student 2, personal communication, May 14, 2021).

Nonetheless, the remaining item of Dimension 3 is rated positively (4.54) as for the fact that the materials in the sequences reproduce or are linked to the real world concerning CLIL’s “authenticity of purpose” (Coyle et al., 2010, p. 5). They know that “the backbone of the teaching of the target language is made up of authentic material used in other subject” (López-Pérez and Galván, 2017, p. 635). Also, they are aware that

there exists a possibility of adapting authentic materials according to the teaching objectives (Moore and Lorenzo, 2007). Yet, they do appreciate through their evaluations the inclusion of those types of resources in the sequences, which are access-free. Despite that, there are exceptions among the sequences, as suggested by one of the participants: “It shows the pictures of the organs using different colours: the stomach, yellow; the liver, blue; and the intestine, red” (student 1, personal communication, May 14, 2021).

Resembling their peers in English, the CLIL pre-service teachers in German rated both Dimensions 3 (1.57) and 4 (1.50) as the least. Concerning Dimension 3, the two items included were identically valued (1.57). For the first, they consider that the insertion of didactic resources that are taken from or reproduce the real world is remarkably insufficient. For the latter, they feel that ICT as a resource to promote interaction and autonomous learning could have been more widely used. As one of them pointed out: “The presence of ICT would be as placing a computer on the students’ desks” (student 6, personal communication, May 14, 2021).

Dimension 4 (3.05) is the worst rated one by the CLIL pre-service teachers in English. More specifically, the most negatively rated item (2.67) provides information about the insufficient simplification or reduction of the contents when taught in a foreign language, even though these “must conform to the general norms of published student learning materials” (Mehisto, 2012, p. 30). They understand that reducing the amount of content in CLIL subjects does not affect teaching quality but must focus on “creating opportunities to access knowledge” (Pavón, 2012). Therefore, their evaluations are highly conditioned by this principle, bearing in mind the difficulties that CLIL entails for learners, especially in terms of language (Barrios and Acosta-Manzano, 2020).

The second most negatively rated item (3.00) refers to the combination of formative assessment strategies to provide feedback and help learners and summative assessment to grade learners. They know about the importance of implementing formative assessment practices in CLIL (Morton, 2020). In the words of Otto (2017, p. 2): “formative assessment is conceived as an indispensable part of instruction [...] and not just after the teaching sequences”. However, the evaluation reveals that, for certain cases, the sequences (e.g., Working People, Natural Science, Year 2) do not provide for the joint use of both types of assessment, as one student points out: “At the end [as there are no assessment tools in the sequences] it all depends on the teachers’ correction of the activities” (student 4, personal communication, May 14, 2021).

Regarding the sequences in German, Dimension 4 is also the worst rated (1.50), though there is a shift in the order of the evaluation of the items in comparison to the results of their English peers. First, they recognise the lack of a combination of formative and summative assessment (1.14) as a considerable deficiency of the sequences since they only included a “small self-assessment rubric at the end” (student 5, personal communication, May 14, 2021). Second, they are also concerned about the limited simplification or reduction of contents (1.86) since “they were barely eased and more appropriate for L1 pupils” (student 6, personal communication, May 14, 2021).

Finally, CLIL pre-service teachers in English and German meditated about the importance of knowing the theoretical contents when evaluating the sequences. They

realized how the progression of learning those contents influenced their answers: “At the beginning, I didn’t know how to reason my answers, while my comments in the last sequences were more constructive” (student 5, personal communication, May 14, 2021). Moreover, they also discussed the possible reasons why the sequences in German were rated significantly lower than the ones in English. The more argued hypotheses were focused on two topics: The complexity of the German language, “which makes it more difficult to adapt the contents and activities” (student 2, personal communication, May 14, 2021) and the lack of experience teaching this language and resources available, since there are fewer schools that offer German and, therefore, fewer teachers. On the contrary, they attribute the better ratings of the teaching sequences in English to the idea that they are more thoroughly elaborated, as they are more frequent (student 7, personal communication, May 14, 2021), among other reasons.

Conclusions

This work presents an analysis of the integration of CLIL methodological principles into the teaching sequences available at the *Junta de Andalucía* by several CLIL pre-service teachers (students of the Bachelor’s Degree in Primary education, University of Cadiz, 2020-2021) using an adaptation of the CIPMA questionnaire. Concerning the first research question, they rated Dimensions 1 and 2 more positively than Dimensions 3 and 4, although there exist relevant differences among evaluations whether it is English or German. So, the sequences are inadequate for many of the dimensions regarding their expectations. In this respect and concerning the second research question, all CLIL pre-service teachers have received similar theoretical training. However, the differences between the rates for the 25 items of the adapted questionnaire aim to a better integration of foreign languages into the content subjects. In the case of German, the language proficiency expected of primary school students and even CLIL pre-service teachers is exceeded.

