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CLIL teacher online professional development in translanguaging and trans-semiotizing: a pedagogy of multiliteracies

Mercedes Querol-Julián 

Department of English Education, Universidad Internacional de La Rioja, Logrono, Spain

ABSTRACT

Theories of translanguaging and trans-semiotizing have gained relevance in the design of learning in CLIL classrooms. However, while many studies have shown the benefits of these pedagogies, scarce research has explored CLIL teacher professional development (PD) in this field. In this paper, I intend to measure the effectiveness of an online pedagogy of multiliteracies, which embraces translanguaging and trans-semiotizing, to enhance CLIL teachers' semiotic awareness to design learning experiences that improve students' comprehension. The study was conducted on a multicultural group of 200 CLIL teachers from Spain, Colombia and Ecuador. They worked with primary and secondary students in multilingual contexts where a Spanish dialect, or a co-official, an indigenous or a Creole language was the L1, and English the L2. The data were collected from two sources, an initial survey and a final essay. The content analysis of the dataset revealed that the learning intervention positively influenced teachers' pre-existing beliefs and PD. They showed a more accurate conceptualisation of translanguaging and trans-semiotizing, were more aware of their multimodal literacy practices to make new content comprehensible in CLIL classrooms, and identified potential improvements in their communication processes related to the two concepts.

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CLIL teacher; professional development; multiliteracies; translanguaging; trans-semiotizing; semiotic awareness

Introduction

Content and Language Integrated Learning (CLIL) is a dual approach in which using the target language (TL) to teach and learn content is expected to generate genuine communication scenarios for employing the TL, improving its proficiency, and allowing the acquisition of content knowledge (Coyle, Hood, and Marsh 2010). CLIL's initial design and commitment to languages have not favoured the integration of students' L1 and local languages but promoted a tendency towards monolingualism in the TL (Sohn, dos Santos, and Lin 2022). However, a current key issue in some CLIL classrooms is instructors' understanding of how best to capitalise on the use of students' more familiar languages than the TL and of the students' meaning-making dynamics 'to [serve] the students' educational needs and [affirm] their sociocultural identities' (Lin 2019, 5). In line with this reasoning, Liu and Lin (2021) argued the need to reconceptualise the 'language' dimension in CLIL as a multimodal semiotic dimension and to adopt a pedagogy of multiliteracies in the classroom. Accordingly, translanguaging and trans-semiotizing theories have gained relevance in the design of learning in CLIL classrooms (Lin 2019). These theories and pedagogies envisage learning

CONTACT Mercedes Querol-Julián  mercedes.querol@unir.net

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through translanguaging (Nikula and Moore 2019) and other embodied semiotic resources and technologies (Lim 2021). Research on CLIL has shown the positive impact of using pedagogies of multiliteracies that allow students to share their semiotic repertoires. The integration of translanguaging and trans-semiotizing in CLIL classrooms has resulted in being transformative for students (He and Lin 2022), supporting their construction of new identities and content and language knowledge development (Liu 2021), expanding their semiotic repertoires and facilitating intercultural communication (He, Lai, and Lin 2016) and comprehension of the academic content (He and Lin 2020). The last issue has been of particular interest to scholars. However, although it has been proven the high level of written and oral comprehension reached in CLIL classes (Pérez Cañado and Lancaster 2017; Serra 2007), there is still a dearth of research into CLIL teacher professional development (PD) in multiliteracies to enhance student comprehension in the classroom.

This paper reports the findings of a study conducted at a Spanish university with an international group of in-service CLIL teachers in primary and secondary schools. The paper explores the impact of a short online discrete learning intervention. The digital environment is suitable for enhancing teacher PD in multilingual classrooms since virtual collaborative work supports learning-to-learn competence (García-Esteban, Villarreal, and Bueno-Alastuey 2021) and the digital environment allows CLIL teachers from different geographical and socio-cultural backgrounds to share their realities, experiences, and viewpoints, which may contribute to changing beliefs and developing semiotic awareness. Regarding the former, Hüttner, Dalton-Puffer, and Smit (2013) noticed that as teachers' beliefs affect classroom practices and PD, we cannot implement changes without addressing teachers' pre-existing beliefs. On the other hand, semiotic awareness refers to the need to cultivate critical attention to relational and multimodal aspects of meaning design (Towndrow, Nelson, and Yusuf 2013).

This paper focuses on CLIL teachers' learning about translanguaging and trans-semiotizing through a pedagogy of multiliteracies that considers teachers' pre-existing beliefs in its design. The final aim of the intervention is to develop semiotic awareness to design better learning experiences in the classroom that improve students' comprehension. The study is justified by the assumption that multimodal literacy 'involves a codified set of knowledge and skills, as well as a semiotic awareness' Lim and Tan-Chia (2022, 5) and that teachers must cultivate their semiotic awareness before assessing students' multimodal designs (Towndrow, Nelson, and Yusuf 2013).

Literature review

Since the New London Group (1996) suggested the term multiliteracies to describe multimodal practices in class and to draw attention to teachers' role as designers of learning experiences, the concept of multiliteracies has been widespread in the fields of linguistics and education (Sindoni and Moschini 2021; Unsworth et al. 2022). The idea of multiliteracies has been motivated by changing lifeworlds (in working, public, and personal lives) produced by two forces: diversity and digital transformation (Kalantzis and Cope 2023). The multiliteracies agenda claimed the need for an accessible educational metalanguage. In this respect, Cope and Kalantzis (2020a, 2020b) outlined a transpositional grammar for multimodal meaning that 'escapes the narrowness of language-centred accounts of meaning' (Kalantzis and Cope 2022, 2) and is 'about identifying and naming patterns in meaning' (50). As the authors explained, this grammar entails the recognition that meanings are transposable. That is, meanings can be expressed in multiple forms (text, image, space, object, body, sound, space), and one form of meaning can substitute for another to refer to the same thing in different ways since each form is partial. Like the social semiotics view of multimodality, forms have affordances that offer opportunities for meaning and constraints.

