An analysis of language anxiety in English and Basque-Medium Instruction: A study with primary school students —————

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Abstract

In an era of globalisation, acquiring communicative competence in foreign languages has become an educational priority, and in this scenario, Content and Language Integrated Learning (CLIL) emerged as a European endeavour to improve students' foreign language proficiency. In the Basque Autonomous Community (BAC), learners are required to deal with the coexistence of three languages in the school curriculum, which may be regarded as an anxiety-provoking process. Through a mixed method approach, this study explores the interaction between language anxiety and the language of instruction in the case of 89 primary education students in the BAC, along with the effects of students' gender, linguistic repertoire and achievement on anxiety means. Results indicated that participants experienced significantly more anxiety in their English subjects than in their Basque subjects. Moreover, students speaking Spanish at home or scoring lower grades in both instruction types exhibited higher anxiety levels, and this trend diminished in the case of females. These findings reveal the challenging nature of anxiety, an affective factor that should be taken into consideration in the implementation of language teaching methodologies.

Keywords: CLIL, mixed method approach, language anxiety, language of instruction, primary education.

Resumen

En plena era de globalización, adquirir competencias comunicativas en lenguas extranjeras se ha convertido en una prioridad educativa y, en este escenario surgió el Aprendizaje Integrado de Contenidos y Lenguas Extranjeras (AICLE) como un

intento por mejorar el dominio de la lengua extranjera de los estudiantes europeos. En la Comunidad Autónoma Vasca (CAV), el alumnado debe afrontar la coexistencia de tres lenguas en el currículo escolar, lo cual puede resultar en un proceso que genere ansiedad. Mediante un enfoque metodológico mixto, este estudio explora la interacción entre la ansiedad y la lengua de instrucción en el caso de 89 estudiantes de educación primaria en la CAV, junto con los efectos del género, el repertorio lingüístico y los resultados académicos de los estudiantes en sus niveles de ansiedad. Los resultados indicaron que los participantes experimentaron significativamente más ansiedad en sus asignaturas impartidas en inglés que en las de euskera. Además, el alumnado que hablaba español en casa o que obtenía calificaciones más bajas en ambos tipos de instrucción exhibía niveles más altos de ansiedad, aunque esta tendencia disminuyó en el caso de las mujeres. Estos datos revelan la naturaleza desafiante de la ansiedad, un factor afectivo que debe considerarse en la implementación de metodologías de enseñanza de idiomas.

Palabras clave: AICLE, enfoque metodológico mixto, ansiedad, lengua de instrucción, educación primaria.

1. Introduction

Considering the complexities and the globalisation-related trends of the multilingual society of today, the importance of learning foreign languages (FL) and reaching good standards has been recognised across the globe (European Commission, 2012). In fact, data gathered by the European Commission (2012) indicates that there is a limited number of Europeans who are able to communicate in a language other than their mother tongue. In view of such results and the linguistic consequences of globalisation, developing adequate methodological approaches and efficient environments for FL acquisition has become a social concern (Lasagabaster, 2008).

In an attempt to improve learners' FL proficiency (predominantly English), Content and Language Integrated Learning (CLIL) programmes were implemented (Dalton-Puffer, 2011; Lasagabaster, 2008; Seikkula-Leino, 2007). Defined as "a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language" (Coyle et al., 2010, p. 1), CLIL provides an innovative pedagogical approach in which the FL acts as a medium of instruction in some curricular subjects (Dalton-Puffer, 2011; Eurydice, 2006; Seikkula-Leino, 2007), while content learning is not negatively affected (Admiraal et al., 2006).

In Spain, as a result of the unsatisfactory outcomes linked to the early teaching of the FL (García Mayo, 2003), new proposals centred on providing meaningful exposure to English, and this produced a rapid increase in the proportion of Spanish

institutions offering CLIL (Lasagabaster, 2009; Ruiz de Zarobe, 2008). However, in bilingual communities such as the Basque Autonomous Community (BAC) learners have to deal with the learning of the two official languages (i.e. Spanish and Basque) along with the augmenting presence of English through CLIL programmes (Ruiz de Zarobe & Lasagabaster, 2010). Therefore, assigning the precise time devoted to each language of instruction in the curriculum becomes a key issue in these officially bilingual communities.

Despite the social demand for learning multiple languages, language learning can be regarded as an intimidating experience for some students, who may face severe difficulties in the classroom (Onwuelgbuzie et al., 1999). In the field of second language acquisition (SLA), the research on individual differences explores the uniqueness of the individual mind, and it has been the dominant paradigm for several decades (Daubney et al., 2017). Within the affective dimension, anxiety has especially aroused experts' attention as a relevant psychological factor that may impact on learners' language achievement (Daubney et al., 2017; Teimouri et al., 2019). As a matter of fact, the negative role of anxiety has been extensively examined, and detrimental effects have been found on language achievement (Aida, 1994; MacIntyre & Gardner, 1991; Teimouri et al., 2019; Young, 1990), attitudes towards the target language (Onwuelgbuzie et al., 1999; Philips, 1992), and motivation (Somers & Llinares, 2021), among others. Moreover, this affective variable can influence FL students to the extent of blocking their learning, and subsequently leading them to abandon their language studies (Dewaele & Thirtle, 2009).

While FL learning can be considered to be anxiety-provoking (Lasagabaster & Doiz, 2017; Horwitz et al., 1986; Onwuelgbuzie et al., 1999), CLIL programmes not only extend FL exposure, but also endeavour to promote motivation and positive attitudes (Coyle et al., 2010; Pladevall-Ballester, 2019). Even though CLIL provision may be offered in primary and secondary education, the real picture is that, as Dalton-Puffer recognises, "CLIL is usually implemented once learners have already acquired literacy skills in their L1, which is more often at the secondary than the primary level" (2011, p. 184). This may have led to the tendency of the existing literature to focus on CLIL in secondary education, neglecting the research at other instruction levels, particularly in primary education.

In an attempt to fill this gap, this study aims to shed light on the impact of CLIL on fifth-grade primary school students' anxiety levels in the BAC. In this sense, we will delve into the interaction between anxiety and two instruction types, i.e. English-medium instruction (EMI) and Basque-medium instruction (BMI). Furthermore, learners' linguistic backgrounds will be taken into account in order to spot possible differences in their anxiety levels depending on the languages spoken in their daily

life. Moreover, the anxiety-achievement correlation as well as the effects of gender will be examined, to which little attention has been paid in CLIL settings in relation to anxiety. Accordingly, the novelty of this study lies in the comparison of this affective variable in two instructional settings (i.e. EMI and BMI) at primary education in a bilingual community, in which a minority language coexists with a majority language and a main FL.

2. Contextualising CLIL

It was not until the early 1990s that CLIL began to be promoted within the European Union to fill a need for greater levels of multilingualism and innovative methods in FL teaching (Eurydice, 2006). In CLIL classrooms, it is not the L1 of learners, but an additional language (not regularly spoken in their community) which is used as a medium of instruction to develop proficiency in both the content subject and the target language itself (Coyle et al., 2010; Dalton-Puffer, 2011; Eurydice, 2006; Seikkula-Leino, 2007).

In line with European policies, Spanish educational systems increasingly began to implement CLIL programmes to optimise FL learning conditions. In this linguistically diverse scenario, due to the several co-official languages spoken in some regions, various CLIL models were developed and adapted to each community's linguistic background (Ruiz de Zarobe & Lasagabaster, 2010). In monolingual regions, where CLIL has been implemented, curricular subjects are taught partly in Spanish and the FL, whereas in bilingual communities, the incorporation of the FL into the curriculum has to coexist with the two official languages, i.e. Spanish and the co-official regional language (Basque, Catalan/Valencian, and Galician).

The setting of the present study is the BAC, a bilingual community, in which Spanish and Basque are the official languages and the medium of instruction, and although English is hardly used outside the classroom, it represents the main FL in compulsory education. By the time CLIL was introduced into formal instruction in the BAC, three linguistic models were already established: model A, model B and model D (Ruiz de Zarobe & Lasagabaster, 2010). In model A, Spanish is used as the main language of instruction except for the Basque and English languages that are taught as subjects, while in model B, school subjects are taught proportionally in Basque and Spanish, excepting the English class. Finally, model D is a Basque immersion context as all the subjects are exclusively taught in Basque with the exception of the Spanish and English subjects. CLIL was generally implemented in compulsory secondary education, and initially, students learnt one or two curricular subjects in English. Nonetheless, the current picture is that CLIL is extended through the Basque educational system and varies from school to school in terms of the number

of subjects, hours of instruction per week, timing and organisation, albeit with a common objective: to improve learners' communicative competence in the FL across the school curriculum.

