

Mentoring Bilingual Teachers in Content and Language-Integrated Learning Programs Through the SIOP

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Introduction

Content-based education programs have exponentially grown in the last decades, particularly in Europe, where these programs have coined the label ‘bilingual’ to refer to bilingual education in majority languages, where two majority languages are used to teach curricular content in mainstream education (Baker & Wright, 2017) to meet the needs of the ever-changing and multilingual societies of the 21st century. Considering the plurilingual nature of the European Union and the linguistic richness and diversity of its countries and citizens, bilingual education there means that students learn some content in their first language and some content in an additional language, through the Content and Language Integrated Learning approach (henceforth, CLIL). In fact, Baker & Wright (2017) underline the similarities between CLIL and content-based instruction in the United States “in that the focus is on learning a new language through the medium of content area instruction in that language” (p. 235). In Spain, bilingual programs are envisioned as the answer to the low levels of proficiency in a foreign language —commonly, English (from now on, EFL)— that most individuals still had after years of EFL learning. However, the rapid growth of these programs in the country outpaced teacher provision (Dalton-Puffer et al, 2022) and only recently did teacher training began to consolidate. Teacher training for educators in content-based or content and language integrated learning (CLIL) programs, for the most part, is voluntary and at a postgraduate level. In fact, in many countries in Europe—including Spain, there are no requirements for bilingual teachers to be trained in any content-based teaching approaches. This lack of training has been identified as a common issue of bilingual teachers across countries where a CLIL approach is implemented (e.g. Bárcena-Toyos, 2023; Pérez-Cañado, 2018).

The competencies of CLIL teachers are different from those required for mainstream teachers (Custodio-Espinar & García-Ramos, 2020; Morton & Nashaat-Sobhy, 2023), because they have to teach subject-specific content and EFL integrated, with attention to the academic language required for learners to reach the content learning objectives and demonstrate their knowledge and skills in the subject area. Since the linguistic demands of the content determine the type of language needed to achieve the learning objectives, the implications of language that learners are exposed to in the content classroom lay in the need to learn academic language —both general and specific to the subject area, what is known as language for and language of learning, respectively in CLIL (Coyle et al, 2010)— and to level up the lack of parity between learners’ cognitive and FL levels (Lo & Fung, 2020). The integration of content and language has, of course, implications for teachers, who have to adapt their pedagogies to accommodate the particular needs of this group of students, and who also need to deal with their own linguistic challenges and demands, being learners of the language of instruction themselves, too (Nikula et al., 2016). Despite the popularity and rapid growth of CLIL programs, there are not any specific pedagogical or methodological requirements for teachers who teach content and language integrated in these programs,

so there are no specific CLIL pre-service training at higher education levels. So, this lack of pedagogical training to integrate content and language in their lessons prompts CLIL teachers to rely heavily on their own experience as language learners and their beliefs about language and language learning (Morton & Nashaat-Sobhy, 2023). Therefore, a key skill that CLIL teachers should acquire is language awareness, which implies not only being proficient in the FL but also being aware of the linguistic necessities that learners face, as well as using the appropriate learning pedagogies and theories to help their students in the learning process (Mortimore, in press; Cammarata & Tedick, 2012). When teachers lack this skill because it has not been part of their pre- or in-service training, there is a tendency to teach only key vocabulary and overlook other important areas of academic language (Bárcena-Toyos, 2020).

In bilingual programs, however, and due to the lack of CLIL teacher provision and training, lessons are taught by either content teachers with a minimum required level of English (B2 or C1, according to the Common European Framework of Reference for Languages, henceforth CEFR) or English specialists with no or little training in the content they teach (Bárcena-Toyos, 2020). These are challenges that all CLIL teachers face, regardless of their previous teaching experience and that force educators to deal with a sense of isolation in transitioning from a content-only- to a bilingual-teacher identity (Bárcena-Toyos, 2022). Most teachers have received pre-service formal training as either content or language specialists, but they now need to adopt a new teacher identity, that of a content and language teacher who is able to meet the specific needs of learners who are not proficient in the language of instruction (Bárcena-Toyos, 2022). To that aim, in-service training should be designed around bilingual teachers' methodological needs to deliver lessons in ESOL (Custodio-Espinar & García-Ramos, 2020), and one way to achieve that is through mentoring programs where experienced bilingual teachers can share their expertise in the area and establish a collaborative professional network of methodological best practices for novice bilingual teachers. Nevertheless, mentoring programs are not part of the educational systems of many countries, such as Spain, so teachers are more often than not thrown into a sink-or-swim situation when they start teaching in content-based programs. In this case, finding a solution becomes of paramount importance for the welfare of educators and the success of these educational programs, which have the integration of both content and language learning at their core.