During the development of this study, we have encountered the following limitations: First, the evaluations have been carried out by university students, who are in their first instruction stage of CLIL teaching. Moreover, although they all attended the same subject, they were taught by different lecturers and in different languages. Second, the sequences were highly varied in terms of the subjects, the school years, the authors of the sequences, etc. Finally, we can also address a possible lack of real objectivity since the sequences have been analysed in general terms. All things considered, the evaluations of the sequences, even those that show positive results, could be also examined individually, especially the ones in English, to find specific aspects defined within the respective dimensions and sub-dimensions.

Future research lines may involve a longitudinal analysis with these same participants to find out their opinions (i.e., evaluations) of the same sequences at a different stage of their training or even as in-service teachers. Furthermore, the specialization in Foreign Language/CLIL of the Bachelor Degree in Primary education at the University of Cadiz includes the same subject (*AICLE I: Fundamentos y Propuestas Curriculares para el Aula de Primaria*) in French as a foreign language, which would

perhaps yield new insights on the teaching sequences.

Conflict of interest

The authors declare that they have no conflict of interest.

Author contributions

Author 1: conceptualization; methodology; software; validation; formal analysis; investigation; resources; data analysis; original draft-writing; writing; and supervision.

Author 2: software; validation; formal analysis; investigation; data analysis; original draft-writing; writing; revising and editing; and supervision.

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Annex

Dimensión 1. Elementos fundamentales de AICLE

Subdimensión 1.1. Tratamiento del lenguaje

- 1 La secuencia incluye actividades para reforzar las estructuras gramaticales que demandan los contenidos.
 - 2 La secuencia incluye actividades de evaluación de la lengua extranjera.
 - 3 La secuencia plantea actividades de comprensión oral y escrita de los textos en ese orden.
 - 4 La secuencia contempla estrategias para el aprendizaje de vocabulario relacionado con el contenido.
 - 5 La secuencia incluye recursos para apoyar las demandas lingüísticas del contenido.
-

Subdimensión 1.2. Integración de las 4 ces

- 6 La dificultad cognitiva de las actividades está adaptada al nivel de competencia de los alumnos.
 - 7 Los textos orales y escritos están adaptados al nivel de conocimiento lingüístico de los alumnos.
 - 8 Las actividades están relacionadas con los contenidos curriculares del nivel/área que se trabaja.
 - 9 La secuencia incluye estrategias/actividades de apoyo para fomentar y guiar la interacción en el aula.
 - 10 Las actividades son motivadoras y relevantes para los alumnos, y les permite crear un resultado final que pueden mostrar y/o compartir.
-

Dimensión 2. Metodología

Subdimensión 2.1. Atención a la diversidad

- 11 La ficha técnica inicial recoge de alguna manera la relación entre las actividades y las competencias que desarrollan los alumnos.
 - 12 La secuencia incluye actividades específicas para conocer los estilos de aprendizaje de los alumnos.
 - 13 La programación se sirve de una taxonomía cognitiva o similar para definir los criterios de evaluación de los objetivos.
 - 14 La secuencia incluye actividades distintas sobre un mismo contenido para adaptarte a los diferentes niveles de competencia de los alumnos.
-

Subdimensión 2.2. Estrategias metodológicas

- 15 La secuencia contempla el trabajo en grupo o por parejas.
 - 16 La secuencia incluye estrategias de resolución de problemas, aprendizaje por descubrimiento/proyectos, etc.
 - 17 Se recogen actividades de autoevaluación y coevaluación de los alumnos.
 - 18 Además de los exámenes y test, esta programación contempla herramientas de evaluación como hojas de observación, checklist, rúbricas o similares.
 - 19 Se percibe la intención de incluir estrategias para clarificar y ayudar a los alumnos a llegar a conclusiones por sí mismos.
-

Dimensión 3. Recursos

- 20 Los materiales didácticos previstos en la secuencia reproducen o son recursos de la vida real.
 - 21 Se utilizan las TIC como recurso para promover la interacción y el aprendizaje autónomo.
-

Dimensión 4. Evaluación

- 22 En la secuencia se observa una simplificación o reducción del contenido del área curricular al impartirlo en lengua extranjera.
- 23 En la programación se combinan estrategias de evaluación formativa (para retroalimentar y ayudar a los alumnos) y sumativa (para calificarlos).
-

Consideraciones generales

- 24 ¿Piensas que una buena planificación docente influye en el aprendizaje de los alumnos?
- 25 ¿Crees que el conocimiento de los principios AICLE te permitirá realizar una programación docente adecuada?
-