The CLIL approach offers richer opportunities than the early introduction of English and creates real communicative situations for using the FL in a more meaningful and efficient way, even in a context in which the FL has little social presence (Ruiz de Zarobe & Lasagabaster, 2010). When it comes to research, there is evidence confirming the linguistic benefits of the approach in grammar (Lasagabaster, 2008; Pérez Cañado, 2018a), vocabulary (Pérez Cañado, 2018a), listening (Lasagabaster, 2008; Pérez Cañado, 2018a), reading comprehension (Admiraal et al., 2006; Pérez Cañado, 2018a), writing production (Lasagabaster, 2008), and in oral production (Admiraal et al., 2006; Lasagabaster, 2008; Pérez Cañado, 2018; Ruiz de Zarobe, 2008). With respect to content learning, previous studies (Admiraal et al., 2006; Pérez Cañado, 2018b; Seikkula-Leino, 2007) found no statistically significant differences between CLIL and non-CLIL students, suggesting that learning subject matter through the FL does not hamper content learning. Likewise, CLIL does not entail negative effects on the development of L1 literacy skills either (Pérez Cañado, 2018b). In the BAC in particular, similar L1 proficiency levels were found after comparing CLIL and the traditional EFL approaches (Ruiz de Zarobe & Lasagabaster, 2010).

Furthermore, CLIL-type instruction is also believed to positively influence students' affective stance as it strengthens their motivation levels to learn FLs (Doiz et al., 2014; Pladevall-Ballester, 2019; Seikkula-Leino, 2007) and fosters positive language attitudes (Lasagabaster, 2009). Described as "a relatively anxiety-free environment" by Muñoz (2002, p. 36), CLIL has also been expected to reduce learners' anxiety, owing to the focus on meaning rather than on language form, as is usually the case in EFL teaching methods. However, findings related to the interaction between CLIL and anxiety are more disparate; in fact, some researchers (Lasagabaster & Doiz, 2017; Papaja, 2019; Somers & Llinares, 2021) reported that this approach can create high-anxiety learning environments, considering the difficulty that studying already-complex subjects in the FL may pose.

3. Literature review

3.1. *Foreign Language Anxiety*

At the most general level, anxiety has been characterised as the subjective feeling of tension, fear, uneasiness, nervousness and worry, closely related to "an arousal of the autonomic nervous system" (Horwitz et al., 1986, p. 125). Language learning is prone to anxiety-arousal, as experiencing anxiety is believed to be part of the learning

process (Daubney et al., 2017). As a result, Foreign Language Anxiety (henceforth, FLA) was conceptualised as a distinct variable and unique to the FL learning context, and is one of the most prominent individual difference factors that may explain differential success in language acquisition (Daubney et al., 2017). A widely-accepted definition of FLA was provided by Horwitz and colleagues (1986), who conceived this situation-specific anxiety as "a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (p. 128). To measure the scope and severity of FLA, they also developed the Foreign Language Classroom Anxiety Scale (FLCAS), a 33-item survey with a Likert type scale, which succeeded in identifying significant FLA levels among university students. Owing to its reliability and internal consistency, the FLCAS became a well-established instrument and was extensively used in later studies (Aida, 1994; De Smet et al., 2018; Dewaele & MacIntyre, 2014; Philips, 1992).

A large body of literature has investigated the debilitating impact of FLA on language acquisition not only in various domains of language performance, but also in non-linguistic aspects of the learning process. Indeed, high levels of FLA in the classroom may induce unfavourable emotional reactions and negative attitudes towards the learning of the language, as well as discourage students from continuing their language studies (Daubney et al., 2017; Dewaele & Thirtle, 2009). In addition, the enjoyment and motivation that are essential to engage in language learning may be adversely affected (Dewaele & MacIntyre, 2014; Somers & Llinares, 2021).

FLA has been claimed to be a significant predictor of language achievement, as it was found to be negatively correlated with course grades or standardised language proficiency tests (Aida, 1994; Elkhafaifi, 2005; Horwitz et al., 1986; MacIntyre & Gardner, 1991; Philips, 1992; Saito et al., 1999). In other words, higher FL anxiety levels were associated with a poorer performance in the FL and vice versa. Nonetheless, a meta-analysis conducted by Teimouri et al. (2019) found that correlations vary dramatically across studies, and the overall correlation found was low to moderate ($r = -.36$). Considering the small magnitude of the negative correlations and the complex, multidimensional nature of anxiety, cause-effect relationships between language anxiety and achievement should be interpreted with caution, because higher anxiety levels do not automatically imply a lower language achievement (Lasagabaster & Doiz, 2017). Likewise, students with a higher propensity for anxiety may achieve outstanding results, whereas there may be others who perform more poorly without experiencing anxiety (Onwuelgbuzie et al., 1999; Park & French, 2013).

The sources for such a negative emotion in the language classroom are multiple, and may be associated with the learner, teacher and the specific learning context. On the one hand, some relevant learner-internal variables include: (i) students' age of

onset of learning, with late starters suffering more from FLA; (ii) FL learning type, particularly higher FLA levels are reported when the language is exclusively learnt through formal instruction without exposure to the FL outside the classroom; (iii) number of languages known, as the more languages learners know, the lower the FLA they feel; (iv) frequency of FL use, being more frequent users less anxious; and (v) gender, in which discrepant results have been found (Dewaele & Al-Saraj, 2015). Further causes related to the learner may lie in their classroom performance, fear of negative evaluation or making mistakes, learning difficulties and some personality traits, in particular perfectionism, extraversion, psychoticism, tolerance of ambiguity, emotional stability and social initiative (Dewaele & Al-Saraj, 2015; Dewaele & Shan Ip, 2013; Onwuegbuzie et al., 1999).

On the other hand, the causes centred on the teacher characteristics may be linked with their teaching methods, level of supportiveness and emotional involvement, personality, unpredictability, and evaluation procedures (Onwuegbuzie et al., 1999; Young, 1990).

When it comes to the factors that emerge in the learning context, peers play a major role since their opinions, laughter and negative judgements can provoke anxious feelings in learners (Horwitz et al., 1986; Young, 1990). The complexity of the target language, classroom atmosphere, class size, exam pressure, methodology and tasks, especially those in which oral communication is involved, may also contribute to feelings of anxiety (Aida, 1994; De Smet et al., 2018; Papaja, 2019; Philips, 1992). In particular, researchers (Horwitz et al., 1986; Young, 1990) have observed that performing orally in a language in which learners do not have full competence is one of the most anxiety-provoking situations due to their fears of embarrassment, speaking publicly or being mistaken.

3.2. FLA in CLIL settings

Within the aforementioned myriad of factors, the methods employed in the language classroom, especially those involving communication, have been considered to potentially contribute to furthering anxiety (Arnold & Brown, 1999). CLIL serves as a clear example of a communication-based approach, which is simultaneously expected to have a positive impact on the learner's affective dimension, namely motivation, language attitudes and FLA (Admiraal et al., 2006; Doiz et al., 2014; Lasagabaster, 2008; Pladevall-Ballester, 2019; Ruiz de Zarobe, 2008). Nevertheless, a few scholars have claimed that CLIL could even exacerbate learners' anxiety, given the demanding process of learning subjects, already complex or with a heavier academic load, in the FL (Lasagabaster & Doiz, 2017; Papaja, 2019; Somers and Llinares, 2021).

The influence of CLIL in FLA was regarded as positive when CLIL learners were found to experience less FLA than their non-CLIL counterparts in many studies (De Smet et al., 2018; Heras Aizpurua, 2016; Simons et al., 2019; Thompson & Sylvén, 2015). In Spain, Heras Aizpurua (2016) observed that CLIL secondary education students felt less anxiety using English when compared to their EFL peers. Similarly, Doiz et al. (2014) evidenced how the levels of anxiety exhibited in CLIL by first-year secondary school students vanished among third-year secondary CLIL students, which may be due to their increased familiarity with using English in this learning context after two academic years of CLIL-type exposure. However, CLIL learners still exhibited a slightly higher level of anxiety than their non-CLIL peers, which was attributed to the more demanding process that learning subjects in the FL entails since CLIL learners run the risk of facing more lexical difficulties.