The aim of this chapter is to fill in the gap on bilingual teacher mentoring programs in Spain and other non-English speaking countries, and add on to the discussion on teacher training in bilingual programs. The chapter proposes an alternative to the absence of mentoring programs from the administration, with the use of the Sheltered Instruction Observation Protocol (SIOP) as a mentoring guide to novice bilingual teachers, addressing teachers' methodological needs to integrate content and an additional language.

SIOP and CLIL

The SIOP is an instructional “approach for teaching [grade-level] content to English language learners in strategic ways that make the subject matter concepts comprehensible while promoting the students' English language development” (Echevarria et al., 2013, p. 5). The SIOP consists of eight components (lesson preparation, building background, comprehensible input, strategies, interaction, practice & application, lesson delivery, and review & assessment) that group different instructional strategies for teachers of ELLs. On the other hand, CLIL is an approach to teaching curricular content and a foreign language integrated (Coyle et al, 2010). While

SIOP has been extensively used and researched in ESL context such as North America, several studies have proven its potential in content-based instruction programs where English is a foreign language and not a second language (see Kareva & Echevarria, 2013), and also its prospects to be used in PD training programs in CLIL contexts (see Bárcena-Toyos, 2023). Regardless of the status of the target language used in both approaches (i.e. ESL in SIOP vs EFL in CLIL), as shown on Table 1, they draw on research findings in effective strategies to teach English language learners in order to succeed academically, considering that content determines the language that learners will need in order to achieve curricular learning objectives (Bárcena-Toyos, 2023).

Table 1.
SIOP and CLIL compared (Adapted from Bárcena-Toyos, 2023).

Main Features	SIOP	CLIL
Context	ESL, two-way and sheltered instruction programs	Mostly in foreign language (FL) contexts to improve competence in EFL by teaching content in that language.
Language learning	<ul style="list-style-type: none"> - Focus on teaching academic language. - Learners must acquire BICS and CALP 	
Language pedagogies	<ul style="list-style-type: none"> - Both use strategies to make input comprehensible to all learners, such as scaffolding, use of visuals, models, hands-on materials. 	
Learning strategies	<ul style="list-style-type: none"> - Both facilitate the use of learning strategies, exposure to appropriate cognitively demanding content and language, and provides opportunities for interaction. - Consistent use of scaffolding to facilitate access to content learning 	

According to these conventions about effective language teaching and content integration, teachers are expected to expose learners to age-appropriate content but making sure the input remains at a challenging level—i.e. without watering down the language of instruction- facilitating meaning-focused and form-focused processing. Additionally, teachers are expected to provide plenty opportunities for output production and interaction, and promote the use of learning strategies. In order to observe these assumptions in the classroom, researchers developed the SIOP observation protocol, which includes 30 indicators of performance for each of the eight components (Echevarria et al, 2013). During their training in the SIOP model, teachers undergo observations by more experienced teachers, using the observation protocol for feedback on the degree to which the teacher met the indicators and to learn about areas of improvement. However, the observation protocol can also be used by novice teachers as a checklist to plan their classes, according to the principles for effective content and language integrated teaching stated above.

CLIL teacher education and instructional practices

The lack of specific CLIL teacher requirements in Spain makes it difficult to describe a set of pedagogical traits for this group of educators. However, extensive

research performed over the years has outlined some competences that CLIL teachers should gain, but there are two of them that stand out and are indispensable for any educator teaching content in a language that is not the students' first: linguistic and pedagogical-scientific competences (Pérez-Cañado, 2018). Linguistic competence includes not only the knowledge and use of the language of instruction (i.e. a minimum language proficiency level in the FL) but also academic language awareness. Pedagogical-scientific competence has to do with the teachers knowing the pedagogical principles and theoretical tenets of CLIL and content-based instruction approaches to facilitate the integrated learning of content and FL. Understanding and using instructional strategies that focus on making content comprehensible for learners—with a special focus on academic language, and are based the premise that language learning happens in interaction and through meaningful use (Echevarria et al., 2013) is imperative in CLIL settings. In order to succeed academically, learners need to know and use both general and academic or specialized language; what Cummins (2000) called basic interpersonal communication skills (BICS), which is general language, and cognitive academic language proficiency (CALP), which is not limited to specific vocabulary only but also to the language that allows learners to classify, summarize, contrast or build arguments in the subject area. When teachers lack academic language awareness, there is a predominant focus on BICS and on key vocabulary (Morton, 2018) or language teaching is overlooked completely (Bárcena-Toyos, 2020).