Multimodality points out the use of multiple means that interplay dynamically to make meaning. Multimodality 'marks a departure from the traditional opposition of "verbal" and "non-verbal" communication, which presumes that the verbal is primary and that all other means of making meaning can be dealt with by one and the same term' (Jewitt, Bezemer, and O'Halloran 2016, 3). Thus, communication involves the use of language and other semiotic resources (i.e. embodied actions or

technology (Lim 2021)) to make meaning. Lim (2018, 1) affirmed that ‘to be considered literate in this day and age is to be able to communicate multimodally effectively’. Multimodal literacy entails educators and students competently engaging with multimodal texts, both in interpreting critically and creatively producing meaning (Lim, Toh, and Nguyen 2022). To be engaging competently implies understanding the affordances of the diverse meaning-making resources and how they interweave to generate cohesive and coherent multimodal texts (Kress 2009). Multimodal texts as instances of social interactions include performative events, like educators’ and students’ presentations; and encompass diverse semiotic resources, such as language, facial expressions, gestures, and semiotic technology (Lim, Toh, and Nguyen 2022) that needs not be exclusively digital (Djonov and van Leeuwen 2012). Lin (2015a) developed the notion of trans-semiotization to conceptualise plurilingualism in CLIL classrooms. Lin (2019) advocated that instead of focusing on participants in a speech event as individuals using discrete languages and semiotic systems, it would be more effective to consider them as ‘co-ordinated parts of an assemblage of agents and resources all entrained (i.e. drawn or pulled along) into the fluid, dynamic flow of meaning making. This could be achieved by the dialogic, dynamic and fluid translanguaging and trans-semiotizing processes’ (8). It has been noticed that during translanguaging and trans-semiotizing we engage in partially shared semiotic repertoires that expand with the contributions of our interlocutors (He, Lai, and Lin 2016). The concept of trans-semiotizing, like multimodality and multimodal discourse, refers to the coherent assemblage or orchestration of the speakers’ semiotic repertoires. However, the term trans-semiotizing emphasises the fluid and dynamic construction of meaning and is preferred in this study as its morphology clearly evokes the dialogic meaning-making process. Translanguaging, as trans-semiotizing, plays an overriding role in multilingual educational contexts such as CLIL.

Translanguaging is seen as an umbrella concept that embraces different theories, practices, and approaches to language pedagogy (Cenoz and Gorter 2021). As Vogel and García (2017) explained, ‘[t]ranslanguaging is not just something bilinguals do when they feel they are lacking words or phrases needed to express themselves in a monolingual environment’. Translanguaging is defined as the bilinguals’ fluid and flexible use of languages beyond the socially constructed boundaries of named languages (García and Wei 2014; Otheguy, García, and Reid 2015). A strong version of translanguaging towards the position of language recognises bilingual/ multilingual people do not speak languages but develop an integrated linguistic repertoire (García and Lin 2017), a unitary linguistic repertoire (Vogel and García 2017), that is used selectively to communicate. A weak version of translanguaging supports language boundaries of named languages because, as Cenoz and Gorter (2021) argued, although in some situations it is difficult to distinguish which language the speaker is using, ‘speakers identify languages at their conscious level [...] and languages have a social reality that is reflected in education policies’ (13). On the other hand, literature recognises two types of translanguaging: spontaneous and pedagogical (Cenoz and Gorter 2017, 2020). Research in multilingual classrooms refers to spontaneous translanguaging as multilingual natural communication in oral and written interactions (Canagarajah 2011; García 2009), and to pedagogical translanguaging as instructional strategies that integrate two or more languages (Cenoz and Gorter 2021; Conteh 2018). The second approach is closer to the concept’s origins in Welsh bilingual education, where Welsh and English were used in class for different activities and purposes (Lewis, Jones, and Baker 2012). Nonetheless, although spontaneous translanguaging is not planned, it can have a pedagogical value when the educator connects it to the learning process (Lin 2020). An additional value of translanguaging is its social justice focus that empowers minority students (García and Lin 2017). The close link between translanguaging and trans-semiotizing is explained by García and Wei (2015, 42), ‘translanguaging [...] signals a trans-semiotic system with many meaning-making signs, primarily linguistic ones that combine to make up a person’s semiotic repertoire’. Wei (2018, 26) also pointed out that ‘[t]ranslanguaging offers a practical theory of language that sees the latter as a multilingual, multisemiotic, multisensory, and multimodal resource that human beings use for thinking and for communicating thought’. The intimate connection between translanguaging and trans-semiotizing compels the necessity to consider translanguaging in the design of a pedagogy of multiliteracies for CLIL teachers’ PD.