In other settings like Sweden, even before the start of their CLIL experience, less anxious reactions were perceived among CLIL pupils in a secondary school (Thompson and Sylvén, 2015). Instead of the effect of the methodology itself, other pre-existing individual factors may have come into play given that CLIL was a voluntary option. However, the authors acknowledged the need of a longitudinal study to better illustrate the influence of CLIL over time. In Belgium, De Smet et al. (2018) ascribed the lower anxiety levels in CLIL to the more favourable profiles (i.e. higher socio-economic status and nonverbal intelligence, and lower school failure) of the learners participating in this approach in primary and secondary education. Simons et al. (2019) also found that feelings of anxiety in a group of secondary CLIL students decreased after one year of CLIL education, albeit slightly, due to their growing confidence to use the FL.

Adverse or non-satisfactory effects of CLIL were also encountered in previous research. Lasagabaster and Doiz (2017) longitudinally investigated the impact of CLIL on affective factors in two age groups in the BAC, and observed that unexpectedly CLIL learners' anxiety was non-significantly lower in third grade than in first grade in the case of the younger students. Conversely, levels of anxiety of both CLIL and non-CLIL older participants significantly increased from third to fourth school year. A plausible explanation for this increase of anxiety in later grades was linked to the complexity and cognitive demand of subjects delivered. But they concluded that higher FLA levels may not cause detrimental effects on language learning, as anxiety does not necessarily involve a poorer achievement. In another Spanish community (Madrid), significantly higher feelings of anxiety were reported by secondary education students in their CLIL classes than in non-CLIL classes, due to a more demanding level of teaching involved in secondary education and CLIL lessons (Somers & Llinares, 2021). These findings led the authors to conclude that CLIL may have a negative impact on anxiety.

Similarly, Papaja (2019) observed that learners of secondary schools from three different countries felt more tense and nervous in CLIL subjects than in their regular English subjects, especially when discussing specific contents in English because of their struggles to express what they meant or fear of making mistakes. Most of the participants also considered that other CLIL pupils were more competent in the FL, and felt overwhelmed with the amount of material to be covered in the CLIL curriculum as a result of its dual focus on content and FL learning.

3.3. *FLA related to learners' linguistic repertoire*

As in the case of methodology, prior linguistic knowledge has also been argued to be determinant in the learning of a new language in that it may assist or hinder its acquisition, in view of the cognates shared by the languages (Odlin, 1989).

As regards FLA, similar scores have been found in previous studies with different native language-target language pairings (Aida, 1994; Saito et al., 1999), suggesting that general FLA is somewhat independent of the distance between the L1 and the L2/ FL. Nonetheless, some skill-specific anxieties such as reading anxiety were argued to potentially depend on the L1-L2 distance (Elkhafaifi, 2005; Saito et al., 1999). In Saito and colleagues' (1999) study, reading anxiety of English learners of three different FLs (French, Russian and Japanese) was lower when a FL with a closer proximity to English was targeted (e.g. French) as compared to a more distant FL (e.g. Japanese). The fact that reading Japanese created significantly higher anxiety was explained by the difficulties to read the language due to its unfamiliar, non-Roman writing system in contrast to the L1.

Not only typologically, but the degree of FLA could also fluctuate in terms of the amount of exposure to the languages at the learner's disposal. Despite the internationalisation of English and its ever-growing role in education in the BAC, the opportunities to use the language beyond the school walls are few. For example, Santos Berrondo (2017) observed that there were higher anxiety levels in English than in the L2, Spanish or Basque, among university students owing to the limited exposure to the FL outside the classroom. Likewise, Dewaele (2007) tested among multilingual speakers that FLA gradually increased over the languages learnt later in life, since speakers were typically more proficient in the languages acquired earlier and used more frequently. Later, Dewaele and Al-Saraj (2015) reasoned that FLA was somewhat associated with the frequency of FL use, indicating that the speakers who used the language more frequently were less susceptible to suffer from anxiety in the FL.

Furthermore, Santos Berrondo (2017) found that there was no variation in FLA levels with respect to participants' L1, as they had a similar academic background and

exposure to English. However, they differed in their L2, in other words, L1-Spanish speakers felt more anxious in Basque than L1-Basque speakers in Spanish, because of the minority status of Basque and the fewer opportunities to use the language in daily communication in the Basque society. While Spanish is the dominant language in most areas of the BAC, Basque remains a minority language and is less frequently used than Spanish, notwithstanding the language plans for the consolidation and promotion of Basque in different sectors such as education, society, public administration and media –Basque television, radios and newspapers– (Cenoz, 2009).

Following these patterns, our study expects higher levels of anxiety in the FL (English) than in students' L2 (Basque) irrespective of their L1 (Basque, Spanish or both), because exposure to the former is usually higher. In Basque, the principal language of instruction and our participants' L1 or L2, L1-Spanish students are expected to suffer more from anxiety than their L1-Basque or Basque-Spanish bilingual counterparts.

3.4. Gender differences in FLA

The study of the role of gender in language learning has recently received a great deal of attention, and research has detected a statistically significant trend, albeit with small effect sizes, showing a consistent female advantage over males (Aida, 1994; Park & French, 2013). Not only do females outperform their male counterparts in language achievement and skills, but they have also been reported to manifest a stronger motivation to learn the target language, and a more positive disposition and attitudes towards it (Dewaele et al., 2016; Dewaele & MacIntyre, 2014).

With reference to gender differences in FLA, it was female learners who also scored higher levels of FLA in previous studies. Many researchers (Elkhafaifi, 2005; Park & French, 2013; Santos Berrondo, 2017) examined the effect of gender on FLA among university students, and significant differences were perceived in favour of females in the different linguistic contexts. Dewaele and MacIntyre (2014) investigated FL anxiety and enjoyment in a large sample from different education levels, and females scored higher means in both scales, suggesting that they experienced more negative and positive emotions in the FL classroom. In a follow-up study by Dewaele et al. (2016), while female participants reported less confidence in using the FL and worried more about their mistakes than males, they simultaneously had significantly more fun, pride in their FL performance and interest in the FL class.

In contrast, empirical data has indicated that females can also feel less anxiety than male learners (Campbell & Shaw, 1994; Kitano, 2001; MacIntyre et al., 2002). Higher anxiety levels of secondary males in a French immersion program (MacIntyre

et al., 2002) and postsecondary males in an FL intensive course in the USA (Campbell & Shaw, 1994) were related to a combination of different variables such as a lower self-consciousness and willingness to communicate, attitudes towards FL learning, learning styles, fear of academic failure, teacher differences and teaching methodology. In a study carried out by Kitano (2001), male students enrolled in Japanese language courses exhibited higher anxiety levels than females given their lower perceived competence in spoken Japanese.

In spite of the significant gender-based divergence identified in research, effect sizes are generally small. Besides, other researchers did not spot gender differences at all (Aida, 1994; Dewaele & Al-Saraj, 2015). Interestingly, some researchers found that gender-differences tend to diminish in terms of motivation in CLIL settings (Fernández Fontecha & Canga Alonso, 2014; Heras Aizpurua, 2016; Heras & Lasagabaster, 2015). A possible explanation is that female and male learners appear to be equally motivated to learn the target language in the CLIL classroom since there might have been an increase in males' motivation to learn both the language and the subject matter, owing to the richer and more meaningful environment created by CLIL-type exposure.

As for the interface of anxiety, gender and CLIL, there is a scarcity of research, hence the present study will compare the degrees of language anxiety experienced by female and male learners in the Basque learning context. Given the vanishing effects of CLIL on gender differences in motivation, it may be the case that this approach helps to reduce the gender-based divergence in our participants' anxiety levels. Yet, Simons et al. (2019) observed that female CLIL learners were more inclined to FLA than their male peers.

The goal of this study is, thus, to provide a profound insight into the anxiety experienced by primary education students when receiving CLIL, given the dearth of research on this affective variable in CLIL contexts at primary education. In this respect, whether levels of FLA fluctuate depending on language of instruction, achievement, linguistic repertoire and gender will be analysed. Specifically, the setting in which this investigation takes place is linguistically diverse, and the differences among the languages present in the BAC could be decisive in the experience of anxiety. Within this framework, the research questions of this paper are the following ones:

1. Do primary education students experience language anxiety, and if so, is it higher in EMI or BMI?

2. How do learners' language anxiety levels differ in terms of gender, home languages and achievement?

4. Methodology

4.1. Participants

The current study investigates the impact of language anxiety in a group of 89 fifth-grade (48 females, 37 males and 3 non-binaries) FL learners of English in a primary, charter school in Bilbao. The mean age of the sample was $\bar{x}$ =10.35. Although all the students were born in the BAC, their home languages varied considerably: the sample consisted mostly of Spanish speakers, exclusively (66.3%) or in addition to Basque (15.7%), but others used only Basque at home (12.4%) and a combination of other languages such as Spanish and English (1.1%), Basque and English (1.1%) or Basque and Polish (1.1%).