While post-graduate programs have spread in the last decade in Spain, these are costly, time-consuming and become voluntary in nature, since there are no specific training requirements to teach content and language in schools. As a result, teacher training needs regarding linguistic and pedagogical competences remain high (Custodio-Espinar & García-Ramos, 2020). Yet, studies that examine different possibilities of professional development (PD) initiatives for CLIL teachers are still insufficient (see Bárcena-Toyos, 2023), despite the positive results of studies performed in other countries on PD programs improving language awareness and pedagogical knowledge (see Lo, 2019). Together with the lack of PD training, teacher mentoring programs are not present in Spain's educational system, which fosters a sense of isolation of novice CLIL teachers (Bárcena-Toyos, 2022). Adding on to their lack of language awareness and CLIL pedagogical training and the absence of an integrated curriculum for CLIL programs, it gets very difficult for teachers to plan for language and integrate it in their content lessons (Cammarata & Tedick, 2012).

Consequently, we need to look at new directions to fill in the gap of PD training in CLIL, so this chapter examines the potential use of the SIOP as a mentoring tool and on the importance of teacher mentoring in bilingual programs, which are unique in their idiosyncrasy for giving attention to academic language teaching to EFL learners, who are still developing their language skills in English.

The role of teacher mentoring in teacher development

Teacher mentoring is a part of professional development that provides ongoing guidance and support, provided by a more experienced teacher or mentor, for a limited period of time—usually at the beginning of a novice teacher's career. According to Crawford (2010), mentoring includes interpersonal relationships, from the experienced and knowledgeable teacher or mentor offering support and care to the less experience and knowledgeable teacher. Student-teachers' exposure to a structured mentorship program provides more than adequate opportunities for the enhancement of personal growth and professional development; thus, reinforcing the construction of multiple teacher identities (Alexander et al, 2014).

In combination with professional development, teacher mentoring provides novice teachers with opportunities for reflection and collaboration (Luft et al, 2017), awareness on their own teaching practice (Cammarata, 2010) at the same time they increase their efficacy and feel supported by a network of experienced teachers who understand their needs and whom they can turn to (Friedrichsen et al., 2007). Through active learning and self-reflection, mentoring programs could provide CLIL teachers with the support they need to develop their academic language awareness, which in turn can improve the quality of instruction and content teachers' knowledge of effective teaching strategies and increase their ability to differentiate instruction based on students' language proficiency levels (Cenoz & Gorter, 2015). Additionally, teachers who participate in mentoring programs usually report feeling more supported and valued by their colleagues and school administration, leading to increased job satisfaction and higher commitment to the profession (Ingersoll & Strong, 2011) and increased investment in the practices of the teaching community (Kanno and Norton, 2003). Nevertheless, there are also challenges to implementing teacher mentoring, one of them being lack of time of teacher mentors and the additional workload implied.

Considering the advantages of teacher mentoring, the implementation of mentoring programs in content based instruction is supported by the fact that teachers have to juggle a new teacher identity, i.e. that of content and language teacher, in a new teaching situation, regardless of their previous experience (Bárcena-Toyos, 2022). Quality PD is the foundation of quality teaching to ensure the success of educational programs, such as CLIL. So, CLIL teacher education programs should provide opportunities for teachers to develop knowledge of language and content integration, as well as pedagogical skills for teaching in multilingual classrooms (Ruiz de Zarobe & Jiménez Catalán, 2016), and provide opportunities for collaboration and reflection. In spite of the benefits and advantages stated above, teacher mentoring programs, while very common in some countries, are not present in CLIL programs in Spain or in other European countries, so there is a need to explore other solutions that could lead to the same or similar benefits as teacher mentoring programs.

Methodology

The study used quantitative methodology to examine the students' responses to a Likert-scale questionnaire about their perceptions on the potential use of the SIOP as a mentoring tool for novice CLIL teachers. The Likert-scale questionnaire also collected data on participants' perceptions about mentoring programs, the need for such programs and who should be mentors in CLIL programs. Data were initially analyzed through descriptive statistical analysis of the responses to the items on the questionnaire. Additionally, statistical tests were used to compare the means of participants, based on the variables of subject taught (content vs EFL) and experience teaching CLIL subjects, to determine whether the difference between groups was statistically significant. A set of parametric tests (independent samples t-test assuming unequal variances) was used to identify differences between groups regarding their perceptions on the importance of mentoring programs in bilingual education programs and on the potential use of the SIOP to act as a mentoring and accompanying tool, replacing such programs.

Participants

The questionnaire was administered online to a group of students of a Master's Degree in Bilingual Education from an online university in Spain. Students were either in- or pre-service teachers, with some or no experience teaching in CLIL or similar

bilingual education programs, where a content subject is taught in EFL. The questionnaire was available for the 127 students who were enrolled in the Master's, but it received 32 responses (25%), who made the sample studied (n=32). Table 2 shows that the majority of participants were or will be teaching at primary education, grades 1 to 6 (n=25) and were EFL specialists (n=21).