Regarding teacher PD, Avalos (2011) defined it as ‘teachers learning, learning how to learn, and transforming their knowledge into practice for the benefit of their students’ growth’ (10). The present study focuses on the first feature of the definition, teacher learning. Lo (2020) urged the need for in-service CLIL teachers’ PD and proposed two possible models. One model aims to facilitate cross-curricular collaboration between content subject teachers and L2 teachers in institutions that implement CLIL. The other, which is adopted in this paper, involves the provision of intense training workshops or courses on teachers’ needs. The robust literature on CLIL teachers’ needs has diagnosed that many teachers require competences in pedagogical knowledge (Scherzinger and Brahm 2023) and have training needs in methodological aspects, among others (Pérez Cañado 2016, 2018; Porcedda and González–Martínez 2020). A methodological issue central to CLIL teacher education is scaffolding (Dafouz Milne, Llinares, and Morton 2010). The scaffolding metaphor refers to the support given to students to reach their autonomy. It operates from a macro level (e.g. curriculum planning) to a micro level (i.e. interactional scaffolding). Interactional scaffolding is the support teachers give to students with unpredicted problems on the spur of the moment (van Lier 2004). Interactional scaffolding strategies in CLIL classrooms mostly try to enhance students’ comprehension (Mahan 2022; Tajeddin, Alemi, and Kamrani 2020). In this respect, teacher translanguaging (Lin 2015b; Moore and Nikula 2016; Tavares 2015) and trans-semiotizing (Escobar Urmeneta and Evnitskaya 2014; Wu and Lin 2019) play a central role in facilitating comprehension and unpacking field-specific meanings of academic content. Educators’ and students’ semiotic resources co-construct meaning dynamically to favour interpersonal relationships and support learning in the classrooms (Amondarian–Garrido 2022). Existing CLIL teacher PD programmes (Yuan and Lo 2023) and discrete learning interventions (e.g. Banegas 2020; He and Lin 2018; Lo 2019) have proven to be effective in the development of beliefs and language awareness. However, there is a gap in the literature on CLIL teachers’ PD regarding the approach and the aim of the educational models. In this respect, despite the benefits for learning of integrating translanguaging and trans-semiotizing in CLIL classrooms enumerated in the Introduction (He and Lin 2020, 2022; He, Lai, and Lin 2016; Liu 2021), CLIL teachers’ professional training programmes designed from a semiotic perspective are scarce (see an example in Morell, Aleson-Carbonell, and Escabias-Lloret 2022) and do not consider translanguaging. They deal mainly with communication, language use, and pedagogy (Beltrán-Palanques 2021) but disregard the integration of translanguaging and trans-semiotizing. Besides, previous interventions have been mostly face-to-face and have not paid attention to the development of teacher semiotic awareness and how it can be a driver of improvement in student comprehension.

This paper addresses CLIL teachers’ pedagogical needs from a multimodal perspective. The objective of the study is to measure the effectiveness of an online pedagogy of multiliteracies, which embraces translanguaging and trans-semiotizing, to enhance CLIL teachers’ semiotic awareness to design better learning experiences in the classroom that improve students’ comprehension. Three research questions are designed:

RQ1. Do teachers have a better understanding of the concepts of translanguaging and trans-semiotization after the pedagogical intervention?

RQ2. Are teachers more aware of the translanguaging and trans-semiotizing practices they employ to make new content comprehensible in CLIL classrooms after the pedagogical intervention?

RQ3. Are teachers able to identify areas of improvement related to translanguaging and trans-semiotizing to make new content comprehensible in CLIL classrooms after the pedagogical intervention?

The study

Participants and context

The sample for the study was selected from all the students enrolled in an online 15-week course in bilingual education, as part of a university master’s degree. The course was given at a Spanish

Table 1. CLIL teachers profile.

Country	Spain	Colombia	Ecuador		
	50%	24%	26%		
Type of school	Public	Private			
	57%	43%			
Educational level	Primary	Secondary			
	76%	24%			
Teaching experience in CLIL	Academic years				
	<1–1	2–5			
	74%	26%			
Teaching experience in other contexts	Academic years				
	<1–1	2–5	6–10	> 10	
	14%	44%	28%	14%	
L1	Spanish	English	Basque/ Catalan	Spanish & English	Spanish & Basque/ Catalan/ Galician
	82%	1%	10%	2%	5%
English certificate	B2	C1	C2	Native user	
	40%	36%	21%	3%	
Education (University degree(s))	Education	Language-related	Education & language-related	Education & other	Language-related & other
	40%	38%	15%	5%	2%
CLIL courses	Yes	No			
	6%	94%			

university and consisted of weekly live online lessons of about 45 minutes in length. The course adopted a flipped classroom model. Thus, before each live online session, it was expected that the students would watch the videos related to the planned weekly topics. They also had access to the digital course materials consisting of a literature review and a list of recommended readings. In class, they applied knowledge by solving problems and doing practical work. Class attendance was not compulsory, but the students had access to the video recording of the lessons.¹

A multicultural group of 200 CLIL teachers in public and private primary and secondary schools in Spain, Colombia, and Ecuador were selected to participate in the study. They worked in multilingual contexts where a Spanish dialect, or a co-official, an indigenous or Creole language was the students' L1, and English was the TL. Most of the teachers had limited experience in CLIL classrooms, but longer in other settings. Their L1 was mostly Spanish, although some described themselves as bilinguals, and had an English language proficiency level of B2 or higher (C1/C2), according to the Common European Framework of Reference for Languages. The teachers had university degrees in education, language-related degrees (e.g. English studies, English teaching, language and sociocultural studies, foreign/second language education), and other various degrees (e.g. physical education, music, biology, psychology, history, geography, physics). And in general, they had not previously attended CLIL courses. Table 1 presents a detailed summary of their profile. The criteria for selecting the sample are explained in the next section.