By the time of data collection, students were enrolled in model D, and they were all receiving CLIL classes in English. They started learning English at the age of 3, devoting three sessions per week to the FL teaching in the school curriculum. In the case of CLIL subjects, they were attending art English lessons since the first year of primary education and science since third grade, for two hours each, making a total of four CLIL lessons during the week, and seven (plus three hours of EFL classes) are the sum of all the weekly hours that participants were exposed to the FL in compulsory education.

To measure Basque learners' achievement in the current study, their last term's course grades in the subjects of English, Basque, art English and science were taken into account, as displayed in figure 1. In Basque primary education systems, according to the BOPV (Boletín Oficial del País Vasco, 2016), the grading system is based on the following terms: *Gutxi* ('insufficient'), *Nahiko* ('sufficient'), *Ondo* ('good'), *Oso ondo* ('very good') and *Bikain* ('outstanding'). While 'very good' and 'excellent' encompass two numerical grades, i.e. 7-8 and 9-10 respectively, 'sufficient' and 'good' only refer to one grade, i.e. 5 and 6 respectively. For that reason, students scoring 'sufficient' and 'good' in their grades were merged into the same group to conduct the statistical analyses.

Figure 1: Profile of the participants – Grades
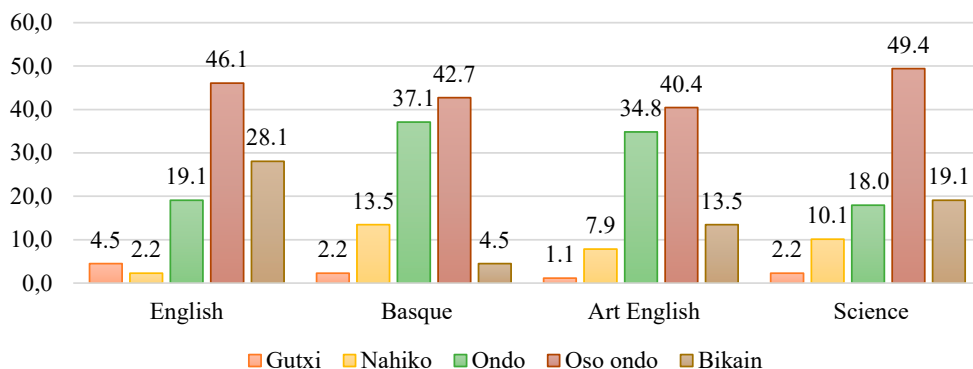
External exposure to English was also observed. Overall, 60.7% of the participants were attending English lessons outside school for an average of 4.5 years and 1.8 hours per week. Moreover, 27% of the participants indicated that they had travelled abroad: 10.1% to an English-speaking country, 13.5% to a non-English-speaking one, and 3.4% to both. Those who had visited foreign countries spent 65.1 days in total on average, namely, 21.3 days in an English-speaking destination and 93 days in a non-English-speaking one.

4.2. Instruments and procedure

This study used a mixed method approach to measure students' FLA in EMI and BMI, and is cross-sectional in its design, as data were gathered at one, albeit separate, point in time. Quantitative data were collected through an anxiety questionnaire, developed on the basis of the FLCAS, which was originally created by Horwitz et al. (1986) and widely used in previous studies. It consisted of 38 items presented on a five-point Likert type scale ranging from *strongly disagree* (1) to *strongly agree* (5), encompassing anxiety episodes in both EMI and BMI classes (a shortened version of the instrument in English is attached in the Appendix section). Participants completed the questionnaire in Basque, and it was administered in mid-May in paper-based format within school hours. Ten items were phrased to indicate low anxiety in an attempt to make learners pay careful attention when filling out the questionnaire. These items were later reverse-coded so that high scores in all the items indicate high anxiety in the scale. Likewise, the items included in each instruction type were equivalents, albeit differently formulated, representing thus the same theme under study. Also, four items referred to possible anxiety experiences linked with COVID-19 measures imposed by the school. The purpose of devoting a subsection to the latter is to observe whether the current pandemic situation and health protocols could affect learners' anxiety levels in the classroom.

To collect qualitative data semi-structured interviews were carried out in June. In this phase, 10 participants (7 females and 3 males) were selected by the school (they were asked to choose heterogeneous students in terms of gender, linguistic background and proficiency) and grouped in pairs (see table 1) so that they could feel comfortable, without teacher or peer pressure to express their perspectives and classroom experiences openly; the aim was to capture relevant thoughts, comments and reflections, with which learners may not arise in individual interviews. Learners responded to several questions, concerning their anxiety in the process of Basque and English learning, either in Basque or Spanish, as preferred by participants. The length of each interview varied from 40 minutes to almost 2 hours, depending on how forthcoming participants were to share their learning experiences and thoughts.

Table 1: Profile of the sample selected for the interview

Pairs	Students	Gender	L1	Home language	Grades	
					English	Basque
Pair 1	ST1	Female	B & S[a]	S	Good	Very good
	ST2	Female	B & S	B & S	Excellent	Excellent
Pair 2	ST3	Male	B[b]	B	Very good	Very good
	ST4	Female	S[c]	S	Very good	Excellent
Pair 3	ST5	Female	B	B & S	Excellent	Very good
	ST6	Male	S	S	Excellent	Good
Pair 4	ST7	Female	B & S	S	Very good	Sufficient
	ST8	Female	B & S	S	Excellent	Very good
Pair 5	ST9	Female	B & S	S	Very good	Good
	ST10	Male	B & S	S	Very good	Good

a. Basque & Spanish

b. Basque

c. Spanish

Prior to the main data collection, a pilot study was conducted so as to test and maximise the efficacy of the research instruments employed. Three similarly-aged students, not included in the sample, were arbitrarily selected to complete this preliminary phase in April, in which they filled out the anxiety questionnaire in Basque and took part in the interview in Spanish. After the pilot test, some items from the questionnaire were reformulated and highlighted to facilitate the reading

and comprehension of the text. Additionally, the question related to learners' L1s created great confusion among participants, and therefore, their home languages were used as a parallel variable to the L1s to represent participants' linguistic repertoire. Furthermore, the parents of each participant, including both the pilot test and main study, were asked to sign a parental consent form, allowing their children to participate in the study. Due to the pandemic situation, the teachers of the school took charge of distributing the questionnaires, and the interviews were conducted by the researcher via an online platform.

4.3. Data analysis

Empirical data was examined through two distinct procedures. On the one hand, the Statistical Package for Social Sciences (SPSS) 25 was used to analyse quantitative results. More specifically, reliability analyses were first carried out to validate the internal consistency of the present scale, followed by factor analyses in order to identify common underlying themes that may explain the variability of our set of observed variables (Dörnyei, 2010; Larson-Hall, 2010). Before conducting any statistical test, a Kolmogorov-Smirnov test was computed in order to know whether the distribution of our data set was normal (Larson-Hall, 2010). In addition, mean scores and standard deviations were calculated for the different anxiety categories in both languages of instruction. Wilcoxon signed-ranks tests were performed to compare means of anxiety in EMI and BMI (Larson-Hall, 2010). Mann Whitney U and Krukall-Wallis tests were also computed to observe whether there were statistically significant differences between groups in two of our independent variables (gender and home languages) in relation to anxiety. These variables' effect sizes were measured as well to establish the magnitude of their influence on anxiety. Finally, the Spearman's correlation coefficient between participants' grades and anxiety scores were calculated to test the strength of their relationship.

On the other hand, interview transcriptions were examined by means of the systematic thematic analysis (TA) to identify patterns across our data set and make sense of these commonalities. Developed by Braun and Clarke (2012), a six-phase approach to TA consisted in: (1) familiarising with the data set's content, (2) generating initial descriptive codes, (3) searching for patterns associated with the extracts, (4) reviewing potential themes to capture the most important elements, (5) defining themes relevant to the research questions, and (6) producing the report by connecting the themes coherently and including the interpretation of the data. The selection of the themes is in accordance with the items included in the quantitative analysis, and further relevant features mentioned by the participants were also taken into account. These selected themes will be depicted in participants' quotations in the following section, and will simultaneously reinforce the results obtained from the questionnaires.