Table 2.
Participants' demographics

I. Which educational level will you teach?	
Primary education (grades 1-6)	75%
Secondary education (grades 7-12)	9%
Higher education (university, vocational studies)	6%
Primary and secondary education (grades 1-12)	3%
Secondary education (grades 7-12) and higher education (university, vocational studies)	3%
Primary education (grades 1-6) and higher education (university, vocational studies)	3%
II. What is your area of expertise?	
EFL specialists	66%
Content specialists	44%
III. CLIL teaching experience	
No experience	53%
Less than 5 years	31%
More than 6 years	16%
IV. Overall teaching experience	
No experience	19%
Less than 5 years	28%
More than 6 years	53%

Regarding teaching experience, data showed a big difference between CLIL and overall teaching experience. Considering the former, the majority of participants had no (n=17) or little (n=10) experience teaching in a CLIL setting, in spite of the fact that more than a half of the respondents (n=17) had extensive teaching experience in their area of expertise. This means that most of the participants were novice CLIL teachers who had never taught a content subject in a foreign language before. The level of satisfaction with the contents they had acquired in the Master's degree were very high, with more than half of the respondents totally agreeing (n=11) or agreeing (n=21) with the statement *I feel more ready to teach CLIL after what I learned in this Master's*. Additionally, ten participants (n=10) admitted there were teacher mentoring programs in their context or country (none of them in Spain) and those programs were mandatory in five of them (n=5).

Instrument

The data-collection instrument consisted on an internet-based questionnaire with 46 questions. The questionnaire consisted of three parts. The first part collected demographics and information about the participant's training and teaching backgrounds and consisted of closed and open questions. The second part inquired about the participant's perceptions about mentoring programs and their implementation in bilingual education or CLIL settings (see Table 3). The last part of the questionnaire included 30 statements, one for each item in the SIOP and their suitability to address CLIL teachers' needs to integrate content and language in the classroom and guide them in the new challenge of attending to the academic language needed to successfully reach the learning objectives. The questions in the second and third parts were four-point Likert-scale questions, which were purposefully devised to avoid the central response tendency (Pérez-Cañado, 2016). Similarly, and considering that respondents' first language was Spanish, the questionnaire was administered in Spanish.

The questionnaire was validated by a group of eight experts in the fields of bilingual education, content and language integrated learning and EFL teaching, all of them bilingual in Spanish and English, so they validated both the questions in the questionnaire and the translations of the SIOP 30 items grouped under eight components.

Results

First, statistical analysis was run to calculate the mean and standard deviation (SD) of the respondents' ratings to statements about the importance of mentoring programs in CLIL educational settings and of the characteristics of mentors (see Table 3). After that, a second statistical analysis was performed to calculate the mean and SD of the ratings obtained for the need to need help with each item in the SIOP model and for the overall effectiveness of the SIOP as a mentoring tool (see Table 5). This provided an overview of the respondents' perceptions and help identify any areas of the SIOP model where respondents felt they need more learning. However, since this approach did not examine the relationship between the respondents' perceived need to learn more and their overall perception of the effectiveness of the SIOP model as a mentoring tool, independent samples t-tests assuming unequal variances were performed, also (see Tables 4 and 6). The following is an account of the main results found through these data analyses.

Table 3.
Statistical analysis of items in questionnaire about mentoring programs

Items	Mean	SD
1. Mentoring programs are necessary in every area	2.97	1.06
2. Mentoring programs are more necessary in bilingual schools	2.88	1.18
3. Mentoring programs should be obligatory for teachers who teach a content subject in an additional language	3.09	1.12
4. EFL teachers should be the mentors of novel CLIL teachers who are going to teach content in English as a foreign language	2.19	1.33
5. Teachers who have been teaching CLIL for over 5 years should be the mentors of novel CLIL teachers who are going to teach content in English as a foreign language	3.06	1.19
6. Teachers with a C1 or C2 level (CEFR), regardless of the content area that they teach, should be mentors.	2.06	1.27

7. Mentoring programs should last more than one academic year.	2.69	1.23
8. Any teacher who starts teaching CLIL for the first time should participate in a mentoring program with an experienced CLIL teacher.	2.97	1.15

The first set of questions in the Likert-scale questionnaire asked about the need for mentoring programs and who should be mentors. Respondents were asked to rate their agreement on a scale of 1 (strongly disagree) to 4 (strongly agree) with eight statements. The mean and standard deviation for each response are presented in Table 3. On average, the respondents were moderately in favor of the need for mentoring programs for CLIL novice teachers and had moderate agreement on who should be mentors. On the other hand, participants were generally in agreement that mentoring programs should be mandatory for novice teachers in bilingual education or CLIL programs (3.09) and they did not consider that teachers with a C1 or C2 level of English (according to the CEFR), regardless of the area of knowledge they teach, should be mentors for CLIL novice teachers (lowest mean score of 2.06), suggesting that language proficiency was not an important qualification for mentors of novice teachers in bilingual education programs respondents were less in agreement with this statement. Nonetheless, there was certain variability in the responses for each statement, based on the standard deviations for the responses ranging from 1.12 to 1.33.