The study is not a comparative analysis between CLIL teachers' PD in Spain and Latin American countries; nevertheless, some differences between these two contexts are worth mentioning. In Spain, CLIL is implemented in both private and public schools; teachers must hold a degree in primary education or a master's degree in secondary education, depending on the educational level; and must have a B2 or C1 in English, depending on the region. In Latin America, bilingual education is generally implemented in private schools, and teachers hold a language-related degree which also certifies their competence in English.

Data collection and the pedagogy of multiliteracies

The data to conduct the study were collected from two sources: an initial survey and a final essay that was part of an out-of-class assignment. Only those students who were in-service CLIL teachers,

responded to the survey and carried out the assignment were part of the sample, that is a total of 200 teachers. Figure 1 illustrates how the pedagogy of multiliteracies and the analysis of its effectiveness was conducted. The study has been approved by the ethics committee of the Universidad Internacional de La Rioja (reference number: PI 028/2024).

During the 1st lesson, the students were asked to complete a needs analysis online survey in class. They responded voluntarily and gave informed consent to use the data for research and pedagogical purposes (i.e. for the preparation of the classes). It was an extensive survey that aimed to know the students' teaching experience and pre-existing beliefs about the topics of the course. The responses to three questions were analysed for the purpose of the present study:

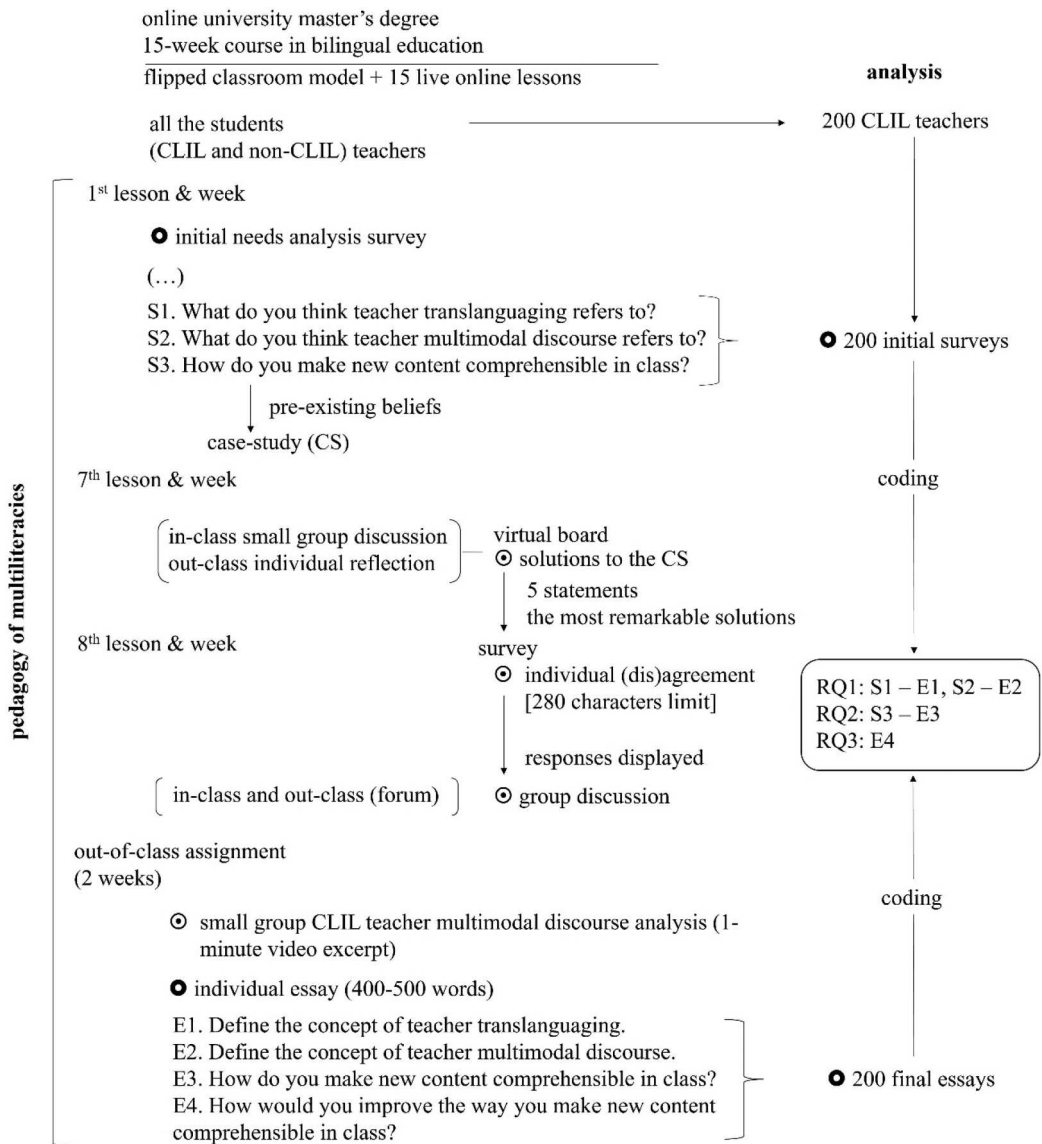


Figure 1. Pedagogy of multiliteracies and analysis.

1. What do you think teacher translanguaging refers to?
2. What do you think teacher multimodal discourse refers to?
3. How do you make new content comprehensible in class?