5. Results

Prior to any type of analysis, the Cronbach's alpha coefficient was measured in order to check the reliability of the instrument used in the study. At this phase of the process, 6 items were excluded due to their incompatibility with the rest of the target items. The present scale showed a satisfactory internal consistency in the entire set of target items with α = .754 (n = 32), in the anxiety items related to EMI with α = .712 (n = 14) and in those related to BMI with α = .693 (n = 14). Furthermore, items from the scale were classified into two main factors in each language of instruction: (1) Classroom performance and atmosphere, and (2) Knowledge and difficulties in the language and subjects, along with an additional factor (3), alluding to COVID-19 measures. Reliability coefficients for the two main categories were adequate in both languages: Factor 1 with α = .608 (n = 9) and Factor 2 with α = .641 (n = 5) in EMI, and Factor 1 with α = .629 (n = 9) and Factor 2 with α = .602 (n = 5) in BMI; but it was not for the items composing the COVID-19 category (α = .491, n = 4).

A Kolmogorov-Smirnov test was performed, revealing that the distribution of the scores was not normal (KS = 0.082, $p < 0.05$), and as a result, non-parametric statistics were computed to answer the research questions.

RQ1. Do primary education students experience language anxiety, and if so, is it higher in EMI or BMI?

To address the first research question, descriptive statistics for global anxiety scores plus the three factors under study are presented in table 2. These students experienced a low level of language anxiety on average in fifth-grade primary education ($\bar{x}$ = 2.60). However, anxiety linked with COVID-19 was moderate ($\bar{x}$ = 3.22), hence it was higher than global anxiety. The Wilcoxon signed ranks test showed that the anxiety experienced in the classroom significantly differed from one language to the other. They appeared to be statistically more anxious in their subjects taught in English ($\bar{x}$ = 2.63) than in Basque ($\bar{x}$ = 2.39) (p-value = .003), and the effect of the language of instruction was moderate (r = .31). The difference between the two main factors, that is, the anxiety associated with classroom performance and the complexity of the subjects in EMI ($\bar{x}$ = 2.71 (F1), $\bar{x}$ = 2.48 (F2)) and BMI ($\bar{x}$ = 2.49 (F1), $\bar{x}$ = 2.22 (F2)) was statistically significant (p-value = .014 (F1), p-value = .027 (F2)). Even though both factors' mean scores were higher in EMI, the effect of the language of instruction was small in the two cases (r = .26 (F1), r = .23 (F2)).

Table 2: Descriptive statistics and Wilcoxon signed ranks test on global anxiety and factors in EMI and BMI

		Mean	SD	Z	Asymp. Sig. (2-tailed)	Effect size (r)
Anxiety	EMI	2.63	.64	-2.948 [a]	.003	.31
	BMI	2.39	.62			
	Global	2.60	.48			
F1: Performance & atmosphere	EMI	2.71	.69	-2.468 [a]	.014	.26
	BMI	2.49	.73			
	Global	2.60	.58			
F2: Knowledge & difficulties	EMI	2.48	.87	-2.208 [a]	.027	23
	BMI	2.22	.79			
	Global	2.35	.61			
F3: COVID-19		3.22	.98			

a. Based on positive ranks.

To understand these results in more detail learners' contributions in the interviews were closely examined. The following words supported the fact that these students experienced global anxiety to different degrees: "I don't feel very nervous, but a bit more than intermediate" (ST1), "For me it's very strong" (ST8), "Sometimes I can't avoid it, but other times I can control it" (ST9), "It's not a big deal" (ST10). But, they were aware of the variability of these feelings, as most of them expressed having a decline in anxiety since they started CLIL and a possible increase in the subsequent academic courses. Also, learning subjects in English was perceived as beneficial for several reasons:

> (ST2): "When I started, I was nervous because I didn't know very well what science was, and now I'm not so much, but I'm when we do individual activities. [...] I'm fine with these subjects because that way we master English more and if we go abroad, it's easier that way. [...] I'm nervous because of DBH ('Compulsory Secondary Education') because it seems to be more difficult".

> (ST5): It's always good for travelling and for communicating with people from there. [...] I have less anxiety now because we've been learning them since third grade. [...] (In two years' time), it'll be higher (in English), because it

seems to me that it's even more difficult but apart from this, you have more things to learn".

(ST8): "It'd be useful for travelling to places and as English is one of the most spoken languages, so to understand people from there. [...] Now I have less anxiety because I've become used to it, and this makes me feel better. [...] It'll be higher (in Basque), because you learn new things, and the teacher has already told us that what we're learning here will be like harder in two years' time".

With regard to COVID-19 anxiety, qualitative data disagreed with quantitative results, since most participants denied suffering from anxiety with current health measures, but commonly described feeling "discouraged", "listless" and "frustrated" instead.

(ST4): "The issue of friends doesn't make me feel so nervous, I don't care about it. It discourages me, but it doesn't bother me so much".

(ST8): "It makes me feel a bit more listless, because this year's school trips were all cancelled due to coronavirus".

(ST10): "I get frustrated. It discourages me a little bit because when we're in the break time we can't meet students from other classes, and for example, in the building below, they can meet other students, but we can't".

When it comes to EMI and BMI classes, students' comments in the interviews seemed to support quantitative data in that most of them felt more anxious in English subjects; however, three participants reported experiencing the opposite. The two main factors in our set of questionnaire items, classroom performance (F1) and knowledge and difficulties in the language or subject matter (F2) were mentioned as possible sources of feelings of anxiety together with other factors, including frequency of use and personal interests in the language.

(ST1): "In English, I'm a little bit more nervous than in Basque, because in English it's more difficult. [...] Not daily, but I always speak Basque, and it's my language. I don't speak English every day, and thus, I find it more difficult".

(ST8): "I'd prefer to study the subjects in English or Spanish because I find it easier to speak in other languages than Basque because I don't like Basque. [...] (CLIL) is a way of learning faster. It's like science and in English at

the same time, so it's better. When I have to speak aloud in Basque, I feel uncomfortable because sometimes I get tongue-tied, and I don't know how to continue. I like English subjects a lot. I feel comfortable. I hardly ever get tongue-tied".

(ST10): "In English, I feel with a bit more like anguish because there are words that I don't understand, and it's like it embarrasses me to ask."

As for the individual items, intergroup comparisons of equivalent pairs in EMI and BMI were made, and results in table 3 indicated that there were statistically five significant differences out of 14 pairs. Apparently, students suffered from anxiety when handling their classmates' laughter in their subjects taught in Basque ($\bar{x}$ = 2.73) more than in English classes ($\bar{x}$ = 2.21) (p-value = .020), but the effect size was small (r = .25). Nevertheless, participants exhibited substantially higher levels of anxiety in EMI due to their embarrassment to volunteer ($\bar{x}$ = 2.43 (EMI), $\bar{x}$ = 1.93 (BMI)) (p-value = .019), when speaking without preparation ($\bar{x}$ = 3.15 (EMI), $\bar{x}$ = 2.46 (BMI)) (p-value = .000) and giving oral presentations ($\bar{x}$ = 3.89 (EMI), $\bar{x}$ = 3.20 (BMI)) (p-value = ,000), plus because of the difficulty of learning subjects in that language ($\bar{x}$ = 2.37 (EMI), $\bar{x}$ = 1.63 (BMI)) (p-value = ,000). The effect of the language of instruction was moderate when the teacher asked them questions without prior preparation (r = .39), they gave presentations in front of the class (r = .39) and when they struggled learning the subjects because of the difficulty of the language (r = .42). In both cohorts, the item in which students experienced the highest level of anxiety was when they were required to deliver an oral presentation in the classroom, especially in English as the degree of anxiety was nearly large.