Table 4.

Results of independent samples t-test assuming unequal variances about mentoring programs in bilingual education.

Group	N	Mean	Variance	t value	p
I. CLIL teaching experience	16	2.71	0.37	-1.17	0.4313
I. No CLIL teaching experience	16	2.76	1.19		
II. Content specialists	10	2.30	0.93	-3.29	0.0027
II. EFL specialists	22	2.94	0.59		

So, to determine whether that variability in responses was due to other variables and identify potential associations between variables, independent samples t-tests assuming unequal variances were performed (see Table 4). Based on the results of the t-tests, the mean response for teachers in the content-specialist group (2.30) was significantly lower than the mean response for EFL teachers (2.94), so the null hypothesis (H₀) that there is no difference in means between teachers, based on the area they teach is rejected, as indicated by the very small p-value of 0.0027 and the test statistic (t) of -3.29. Therefore, and based on this evidence, it can be concluded that EFL specialists are even more in favor of the need for mentoring programs for novice CLIL teachers. On the other hand, the results of the independent samples t-test based on their teaching experience in CLIL did not show any significant differences between both

groups, with those teachers with experience teaching in bilingual education programs scoring a mean average of 2.71 as opposed to a 2.76 mean average of teachers without any experience teaching content and language. Based on the test statistic (t) value of -1.17 and the p-value of 0.4313, we cannot reject the null hypothesis therefore concluding that there are no significant differences between teachers' responses, based on the variable CLIL teaching experience.

Table 5.

Statistical analysis of items in questionnaire about SIOP® components (Echevarria et al, 2013)

Items	Mean	SD
I. Lesson preparation	3.63	0.73
<i>1: content objectives</i>	3.63	0.79
<i>2: language objectives</i>	3.59	0.80
<i>3: content concepts appropriate</i>	3.59	0.80
<i>4: supplementary materials</i>	3.69	0.78
<i>5: adaptation of content</i>	3.59	0.80
<i>6: meaningful activities</i>	3.69	0.64
II. Building background	3.65	0.71
<i>7: concepts linked to student's experiences</i>	3.69	0.64
<i>8: links explicitly made between prior and new knowledge</i>	3.69	0.78
<i>9: key vocabulary</i>	3.56	0.80
III. Comprehensible input	3.61	0.70
<i>10: speech appropriate for students</i>	3.59	0.67
<i>11: clear explanation of tasks</i>	3.66	0.79
<i>12: techniques used to make input comprehensible</i>	3.59	0.80
IV. Strategies	3.64	0.70
<i>13: learning strategies</i>	3.53	0.80
<i>14: scaffolding techniques</i>	3.72	0.77
<i>15: questions and tasks to promote HOTS</i>	3.66	0.79
V. Interaction	3.58	0.79
<i>16: interaction between students</i>	3.59	0.80
<i>17: grouping</i>	3.63	0.79
<i>18: wait time</i>	3.47	0.92
<i>19: translanguaging</i>	3.63	0.79
VI. Practice and application	3.58	0.78
<i>20: use of manipulatives</i>	3.56	0.80
<i>21: students apply content and language</i>	3.56	0.80
<i>22: integration of language skills</i>	3.63	0.79
VII. Lesson delivery	3.61	0.77
<i>23: content objectives supported</i>	3.63	0.79
<i>24: language objectives supported</i>	3.59	0.80
<i>25: students engagement</i>	3.56	0.91
<i>26: appropriate pacing</i>	3.66	0.79

VIII. Review and assessment	3.57	0.78
<i>27: review of key vocabulary</i>	<i>3.47</i>	<i>0.92</i>
<i>28: review of key content</i>	<i>3.53</i>	<i>0.80</i>
<i>29: regular feedback</i>	<i>3.66</i>	<i>0.79</i>
<i>30: assessment of learning objectives</i>	<i>3.63</i>	<i>0.79</i>

As Table 5 shows, participants found the SIOP to be a useful mentoring tool for novice CLIL teachers, based on the mean score for each component and how much help they still need in each of the items under each component. The mean score for each component ranged from 3.57 to 3.65, indicating that overall, participants rated their need to receive guidance in each component from a moderate to high degree, all in the scale of 3 (agree). The standard deviation for each component ranges from 0.64 to 0.92, indicating some variability in the ratings of participants. Examining each item individually, we can see that some of those items received higher mean scores than others. For example, Item 14 (using scaffolding techniques to facilitate language and content learning) received a mean score of 3.72, which is relatively high, while Item 27 (revision of key vocabulary) received a mean score of 3.47, which is lower. Nevertheless, all items received mean scores above 3.0, which suggests that the SIOP's items were perceived as necessary in their CLIL teaching practice, even after considering that they felt more prepared to teach CLIL after taking part in the Master's degree in bilingual education. Overall, these results suggest that novice CLIL teachers find the SIOP to be a useful mentoring tool, particularly in terms of helping them to deliver effective lessons that are comprehensible to ELLs and that incorporate review and assessment. However, they may need additional support in developing their lesson preparation and building background skills.