Questions 1 and 2 were intended to determine the participants' degree of familiarity with translanguaging and trans-semiotizing concepts. The expression 'multimodal discourse' was used instead of trans-semiotizing because it was expected that students would be more familiar with it or be able to guess its meaning. Question 3 tried to elicit responses related to the use of teachers' translanguaging and semiotic repertoires to make new content comprehensible in CLIL classrooms. The length of the answers to the open questions was not limited. This initial survey provided baseline data for the study.

The pedagogy of multiliteracies implied the design of learning situations to develop teachers' semiotic awareness, with a focus on teacher translanguaging and trans-semiotizing in a CLIL classroom and how these practices can improve students' comprehension. A problem-based learning approach was adopted. The instructor created a case study based on some recurrent (in)accurate pre-existing beliefs identified in the initial survey. Case studies, as benchmarks for decision-making, are activities that promote active learning (Meyers and Jones 1993) and critical thinking (Walker 2003). The pedagogy of multiliteracies was implemented in weeks 7 and 8 during the live online lessons, as follows:

- During the 7th lesson, the instructor facilitated and stimulated randomly assigned small group discussions on the case study. Two apps were used to facilitate students' synchronous and asynchronous participation, a collaborative virtual board and a survey. After the discussion, each group added a sticky note to a virtual board with their suggestions to solve the case study. The instructor also addressed those students who did not come to class and encouraged them to read the case, work individually and add their notes during the week. The students had open access to all the contributions. Additionally, the instructor designed an online survey with five statements that embodied the most remarkable features of the proposed solutions.
- During the 8th lesson, the students completed the survey individually and anonymously, since anonymity is a facilitator of online participation (Sardá et al. 2019). The students had to express their degree of agreement with the statements and provide a short justification with a maximum length of 280 characters (like a Tweet). The recording of the class was not paused during the completion of the survey with the aim of engaging those who could not attend the class to participate. In class, the instructor addressed and invited them to respond to the survey before watching the rest of the lesson. Paying attention to the two virtual audiences (i.e. students who attended the lessons and those who could not come to class and watched the recordings) may contribute to creating the feeling of group belonging and enhancing class engagement (Querol-Julián 2021, 2023; Querol-Julián and Arteaga-Martínez 2019). Afterwards, the instructor displayed the responses and fostered whole group discussion in class and through a forum that was open during the week time. The students shared their thoughts in the class through the chat, since none turned on their microphone. Encouraging both synchronous and asynchronous discussion maximises student performance (Duncan, Kenworthy, and McNamara 2012).

After the sessions, the students completed an out-of-class assignment in Microsoft Teams. They had to analyse the video recording of a CLIL teacher. The assignment was voluntary but part of the course's continuous assessment. They had two weeks to work in groups of three or four. Self-selected groups were allowed since this type of group formation 'may increase the effectiveness of [cooperative learning] in terms of individual learning for higher performing students in some learning contexts' (van der Laan Smith and Spindle 2007, 163). The instructor created a Teams assignment for each group that included the instructions for the activity and access to a short video excerpt (about 1 min) of the authentic performance of a teacher in a

CLIL classroom. Five different excerpts were distributed among the groups. Depending on the number of groups some were assigned the same video, although this information was not public. The students had to analyse the teacher's multimodal discourse and interpret it critically. To this aim, each group provided examples of the translanguaging and trans-semiotizing processes and discussed how the semiotic resources were assembled in a cohesive way contributing to the fluid, dynamic flow of meaning-making to support learning. At the students' discretion, discussions could be held through videoconferencing or through a written chat that facilitated asynchronous participation. As part of the assignment, the students also wrote an individual essay (400-500 words). The analysis of the essay has allowed me to determine how effective this pedagogy of multiliteracies was. The essay aimed to prompt reflection on the concepts of translanguaging and trans-semiotizing and on their communication processes in the CLIL classroom. Instructions were given to structure the essay into four paragraphs to answer the following four questions.²

1. Define the concept of teacher translanguaging.
2. Define the concept of teacher multimodal discourse.
3. How do you make new content comprehensible in class?
4. How would you improve the way you make new content comprehensible in class?

The three first questions were similar to those asked in the initial survey. The last question aimed to enhance reflection on teachers' communicative processes in the classroom.

Data analysis

A dataset was created with the 200 responses to the initial surveys and 200 final essays (total number of words 112,043) of the in-service CLIL teachers. An alphanumeric code was assigned to each teacher to anonymise data for their analysis. A corpus-driven approach was adopted to closely examine the dataset, which means that the analysis was informed by the dataset without prior assumptions. I coded it with the help of the software ATLAS.ti with general and specific codes. A second rater double-scored 25% of the data to ensure reliability (the inter-rater agreement found was 90%).

To respond to RQ1, *Do teachers have a better understanding of the concepts of translanguaging and trans-semiotization after the pedagogical intervention?*, I compared the answers to questions 1 and 2 before and after the learning intervention. Three general codes were used: related (1) or unrelated (2) definitions of the concepts to those provided by the literature, and if the teachers showed a plea of ignorance (3). To respond to RQ2, *Are teachers more aware of the translanguaging and trans-semiotizing practices they employ to make new content comprehensible in CLIL classrooms after the pedagogical intervention?*, I also compared the answers to question 3. Six general codes were used to mark if they mentioned any feature of translanguaging (1) or trans-semiotizing (2), some features of both (3), other different strategies (4), other strategies and features of translanguaging and/ or trans-semiotizing (5), and if they expressed a plea of ignorance (6). It would enhance the comprehensiveness of the study to incorporate findings from the group discussion, thereby providing a more holistic perspective on the research outcomes. However, unfortunately, not all CLIL teachers participated in the discussion. Finally, to respond to RQ3, *Are teachers able to identify areas of improvement related to translanguaging and trans-semiotizing to make new content comprehensible in CLIL classrooms after the intervention?*, I analysed the responses to question 4 with the same codes as those used to examine the responses to question 3. Specific codes were used to identify common topics mentioned in the definitions of the concepts (RQ1) and of the reflection on teachers' communication processes (RQ2) and areas of improvement (RQ3).