Table 3: Descriptive statistics and Wilcoxon signed ranks test on independent items in EMI and BMI

		Mean	SD	Z	Asymp. Sig. (2-tailed)	Effect size (r)
Item 20 -	BMI	1.93	1.25	-2.344[a]	**.019**	.25
Item 1	EMI	2.43	1.38			
RCItem 21 -	BMI	1.78	1.41	-.012[a]	.991	
Item 2	EMI	1.76	1.23			
Item 18 -	BMI	2.46	1.42	-3.697[a]	**.000**	.39
Item 3	EMI	3.15	1.50			
Item 28 -	BMI	3.02	1.49	-1.297[b]	.195	
Item 4	EMI	2.80	1.32			
Item 30 -	BMI	2.87	1.47	-.527[a]	.599	
Item 6	EMI	2.99	1.60			
RCItem 26 -	BMI	2.11	1.32	-1.823[a]	.068	
RCItem 7	EMI	2.54	1.53			
RCItem 27 -	BMI	2.31	1.33	-.101[a]	.919	
Item 8	EMI	2.33	1.35			
RCItem 32 -	BMI	2.73	1.64	-2.322[b]	**.020**	.25
Item 9	EMI	2.21	1.58			
RCItem 19 -	BMI	3.20	1.46	-3.713[a]	**.000**	.39
Item 10	EMI	3.89	1.27			
Item 17 -	BMI	2.64	1.46	-1.560[a]	.119	
Item 11	EMI	2.96	1.36			
Item 22 -	BMI	2.56	1.53	-.351[a]	.725	
Item 12	EMI	2.63	1.49			
Item 23 -	BMI	1.63	1.26	-3.949[a]	**.000**	.42
Item 15	EMI	2.37	1.43			
Item 31 -	BMI	1.78	1.19	-1.557[a]	.119	
Item 16	EMI	2.09	1.35			
Item 38	BMI	2.49	1.05	-1.519[a]	.129	
Item 37	EMI	2.63	.95			

a. Based on positive ranks.

b. Based on negative ranks.

Table 4 includes the items in which higher percentages of anxiety (4 or 5 on the scale) were expressed. It is worth noting that a very high percentage of students (68.5%) found presentations in English anxiety-provoking (a lower but still high 46% in Basque). High percentages were also found especially in EMI classes when students were asked questions they had not prepared in advance (46.1% in EMI versus 29.2% in BMI), because they considered that other students were better at English/Basque (40.5% vs. 32.6%), or when they felt afraid of not understanding the content (40.5% vs. 31.5%).

Table 4: Items with the highest percentages of anxiety in EMI and BMI

	Frequency (%)					
	0	1	2	3	4	5
Item3	5.6%	12.4%	12.4%	23.6%	23.6%	22.5%
Item18	4.5%	24.7%	30.3%	11.2%	19.1%	10.1%
Item6	7.9%	14.6%	12.4%	24.7%	16.9%	23.6%
Item30	6.7%	12.4%	19.1%	29.2%	14.6%	18%
Item10	1.1%	6.7%	5.6%	18%	25.8%	42.7%
Item19	3.4%	12.4%	15.7%	22.5%	21.3%	24.7%
Item11	3.4%	14.6%	18%	23.6%	28.1%	12.4%
Item17	4.5%	22.5%	22.5%	19.1%	18%	13.5%

Data obtained from interviews equated to questionnaire results in that most students reported experiencing anxiety when speaking or making oral presentations, especially in English. Other instances of anxiety were related to their classmates and specific activities in which they worried about making an unsuccessful performance.

> (ST1): "In Basque, I'm nervous most of the times, when we have a worksheet, but when we have regular classes I'm well. In English, I'm more nervous in presentations because I get tongue-tied many times. All of them are staring at you, and if you get tongue-tied I feel more nervous and then I do it worse. If I say it wrong, I feel nervous. Some classmates start to laugh. [...] I think that if you're with more people, you feel nervous because there are a lot of people with you".

> (ST6): "In oral presentations in Basque, when there is something that doesn't come up, I get very nervous there. In English, nothing causes me nervousness.

[...] You may feel nervous in oral presentations or exams or when they ask you something that you aren't studying because you don't know what to say, like a surprise question. [...] When you're with people who are disturbing, this can cause you anxiety. You aren't comfortable. In the presentation of this term instead of listening to me they were talking or playing. I felt really bad and nervous".

RQ2. How do learners' language anxiety levels differ in terms of gender, home languages and achievement?

In view of the few non-binary participants in the sample (n = 3), this group was excluded from the statistical analyses, and Mann Whitney U tests were carried out to compare anxiety levels between female and male students. Table 5 offers the gender-based differences in global and COVID-19 anxieties plus in the anxiety categories in EMI and BMI. As can be observed, there was only one statistically significant difference between the two gender samples, namely in the COVID-19 category (p-value = .036), being females more anxious ($\bar{x}$ = 3.37) than males ($\bar{x}$ = 2.99). Yet, the effect of gender on COVID-19 anxiety was small (r = .23). In the contrasts between EMI and BMI, both genders experienced more anxiety in English subjects, and females appeared to exhibit higher anxiety levels, although without statistical significance.

Table 5: Descriptive statistics and Mann Whitney U test on gender-based differences on global anxiety, COVID-19 anxiety and factors in EMI and BMI

		EMI				BMI				Global				
		M	SD	Z	Sig.	M	SD	Z	Sig.	M	SD	Z	Sig.	Effect size (r)
Anxiety	F[a]	2.61	.62	-.328	.743	2.45	.71	-.808	.419	2.64	.54	-1.508	-132	
	M[b]	2.56	.62			2.31	.51			2.50	.37			
F1	F	2.77	.65	-1.416	.157	2.57	.79	-.937	.349					
	M	2.55	.69			2.41	.58							
F2	F	2.34	.86	-1.326	.185	2.22	.83	-.009	.993					
	M	2.57	.83			2.12	.65							
COVID-19	F									3.37	.99	-2.100	**.036**	.23
	M									2.99	.93			

a. Female
b. Male

Although females turned out to be more anxious due to pandemic measures than males in the questionnaires, gender differences did not arise in the interviews, as participants described feeling anxious to a greater or lesser extent, independently of their gender:

> (ST5) (F): "It makes me mad because I get totally depressed. A friend that I haven't seen for a long time and that I can't hug, it discourages me a lot".

> (ST6) (M): "It discourages you a lot".

The second variable under research deals with students' linguistic repertoire, and the influence of speaking a certain home language in the anxiety experienced in each language of instruction was examined. Those speaking languages other than Basque, Spanish or both of them at home were discarded, as only one participant was included in each of these groups. Table 6 revealed that users of Spanish had significantly more anxiety in EMI classes ($\bar{x}$ = 2.72) than users of Basque ($\bar{x}$ = 2.59) or of both Basque and Spanish ($\bar{x}$ = 2.32) (p-value = .033), and the effect of the languages spoken at home was moderate (η^2 = .06). Also, those speaking Spanish at home were the ones facing the greatest difficulties in both language classes (p-value = .031 (EMI), p-value = .005 (BMI)), and the effect size of the variable was moderate (η^2 = .06 (EMI), η^2 = .11 (BMI)).

Table 6: Descriptive statistics and Kruskal-Wallis test on home languages-based differences on global anxiety and factors in EMI and BMI

| | | EMI | | | | | BMI | | | | | Global | | | |
		M	SD	H	Sig.	Ef. size (η^2)	M	SD	H	Sig.	Ef. size (η^2)	M	SD	H	Sig.
Anxiety	B[a]	2.59	.57				2.17	.48				2.48	.33		
	B & S[b]	2.32	.45	6.836	**.033**	.06	2.25	.56	2.550	.279	2.42 2.68	.33		4.501	.105
	S[c]	2.72	.65				2.48	.66				.52			
F1	B	2.64	.58				2.39	.65							
	B & S	2.54	.49	2.067	.356		2.48	.65	.018	.991					
	S	2.79	.74				2.53	.78							
F2	B	2.51	.98				1.76	.46							
	B & S	1.91	.67	6.971	**.031**	.06	1.84	.52	10.725	**.005**	.11				
	S	2.58	.81				2.39	.85							

a. Basque
b. Basque & Spanish
c. Spanish

Qualitative data included one user of Basque (ST3), seven of Spanish (ST1, ST4, ST6, ST7, ST8, ST9 & ST10) and two of both languages (ST2 & ST5). Even though most of the interviewed participants spoke Spanish at home, they appeared to feel more anxiety than the other groups in both language classes:

> (ST2): "I feel well in Basque subjects, but when I speak and something doesn't come up, I feel a bit nervous, but not because Basque classes are taught in Basque. [...] In English, in worksheets or when I have to express something and I don't know, I feel nervous, but not because we're taught in English".

> (ST5): "I don't feel nervous because I know English since I was 5 years old, and Basque as well".

> (ST8): "I find Basque more difficult to learn. I feel more nervous in Basque because I feel like I don't master it, like more people speak it much better".

> (ST10): "I feel more nervous in English but less often in Basque or Spanish because I master them a bit more than English".

To analyse the influence of achievement, a series of Spearman correlation coefficients were calculated to establish to what extent global anxiety and factors in EMI and BMI were associated with course grades in subjects taught in English (i.e. English, art English and science) and Basque respectively, as displayed in table 7. Results showed a significant negative and moderate correlation between anxiety in EMI and grades in English (r_s = -.438, p-value = .000), suggesting that students who reported higher global anxiety in EMI classes had lower grades in English than those reporting lower anxiety. The correlation between factor 2 in EMI and grades in English was significantly negative as well, but the strength of the relationship was weak (r_s = -.314, p-value = .003), which indicated that those who experienced more anxiety when facing difficulties in the English subjects were slightly inclined to receive lower course grades in the FL.