Table 6.

Results of independent samples t-test assuming unequal variances about SIOP

Group	N	Mean	Variance	t value	p
I. CLIL teaching experience	16	3.49	0.59	-2.95	0.0031
I. No CLIL teaching experience	16	3.73	0.40		
II. Content specialists	10	3.65	0.15	-2.09	0.0223
II. EFL specialists	22	3.59	0.67		

Once again, in order to identify variables that could affect the variance in participants' responses, an independent samples t-test assuming unequal variances was performed considering the variables teaching experience in CLIL and area of specialization. The mean response for teachers with CLIL experience (3.4909) was significantly lower than the mean response for teachers without CLIL experience (3.7259), with a difference in means of -0.2350. So, the null hypothesis (H0) that there is no difference in means is rejected, as indicated by the very small p-value of 0.0031 and the test statistic (t) of 2.95. Therefore, it can be concluded that teachers without CLIL teaching experience gave significantly higher ratings to the different items than

teachers with CLIL experience, which means that experience teaching the CLIL approach gives teachers confidence in being able to integrate content and language in their classes, although they still find that they need guidance in all of them.

In summary, the results suggest that if novice teachers feel they need to learn more about the different items and components of the SIOP and they also consider that CLIL mentoring programs are necessary, they are more likely to perceive the SIOP as an effective mentoring tool. However, this is a very small sample that represents the perceptions of a small group of teachers, so causal relationships cannot be determined.

Discussion and conclusions

The main objective of this chapter was to examine an alternative to the absence of mentoring programs from the administration, with the use of the Sheltered Instruction Observation Protocol (SIOP) as a mentoring guide to novice CLIL teachers in Spain, by addressing teachers' methodological needs to integrate content and an additional language. Results obtained from performing statistical analysis and running parametric statistical tests suggest that, even after receiving specific postgraduate training on the implementation of the CLIL approach, teachers still feel the necessity to learn more about how to put into practice the different items of SIOP, particularly those regarding attention to academic language, which includes preparation and identification of language and language learning objectives (lesson preparation), strategies to scaffold language (strategies) and design and implementation of tasks that support content and language learning (lesson delivery). These results show that, despite training and even teaching experience, attention to academic language and its integration through the use of effective techniques continues to be a major concern for novice teachers in content-based instruction programs, such as CLIL, in line with previous studies (Fürstenberg et al, 2021). In fact, participants did not identify language proficiency as a requisite for being a mentor of novice CLIL teachers, which means they are not concerned about general language proficiency. Instead, their main concerns are still those that refer to the effective integration of content and language in the classroom through the use of strategies that put attention to the academic language that learners need to acquire subject-specific knowledge. This is a relevant finding that implies that postgraduate specialized training had a positive effect on teachers' understanding of the role of language in CLIL not as general language competence in the FL (Morton, 2018) but as specialized and related to content. This specific role of language has been commonly overlooked by content teachers in CLIL instruction programs (Lo, 2019).

Results also suggest that novice teachers were receptive of the use of the SIOP as a mentoring tool and seem to perpetuate the idea that one-time-only workshops or PD training courses are not enough to help teachers modify their teaching practice to accommodate the requirements of their new teacher identity (Bárcena-Toyos, 2022; Short, 2013). One of such tools could be the SIOP model, which has already been proved to be effective to create tailor-made PD training for content-based instruction teachers, including in CLIL settings (Bárcena-Toyos, 2023; Kareva and Echevarria, 2013). Using the SIOP as an accompanying instrument for novice teachers could be used as a compass that will guide them in the attention to academic language and its integration in their classes and activities (Echevarria et al, 2011), improving their language awareness (Hansen-Thomas et al, 2018; Morton & Nashaat-Sobhy, 2023), and mentoring novice teachers who often feel a sense of isolation and loneliness to navigate

the demands of the new teacher identity of becoming content and language integrated teachers (Bárcena-Toyos, 2022).