Results and discussion

Conceptualisation of translanguaging and trans-semiotizing

Results showed that the CLIL teachers conceptualised translanguaging and trans-semiotizing (RQ1) more adequately after the intervention (Table 2). Initially, some openly expressed a plea of ignorance (e.g. ‘I don’t know’, ‘No idea’, ‘I’m not sure’, ‘I’ve never heard about it’). Others used hedges (e.g. ‘I think (...)’, ‘It may refer to (...)’, ‘Maybe (...)’) and showed their lack of knowledge (e.g. ‘I have no idea, never heard that word before (...)’) but provided a tentative definition of the concepts. Besides, the students were more familiar with, or more correct in their guessing of, teacher multimodal discourse (trans-semiotizing) than translanguaging. After the intervention, not only most teachers provided more satisfactory definitions of translanguaging, and all of them of trans-semiotizing, but the definitions were more comprehensive and precise.

Regarding translanguaging, results resonated Ponzio and Deroo’s (2023) findings since many of the CLIL teachers initially conceptualised it as translation (see Example 1) and code-switching (2). The teachers also associated translanguaging with the concept of interlanguage, namely the second-language student’s evolving proficiency (Selinker and Rutherford 2013) (3). On the other hand, some initial definitions referred to translanguaging such as the integration of languages (4) (García 2009) and its multifunctional nature (5). Vague-related definitions that mentioned the use of more than one language as a pedagogical practice were given (Cenoz and Gorter 2020; 2021; Conteh (2018)) (6).

- (1) ‘I think it could be the use of translation when needed’.
- (2) ‘Switch between two languages during class for a better understanding of vocabulary’.
- (3) ‘Similar to interlanguage, using an in-between language to make understanding more fluid’.
- (4) ‘Integrate two or more than two languages in class’.
- (5) ‘Changing the language from one to another depending on the situation’.
- (6) ‘It might refer to the use of different languages with different purposes during the class, all with the aim of bilingualism’.

After the intervention, although a few CLIL teachers already associated translanguaging with translation and code-switching, the majority showed a much clearer understanding of the concept. They described translanguaging in a more precise way showing uptake of knowledge by referring to the following key features:

- The two versions of translanguaging regarding language: strong (Vogel and García 2017) (7) and weak (Cenoz and Gorter 2021) (8).
- The two types of translanguaging: spontaneous (9) and pedagogical (Cenoz and Gorter 2017, 2020) (10).
- The concepts of ‘making meaning’ and ‘negotiation of meaning’ through dialogic translanguaging (Lin 2019) (11).
- The different functions of teacher translanguaging (Lin 2015b) (12).

Table 2. Degree of familiarity with the concepts of translanguaging and trans-semiotizing.

	Degree of familiarity with the concepts of			
	teacher translanguaging		teacher multimodal discourse (trans-semiotizing)	
	Before	After	Before	After
Codes	the learning intervention			
Related definition	29%	88%	40%	100%
Unrelated definition	44%	12%	21%	-
Plea of ignorance	27%	-	39%	-

- (7) ‘Teachers choose from their unique linguistic repertoire’.
- (8) ‘Translanguaging refers to the fluid use of the L2 and other languages in class’.
- (9) ‘Also when teachers tell of students in the L1 when they misbehave or give spontaneous scaffolding in L1, which is unplanned translanguaging’.
- (10) ‘Teachers plan which languages to use in the different situations, for example, explaining an activity in English and giving corrective feedback in the L1’.
- (11) ‘Teacher’s and students’ linguistic repertoires complement in a fluid way to make meaning [...] Teachers can negotiate meaning with students through other languages’.
- (12) ‘The use of the languages the teacher knows for different purposes (to explain content, to organise the lesson, to socialise, to maintain discipline in class)’.

Regarding trans-semiotizing, as mentioned above, the CLIL teachers were asked about teacher multimodal discourse instead because it was considered that ‘trans-semiotizing’ would be unfamiliar for most, or all, of them. Although 39% of them did not attempt to define it, only 21% provided inaccurate definitions that referred to teacher’s adaptations (13), teaching styles (14) and teaching roles (15), and other diverse unconnected definitions. Those initial definitions that mentioned some valid features presented multimodal discourse mainly as the discrete use of semiotic resources to support learning (Lim 2021) (16), and highlighted the decentralisation of language (Jewitt, Bezemer, and O’Halloran 2016) (17). The CLIL teachers also gave vague-related definitions that refer to different forms of communication (18).

- (13) ‘that teacher who is able to adapt the lessons based on the necessities of each individual’.
- (14) ‘A teacher who uses more than 3 teaching styles’.
- (15) ‘I believe it can refer to the ability the teacher has to transform his role in class: facilitator, monitor, supervisor ...’.
- (16) ‘Refers to the study of multiple ways of communication such as images, colour and text all this to facilitate the teaching-learning process’.
- (17) ‘It is not only important our language skills in order to teach something, our facial expression, gestures, tone, voice ... are important too’.
- (18) ‘To a teacher’s ability to communicate in different ways’.