With regard to art English grades, there was a statistically significant, albeit weak, negative correlation between factor 2 in EMI and achievement (r_s = -.248, p-value = .021). In other words, students receiving a lower grade in art English may have tended to feel more anxious when they perceived difficulties in their subjects taught in English.

Along with art English, science is another subject that our participants learnt in the FL, and statistically significant differences were observed in two categories. Global anxiety (r_s = -.314, p-value = .003) and factor 2 (r_s = -.355, p-value = .001) in EMI were negatively correlated with grades in science, that is, those being generally more anxious

and becoming anxious when they face difficulties in the classroom may be expected to score a lower grade in science, but the strength of the relationship was weak in the two cases.

To determine the impact of Basque grades on anxiety in BMI, the same procedure was followed. Anxiety in factor 2 was negatively correlated with Basque grades, despite sharing a weak relationship (r_s = -.285, p-value = .007). That is to say, learners who achieved a lower grade in Basque were potentially more prone to feel anxiety when they had difficulties in learning Basque subjects.

Table 7: Spearman correlations between grades in English and CLIL subjects and categories in EMI, plus between Basque grades and categories in BMI

			English grade	Art English grade	Science grade	Basque grade
Anxiety	EMI	r_s	-.438**	-.095	-.314**	
		Sig.	.000	.381	.003	
	BMI	r_s				-.202
		Sig.				.058
F1	EMI	r_s	-.203	.007	-.212	
		Sig.	.056	.945	.047	
	BMI	r_s				-.131
		Sig.				.221
F2	EMI	r_s	-.314**	-.248*	-.355**	
		Sig.	.003	.021	.001	
	BMI	r_s				-.285**
		Sig.				.007

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

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

Several students' comments supported quantitative data, since they exhibited higher levels of anxiety in the language of instruction in which they performed worse, but others did not follow the same pattern:

> (ST4) (English: 'very good'; Basque: 'excellent'): "I find English subjects more difficult because the language changes and mastering it is difficult".

(ST5) (English: 'excellent'; Basque: 'very good'): "I think that science in English is much easier for me than in Basque because we've learned them more in English than in Basque".

(ST9) (English: 'very good'; Basque: 'good'): "I find science in English a little bit more difficult, because it's taught in English. In English I find words more difficult because I've never heard them before. After all, what we learn is Basque and Spanish".

6. Discussion

The purpose of this study was twofold. First, to explore the impact of CLIL on primary education students' anxiety, while levels of anxiety in EMI were contrasted with those in BMI, and second, to establish to what extent anxiety fluctuates in each language of instruction on account of gender, home languages and course grades.

Regarding the first of the research questions, students' anxiety episodes were not excessive; in fact, they experienced low levels of anxiety overall. Feeling a small degree of anxiety in primary education may be linked to the lower academic demands in comparison to other educational stages such as secondary or tertiary education settings. Particularly, the transition from primary to secondary education could be recognised as a shift into a stronger literacy orientation, as well as a period of stress and worry, which may affect learners' academic achievement and affective stance (De Smet et al., 2018; Muñoz, 2017; Somers & Llinares, 2021). In the interviews, most of them were conscious of the gradually increasing workload and complexity of their subjects, which may lead to an increase of anxiety as they climb the educational ladder. In addition to academic demands, fear of ambiguity has been previously identified in CLIL contexts (Papaja, 2019; Somers & Linares, 2021; Thompson & Sylvén, 2015), and is understood as the way individuals process ambiguous information and confront unfamiliar contexts, which may contribute to feeling nervous and tense. The present qualitative data underpin this observation, as participants explained that their level of anxiety would increase in the subsequent academic courses because they would be dealing with new content that had not been learnt previously.

Nonetheless, a contradictory result was found in participants' reports, as most of them agreed that their anxiety level in English subjects decreased since the onset of CLIL-type instruction. While some expressed their familiarity with the language or subject contents, a few others also mentioned overcoming their fear of ambiguity in CLIL classes, which may have played a facilitative role in reducing their anxiety levels over time. Doiz et al. (2014) explained that after a few years of CLIL-type exposure students' anxiety may be alleviated in view of their increased familiarity with the FL.

When students get familiar with CLIL, Papaja (2019) argued that their initial fear of ambiguity dispels and thus, their anxiety levels tend to decrease. This inconsistency in the direction in which their anxiety did and would fluctuate may also be in line with the recently contemplated Dynamic Approach, which advocates the dynamic conceptualisation of language anxiety. Indeed, anxiety is an emotion that varies from person-to-person and within the individual over time, as it is in constant interaction with a multitude of ever-changing learner and situational variables (Daubney et al., 2017). Therefore, change is inherent in language anxiety.

Furthermore, some of our participants reported having a positive experience in CLIL subjects at the moment and were perfectly aware of its benefits; namely, for increasing the frequency of FL use, improving FL linguistic skills and for travelling purposes among others. In agreement with Lasagabaster (2009), it seems that CLIL fosters positive attitudes, and recognising the international status of English, as pointed out by Teimouri et al. (2019), may have a facilitative role in reducing learners' anxiety in the FL.

When it comes to the language of instruction, despite their low level of global anxiety in both classes, students felt significantly more anxious in their subjects taught in English than in Basque. Given that the effect size was moderate, it can be stated that the language of instruction plays a decisive role in students' anxiety levels. In addition, mean scores of both anxiety factors were statistically higher in EMI, that is, students were more prone to anxiety when performing in the FL and facing difficulties in the EMI classroom. These results concur with two other studies conducted by Dewaele (2007) and Dewaele and Al-Saraj (2015); the former perceived that multilingual speakers' anxiety gradually increased over the languages learnt later in life, whereas the later researchers associated higher language anxiety levels with the lower frequency of use of that language. An equivalent finding was reported by Santos Berrondo (2017) in the BAC specifically, where L1-Spanish and L1-Basque university students showed having higher levels of communicative anxiety in their L3 (English) than in their L1 or L2 (Spanish or Basque). According to these authors, the exposure to the FL and frequency of FL use generally determine how anxious students may feel when using that language; in fact, given the limited opportunities to use English outside the classroom in the BAC, anxiety was significantly higher in EMI than in BMI subjects. In regard to the CLIL approach, a few researchers (Lasagabaster & Doiz, 2017; Papaja, 2019; Somers & Llinares, 2021) concluded that the process of learning subjects in the FL may be academically more demanding, resulting in an increase of anxiety among students. In fact, our participants attributed their higher levels of anxiety in English classes to their lower competence and poorer performance in the FL, greater complexity of the FL and lower frequency of FL use, whereas their mastery and frequency of Basque use was higher.

Contrary to expectations, however, some participants recognised feeling more anxious in BMI than in EMI. Dewaele (2007) argued that in stressful situations learners may tend to experience higher anxiety levels even in their L1. Some of our participants explained that their command and interests in English were greater, while in Basque subjects, they felt more uncomfortable and perceived Basque as a more difficult language. Probably, the meaningful exposure to the FL provided by CLIL and the out-of-school exposure to English may have alleviated their anxiety, since more than half of the sample were learning English in a language school, and some had travelled abroad as well. The facts that primary school students started learning English at the age of 3 at school and had been learning CLIL subjects since first grade in compulsory education seem to have increased their familiarity with English, as explained by a few participants and evidenced by Doiz et al. (2014).

According to our participants, the most common anxiety-provoking situation was when giving presentations, especially in English. This finding aligns with experts (Horwitz et al., 1986; Papaja, 2019; Young, 1990), who sustain that performing orally in a language in which learners' mastery is limited, is probably one of the most frequently cited concerns of anxious FL learners. Our participants' interviews reinforced the quantitative results and further confirmed prior research, in that students pointed out experiencing anxiety in oral presentations or when speaking in both language classes, since they lacked the knowledge to answer or express themselves, feared making mistakes, and were reluctant to volunteer. However, instances of anxiety were not exclusive to speaking. They also felt anxious when performing certain tasks in class, such as individual assignments and exams, and were worried about a bad performance, since learners tend to experience anxiety when performing in highly evaluative situations in the classroom (Horwitz et al., 1986).