There are many obstacles that novice CLIL teachers have to face in Spain, even if they have extensive teaching experience. On the one hand, they have to face the constraints of a curriculum that has been designed for teaching age- and cognitive-appropriate content in L1 at the same time they give attention to and integrate academic language in a foreign language (Cammarata & Tedick, 2012; Mortimore, 2023). On the other hand, the lack of a supportive network that could provide assistance, resources and activities to use in their classes is also a challenge that novice CLIL teachers have to deal with on their own (Custodio Espinar & García Ramos, 2020).

The results of this study are based on a small sample of novice teachers in a specific context, but they are considered to be relevant for future studies in the direction of mentoring programs for novice teachers and tools that can facilitate the integration of content and academic language in the classroom. Therefore, further studies with a larger and more varied population that include the supervision and observation of the SIOP being used as a mentoring tool are encouraged. Also, it would be interesting to consider novice teachers own personal and professional situation to get a better understanding of their actual needs in terms of mentoring and getting initiated in their careers as content and language teachers.

References

- Alexander, G., van Wyk, M. M., & Moreeng, B. B. (2014). Constructing Student-Teacher Identities via a Mentorship Programme Initiative: A Case for School-Based Learning. *Mediterranean Journal of Social Sciences*, 5(9), 405. DOI: <https://10.5901/mjss.2014.v5n9p405>
- Baker, C. & Wright, W.E. (2017). *Foundations of bilingual education and bilingualism* (6th Ed.). Multilingual Matters.
- Bárcena-Toyos, P. (2020). Teachers' classroom practices to achieve integration of content and language in CLIL. *NABE Journal of Research and Practice*, 10(3–4), 94–106. DOI: <https://10.1080/26390043.2021.1890989>
- Bárcena-Toyos, P. (2022). Teacher identity in CLIL: A case study of in-service teachers. *Latin American Journal of Content and Language Integrated Learning*, 15(2), e1516. DOI: <https://doi.org/10.5294/laclil.2022.15.1.6>
- Bárcena-Toyos, P. (2023). CLIL and SIOP: an effective partnership? *International Multilingual Research Journal*, 17(1), 1-14. DOI: <https://10.1080/19313152.2022.2075191>
- Cammarata, L. (2010). Foreign Language Teachers' Struggle to Learn Content-Based Instruction. *L2 Journal*, 2 (1), 89-118. <http://repositories.cdlib.org/ucellt/12/vol2/iss1/art5/>
- Cammarata, L., & Tedick, D. J. (2012). Balancing content and language in instruction: The experience of immersion teachers. *The Modern Language Journal*, 96(2), 251–269. DOI: <https://doi.org/10.1111/j.1540-4781.2012.01330.x>
- Cenoz, J., & Gorter, D. (2015). Towards a holistic approach in the study of multilingual education. In Cenoz, J., & Gorter, D. (Eds) *Multilingual Education. Between*

- Language Learning and Translanguaging*, pp. 1 – 15. Cambridge University Press. DOI: <https://doi.org/10.1017/9781009024655.002>
- Coyle, D., Hood, P., & Marsh, D. (2010). *Content and language integrated learning*. Cambridge University Press.
- Crawford, C. J. (2010). *Manager's Guide to Mentoring*. McGraw Hill.
- Custodio Espinar, M., & García Ramos, J. M. (2020). Are accredited teachers equally trained for CLIL? The CLIL teacher paradox. *Porta Linguarum*, 33, 9–25.
- Cummins, J. (2000). *Language, power, and pedagogy: Bilingual children in the crossfire* (Vol. 23). Multilingual Matters.
- Dalton-Puffer, C., Hüttner, J., & Llinares, A. (2022). CLIL in the 21st Century: Retrospective and prospective challenges and opportunities. *Journal of Immersion and Content-Based Language Education*, 10(2), 182–206.
- Echevarria, J., Richards-Tutor, C., Canges, R., & Francis, D. (2011). Using the SIOP Model to promote the acquisition of language and science concepts with English learners. *Bilingual Research Journal*, 34(3), 334–351. DOI: <https://doi.org/10.1080/15235882.2011.623600>
- Echevarria, J., Vogt, M., & Short, D. J. (2013). *Making content comprehensible for English learners: The SIOP Model*. New York, NY: Pearson Education.
- Friedrichsen, P., Chval, K. B., & Teuscher, D. (2007). Strategies and Sources of Support for Beginning Teachers of Science and Mathematics. *School Science & Mathematics*, 107(5), 169–181.
- Fürstenberg, U., Morton, T., Kletzenbauer, P. & Reitbauer, M. (2021). “I wouldn’t say there is anything language specific”: The disconnect between tertiary CLIL teachers’ understanding of the general communicative and pedagogical functions of language. *Latin American Journal of Content & Language Integrated Learning*, 14(2), 293–322. DOI: <https://doi.org/10.5294/lacil.2021.14.2.5>
- Hansen-Thomas, H., Langman, J., & Sokoloski, T. F. (2018). The role of language objectives: Strengthening math and science teachers’ language awareness with emergent bilinguals in secondary classrooms. *Latin American Journal of Content and Language Integrated Learning*, 11(2), 193–214. DOI: <https://doi.org/10.5294/lacil.2018.11.2.2c>
- Ingersoll, R., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(1), 201–233. DOI: <https://doi.org/10.3102/0034654311403323>
- Kanno, Y., & Norton, B. (2003). Imagined communities and educational possibilities: Introduction. *Journal of Language, Identity, and Education*, 2(4), 241–249. DOI: https://doi.org/10.1207/S15327701JLIE0204_1
- Karabassova, L. (2018). Teachers’ conceptualization of content and language integrated learning (CLIL): Evidence from a trilingual context. *International Journal of Bilingual Education and Bilingualism*, 1–13. DOI: <https://doi.org/10.1080/13670050.2018.1550048>
- Kareva, V., & Echevarria, J. (2013). Using the SIOP model for effective content teaching with second and foreign language learners. *Journal of Education and Training Studies*, 1(2), 239–248.
- Koopman, G. J., Skeet, J., & de Graaff, R. (2014). Exploring content teachers’ knowledge of language pedagogy: A report on a small-scale research project in a Dutch CLIL context. *The Language Learning Journal*, 42(2), 123–136. DOI: <https://doi.org/10.1080/09571736.2014.889974>
- Lo, Y. Y. (2019). Development of the beliefs and language awareness of content subject teachers in CLIL: Does professional development help? *International Journal of*