After the intervention, all the CLIL teachers showed a degree of familiarity with the concept. Some of them offered broader definitions that evoked trans-semiotizing as defined by Lin (2019). This places special stress on the fluid construction of meaning by the agents of the communicative event. Thus, in addition to referring to the CLIL teacher’s discrete use of semiotic resources, they also mentioned four central aspects of trans-semiotizing:

- The differences between semiotic resources/ communicative modes using the dichotomies: embodied and disembodied (Norris 2004) (19), verbal and non-verbal (20), and linguistic and non-linguistic (21).
 - The cohesive coordination of semiotic resources (22).
 - The assemblage of teacher’s and students’ semiotic resources (23).
 - The fluid and dynamic flow of meaning making (24).
- (19) ‘The use of embodied communicative modes (languages, facial expressions, gestures, head movements ...) and disembodied modes (objects, whiteboard, technology ... to teach’.
 - (20) ‘The teacher employs different verbal and non-verbal semiotic resources to teach, for example, the L1 and L2, intonation, stress some words (verbal), and gestures, facial expressions (non-verbal)’.

- (21) 'It refers to when the teacher uses linguistic and non-linguistic modes to communicate with students'.
- (22) 'Teachers use language, gestures, facial expression ... in a coordinated way to build cohesive messages'.
- (23) 'It does not only refer to the teacher's use of different semiotic resources. Communication is two-party and students' semiotic resources may also influence how the teacher communicates. For example, when explaining a concept depending on the students' facial expressions the teacher can change his discourse. He may use more gestures, the whiteboard or the L1 to make his explanation clearer'.
- (24) 'It is also interesting that when the teacher interacts with the learners meaning is constructed in a fluid and dynamic way. I mean, the different semiotic resources the teacher and the students use complement to construct meaning'.

Awareness of translanguaging and trans-semiotizing processes to make new content comprehensible

Results indicated that the CLIL teachers seemed to have increased their semiotic awareness after the intervention (RQ2). Initially, 34% of them did not mention using translanguaging or trans-semiotizing but other strategies to make new content comprehensible in the CLIL classroom, 55% referred just to the use of trans-semiotizing, 2% to features of translanguaging, and the remainder 9% showed a plea of ignorance. Nevertheless, after the intervention, 67% of the CLIL teachers explained some trans-semiotizing practices and 15% also stated the use of both (translanguaging and trans-semiotizing), 11% did not mention translanguaging features but talked about the use of other semiotic resources and other strategies, and 7% only reported the employment of strategies different to translanguaging and trans-semiotizing.

After the intervention, the responses were more elaborated, showing the development of semiotic awareness. Like initially, their students' low L2 proficiency level was the main reason for using the L1 in class (25). They also restated the aim of communicating in the L2 as much as possible (26). Although monolingualism in the TL was a general practice, after the intervention, institutional and sociocultural constraints to developing translanguaging appeared recurrently in their reasonings (27). It seems that the misconception of the benefits of English-only education (Padilla et al. 1991) was rooted in institutional policies and society, and consequently, teachers had no choice but to disregard translanguaging processes. To understand better their responses, I examined the sample from the perspective of the type of school and found that 73% of the CLIL teachers who expressed the limitations of decision-making in translanguaging worked for private schools.

- (25) 'I think it all depends on the English level of my students. If they have a high enough level to understand the lesson without using any Spanish, it's perfect. But if they don't have it, I think using Spanish at some specific moments can be better so they can follow the lesson'.
- (26) 'Sometimes I use two languages although I try to speak in the L2 the most time possible and use the L1 only when the situation requires it to clarify something (contents, rules, instructions, ...)'.
- (27) 'I would like to include translanguaging in class to help students understand new content in the L2, but we can only speak English in class. It doesn't make much sense to me because, how can we enhance bilingualism this way? And I think it is not fair that students cannot use all the languages they know to learn new content. I don't think this is quite pedagogic, but it is the linguistic policy of the school and the families also expect it (they pay for it). I imagine it is also about social status'.

Like translanguaging, the narratives of trans-semiotizing processes showed the reflection of a more accurate conceptualisation. The CLIL teachers justified in much more detail the use of

different semiotic resources to make content comprehensible (28) and stressed the function that semiotic resources play in constructing engaging meaning (29).

- (28) ‘I accompany my speech with hand gestures to focus attention, when checking comprehension, to interact with visual support or to give an explanation [...] Facial expression “the whole showing screen of people’s mind”. It provides embodied feedback or solutions to my students’ contributions and it helps them to anticipate if I am talking something interesting or meeting some problems [...] I also use paralinguistic features that lead my students to an effective meaning construction of the message. In an explanation I stress some important words or I emphasise the question words. I slow down my speech speed when I have to say something important. Last but not least, I make my messages shaped and comprehensible through disembodied modes, providing meaningful input. I use multiple approaches to support the subject-related content, based on real-life exemplifications: videos, pictures, real objects, visual posters, manipulative objects: coins, puzzles, dices, and so on’.
- (29) ‘When I teach vocabulary I usually use body language, gestures ... to make them more understandable. It is a way to ensure meaningful learning and motivate students to learn the second language. Gestures help them to be more focused, and contribute to long-term memory. [...] Through a simple smile, students feel more comfortable in a climate in which they gain confidence and improve their participation. Eye contact also opens communication. Thanks to this technique the students feel me present and attentive to them, so they become more involved in the lessons’.