- Bilingual Education and Bilingualism*, 22(7), 818–832. DOI: <https://doi.org/10.1080/13670050.2017.1318821>
- Lo, Y. Y., & Fung, D. (2020). Assessments in CLIL: The interplay between cognitive and linguistic demands and their progression in secondary education. *International Journal of Bilingual Education and Bilingualism*, 23(10), 1192–1210. DOI: [10.1080/13670050.2018.1436519](https://doi.org/10.1080/13670050.2018.1436519)
- Luft, J., Bang, E., & Roehrig, G. (2007). Supporting Beginning Science Teachers. *Science Teacher*, 74(5), 24–29.
- Mortimore, L. (in press). CLIL and social and emotional learning in early bilingual education: compatible and mutually beneficial. *Journal of Language Teaching and Research*.
- Mortimore, L. (2023). A Framework for Developing Social and Emotional Learning (SEL) in Pre-Primary CLIL. In A. Otto & B. Cortina-Pérez (Eds.). *Handbook of CLIL in Pre-Primary Education* (pp. 79–100). Springer. DOI: https://doi.org/10.1007/978-3-031-04768-8_6
- Morton, T. (2018). Reconceptualizing and describing teachers' knowledge of language for content and language integrated learning (CLIL). *International Journal of Bilingual Education and Bilingualism*, 21(3), 275–286. DOI: <https://doi.org/10.1080/13670050.2017.1383352>
- Morton, T. & Nashaat-Sobhy, N. (2023). Exploring Bases of Achievement in Content and Language Integrated Assessment in a Bilingual Education Program. *TESOL Quarterly*. <https://doi.org/10.1002/tesq.3207>
- Nikula, T., Dafouz, E., Moore, P., & Smit, U. (Eds.). (2016). *Conceptualising integration in CLIL and multilingual education*. Multilingual Matters.
- Pérez Cañado, M. L. (2016). Are teachers ready for CLIL? Evidence from a European study. *European Journal of Teacher Education*, 39(2), 202–221. DOI: <https://doi.org/10.1080/02619768.2016.1138104>
- Pérez Cañado, M. L. (2018). Innovations and challenges in CLIL teacher training. *Theory Into Practice*, 57(3), 1–10. DOI: <https://doi.org/10.1080/00405841.2018.1492238>
- Pérez Cañado, M.L. (2021). CLIL-ising EMI: An Analysis of Student and Teacher Training Needs in Monolingual Contexts. In: Hemmi, C., Banegas, D.L. (eds) *International Perspectives on CLIL. International Perspectives on English Language Teaching*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-70095-9_9
- Phipps, S., & Borg, S. (2009). Exploring tensions between teachers' grammar teaching beliefs and practices. *System*, 37(3), 380–390. DOI: <https://doi.org/10.1016/j.system.2009.03.002>
- Ruiz de Zarobe, Y., & Jiménez Catalán, R. M. (2016). Teacher education in CLIL: Where do we stand and where do we need to go? In T. Navés, M. Juan-Garau, & J. M. Cots (Eds.), *The integration of key competences in higher education* (pp. 59–73). Springer.