Areas of improvement related to translanguaging and trans-semiotizing to make new content comprehensible

Finally, 95% of the CLIL teachers stated some areas of improvement to make content comprehensible (RQ3). These improvements were mainly related to both processes, translanguaging and trans-semiotizing (63%). They also mentioned features of trans-semiotizing (22%), and, to a lesser extent, trans-semiotizing and other strategies (7%) or other strategies only (3%). Comments regarding trans-semiotizing focused on the use of three semiotic resources primarily, but not exclusively, paralinguistic features (30), facial expressions (31), and disembodied resources (32).

- (30) ‘I should put emphasis on different paralinguistic features with the objective to children learn to gain a better understanding of CLIL subjects. [...] I think I could improve the way I use different intonation during explanations and stress some keywords (i.e. “You have to KICK the ball”) that I want students to have clear’.
- (31) ‘Another thing to improve is the smile. Smiling is a good way to relax students and to make them more receptive to learning, so, smiling when teaching is perfect to do so’.
- (32) ‘I believe that my input has to be enhanced in terms of the materials used. For this, the creation of posters, working with realia, etc. is essential and facilitates learning. In addition, the use of new technologies should be present in practically all sessions, as the use of videos, games, songs, ICT in general, makes the message more understandable and accessible’.

It seems that despite the conceptualisation of trans-semiotizing expressed by some of the CLIL teachers in question 2 (as a dynamic flow of meaning making through the orchestration of teacher’s and students’ communicative modes), improvements were essentially seen in their discrete use of semiotic resources. Nevertheless, few comments were indirectly related to the coordinated construction of meaning from a specific (33) to a broader perspective (34).

- (33) 'I have sometimes noticed that the students do not understand the specific vocabulary or content that they learn in CLIL subjects through their facial expressions, and it is difficult to make the content more accessible for learners. I will try to make more iconic gestures and visual representations on the whiteboard'.
- (34) 'During classes I feel I need to improve my perception of the class so I can change my way of communication to make it more engaging for every group. I know that every group is different in how they receive and understand information and as a teacher I must be keen on getting my students and improving my communicative resources'.

As mentioned, most of the narratives considered translanguaging and the use of specific semiotic resources as potential improvements (35). One CLIL teacher also evinced a change in his pre-existing beliefs regarding translation into the L1 and advocated for the employment of more gestures and translanguaging to make content comprehensible (36). This response steered away from the initial inaccurate connections between translanguaging and translation.

- (35) 'I think I have to use more gestures (iconic and metaphoric) when explaining and I would also like to allow more space for translanguaging'.
- (36) 'A big error I made when I started was making translations. When I saw that they didn't understand what they were saying, I translated it into Spanish. I have realised that this was not the right thing to do as it did not benefit the students at all. In fact, I should repeat what I said using much more gestures and asking questions to make sure they have comprehended it. I would like to translanguaging more and to allow my students to translanguaging too'.

Conclusion

The design of learning in CLIL classrooms is increasingly incorporating translanguaging and trans-semiotizing theories and pedagogies. Nonetheless, despite the benefits of these new learning approaches, it is noteworthy that teacher training programmes for educators in CLIL classrooms often lack comprehensive inclusion of adequate training in the application of translanguaging and trans-semiotizing theories. This deficiency in pedagogical preparation may impede the seamless integration of these innovative approaches into the instructional framework, potentially hindering the realisation of their full educational benefits. The current study sheds light on how a pedagogy of multiliteracies may increase CLIL teacher semiotic awareness to potentially integrate translanguaging and trans-semiotizing processes to make new content comprehensible in CLIL classrooms. Designed based on the pre-existing beliefs of 200 in-service CLIL teachers, the pedagogy engages them in individual and collective decision-making, promoting critical thinking and active learning. The teachers worked on possible solutions for a tailor-made case study that addressed their misconceptions about teacher translanguaging and trans-semiotizing, analysed real communication situations in a CLIL class from a multimodal perspective, and reflected on their own communicative practices to make content comprehensible.

Although the finding may have been influenced by other factors that this study has not captured, such as other exposure to translanguaging and trans-semiotizing, after implementing the online pedagogy of multiliteracies the teachers demonstrated a more precise grasp of the two concepts, translanguaging and trans-semiotizing. They seemed to exhibit an increased awareness of their diverse multimodal literacy practices, strategically employed to enhance the comprehension of new content in CLIL classrooms. Moreover, the teachers were able to identify and suggest potential enhancements in their communication processes associated with these two fundamental concepts.

However, the study is not without limitations. Firstly, the approach was teacher-fronted, focusing on multimodal communication of teachers during the tasks rather than encompassing communication from all participating agents in making meaning. Secondly, while observed changes

in the teachers may indicate potential transformation towards more effective communication processes, this transformation remains unmeasured. PD was only examined from a learning perspective, overlooking how this learning translates into improved comprehension of new content for students. In conclusion, despite the proven effectiveness of the pedagogy, further research is necessary to adopt a holistic design perspective that considers both teachers and learners, incorporates diverse data for its evaluation, and measures teacher transformation.

Notes

1. All the online classes given at this university are video recorded and are at the students' disposal on their course platforms.
2. The design of the survey and the essay considered pre-service and in-service teachers enrolled in the course. Thus, the original questions included real and hypothetical situations, i.e., "How do/ would you (...)?", "Would/ do you (...)?", "(...) you would use/ use (...)". Additionally, instructions were given to skip question 4 of the essay in the case of not having any teaching experience yet.

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ORCID

Mercedes Querol-Julián  <http://orcid.org/0000-0003-4017-1982>

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