Further sources of anxiety were connected with peers, as participants acknowledged feeling anxious due to classmates' stares, laughter, distractive noises and negative comments. In fact, peers have been argued to play a determinant role in language learning (Horwitz et al., 1986; Young, 1990), and many learners seem to be highly sensitive to their reactions, especially when their mistakes are in the spotlight. Considering that some participants also described feeling anxious due to the number of peers in the classroom and preferred learning in smaller groups, MacIntyre and Dewaele (2014) held that having fewer students in the FL class may be conducive to closer social bonds and a more positive learning atmosphere, and this could, in turn, contribute to reducing anxiety levels.

With respect to COVID-19, the pandemic has exponentially impacted peoples' mental well-being worldwide and sparked adverse psychological consequences, including stress, anxiety and fear (Oducado et al., 2021; Pizarro-Ruiz & Ordóñez-Camblor, 2021).

In this primary school, learners experienced moderate levels of anxiety in relation to wearing masks, having limited activities, not sharing material and keeping safety distance with friends in class. Such anxiety levels simulate results in prior research among graduate and university students (Oducado et al., 2021) as well as among children and adolescents (Pizarro-Ruiz & Ordóñez-Camblor, 2021), albeit during the confinement. To our knowledge, no empirical data have been reported indicating the influence of post-confinement school measures in students' levels of anxiety, which should be targeted in future research. Nonetheless, the target items composing the COVID-19 category in the questionnaire did not show internal consistency, and this may be associated with the fact that most students in the interviews pointed out that the current health protocols did not affect their degree of anxiety, but made them feel discouraged and frustrated instead.

To address the second research question, the degree of anxiety appeared to vary significantly on the basis of the independent variables under study. The differential role of gender reached no statistical significance, excepting in COVID-19 anxiety, but the effect of gender was small, and nor did learners differ in terms of gender in the interviews. To some extent females felt more anxiety than males when dealing with the health measures imposed by the school. The small effect size of gender in the anxiety caused by COVID-19 was also observed in a study conducted among Spanish teenagers (Pizarro-Ruiz & Ordóñez-Camblor, 2021), albeit during the quarantine. The lack of significant gender-based differences in the other cohorts parallels previous data (Aida, 1994; Dewaele & Al-Saraj, 2015; Elkhafaifi, 2005). For that reason, the vanishing effects of CLIL on gender-related differences found in motivation in the Spanish context (Fernández Fontecha & Canga Alonso, 2014; Heras Aizpurua, 2016; Heras & Lasagabaster, 2015) concur with our results concerning anxiety, although there is a scarcity of research in this field.

As for the anxiety differences attributed to the linguistic repertoire of learners, statistical tests indicated that students speaking Spanish at home experienced low, but significantly higher levels of anxiety than the users of Basque or of both Basque and Spanish in EMI exclusively. In addition, Spanish speakers were the ones coping with the greatest difficulties in both EMI and BMI classes. In the qualitative analyses, users of Spanish also expressed feeling more anxious than their peers from the other groups in both language classes. The moderate effect of learners' home languages suggests that the languages spoken in their daily settings may bear relevance in the anxiety experienced in the EMI classroom and when facing difficulties in the two languages of instruction.

These findings partially agree with Santos Berrondo's (2017) study, in which L1-Spanish undergraduates experienced more anxiety in Basque than their L1-Basque counterparts in Spanish, probably resulting from the minority status of Basque and

the fewer opportunities to use Basque outside school. In our sample, Spanish speakers' lower mastery of Basque and higher difficulties in BMI may be thus linked to their lower exposure to the language in comparison with those using Basque or both languages at home. In the contrast between EMI and BMI, more anxiety was observed in the subjects taught in the FL, consistent with Santos Berrondo (2017). This author did not find significant differences in relation to their L1s in English; participants were nonetheless mainly university students, who had received same exposure to the FL in the school curriculum and came from similar academic backgrounds. On the contrary, in our sample, those speaking Spanish at home exhibited significantly higher anxiety levels than their peers in EMI as well. This finding agrees with Dewaele and Al-Saraj (2015) as knowing more languages may reduce learners' anxiety across languages, and also with the study conducted by De Smet et al. (2018), in which lower anxiety levels were found among bilingual speakers compared to monolingual speakers. This could be explained by the advantages of bilingualism in L3 learning (Cenoz, 2011); indeed, those who speak only Basque or Basque and Spanish at home have more opportunities to use Spanish outside the school in the BAC than speakers of Spanish to use Basque, considering the dominant position of Spanish and the minority status of Basque. According to Cenoz (2011) and Lasagabaster (1998), having a broader linguistic repertoire at learners' disposal may be beneficial when acquiring an additional language in terms of language proficiency, metalinguistic awareness and learning strategies among others, although no positive effects of bilingualism on L3 anxiety were mentioned. This finding should be thus addressed in future research.

When examining the degree of association between anxiety and course grades, results should be interpreted with caution as our sample includes few participants achieving very low or high grades in both instruction types. In BMI classes, scoring lower grades in Basque was somehow associated with facing difficulties in the Basque subjects, and the same trend was found in EMI. Moreover, students' grades in English and the two CLIL subjects were negatively correlated with the complexity of the English classes, that is, students with lower grades in the three English classes were in some way more prone to encounter difficulties in these subjects.

As for qualitative data, the relation between grades and anxiety levels was substantially evidenced, because many students pointed out feeling more anxious in the language in which they achieved a lower grade. Accordingly, numerous SLA scholars (Aida, 1994; Elkhafaifi, 2005; Horwitz et al., 1986; MacIntyre & Gardner, 1991; Philips, 1992; Saito et al., 1999) commonly agreed on the negative impact of anxiety on achievement, and the magnitude of the negative correlations ranged from weak to moderate, as shown by prior research (Teimouri et al., 2019). Therefore, instead of cause-effects relationships between anxiety and achievement, it can be assumed that

low-achieving students revealed certain tendencies towards higher anxiety levels. In contrast to art English, the stronger correlations between English and science grades and anxiety categories may be ascribed to the more demanding learning and heavier academic load of these subjects. In fact, many students considered learning science in the FL to be more challenging, since they struggled to understand and learn specific terminology and lessons, whereas difficulties in art English were scarcely reported, because it was mainly focused on painting.

7. Conclusion

In sum, this research project encompasses the interaction between anxiety and language of instruction in the BAC. After exploring the case of 89 CLIL learners, it can be concluded that primary school students experience some episodes of anxiety at the initial stages of language learning. However, there was a great variability, and personal anxiety experiences differed considerably from learner to learner in view of the dynamic nature of anxiety and of the multiple sources that may lead to this negative emotion.

In a context in which the FL is hardly used beyond the school walls, the meaningful environment provided by CLIL may have increased learners' familiarity with English, and thus reduced their FL anxiety levels. Nevertheless, learners still felt substantially more anxiety in their subjects taught in English than in Basque, and specifically when giving oral presentations.

As far as the targeted variables are concerned, there were not significant differences based on gender, except for COVID-19 anxiety, in which females turned out to be substantially more anxious. Regarding participants' home languages, users of Spanish exhibited the highest levels of anxiety in EMI, and faced more difficulties in both language classes. Lastly, the relation between anxiety and achievement was significant in several categories in EMI. General anxiety in EMI was linked to scoring lower grades in English and science, and those students facing difficulties in EMI were associated with achieving lower grades in English and both CLIL subjects.

Any research suffers from specific limitations, which should be acknowledged. First, the anxiety category related to COVID-19 did not completely succeed in illustrating participants' emotions provoked by the pandemic situation, due to the low internal consistency of the questionnaire items, as well as the lack of participants' reports about feeling anxious with the current protocols in the interviews. The second limitation alludes to the data collection procedure, as participants' questionnaire responses were gathered by the school's teachers, and interviews were carried out through an online platform. Probably, attending in person would have been convenient for coming close

to the students and clearing up immediate confusions. Thirdly, while the achievement in the FL and CLIL subjects has been targeted, achievement in the L1 or L2 has been represented exclusively by means of grades in Basque, disregarding the difficulties and anxious feelings with which learners may deal in other subjects taught in Basque.

Further research on FLA should consider a longitudinal perspective, since it would offer a meaningful insight into anxiety fluctuations from the initial stages of language learning to a more advanced phase of the process. Another field worth exploring in future research within learners' linguistic repertoire will include the potentially positive effects of bilingualism on L3 anxiety. Also, considering the dearth of empirical data on the interface between gender, anxiety and CLIL, this is an issue that needs to be further addressed. Finally, not only learners but also teachers could be interviewed in future investigations, as teachers may identify possible signs of anxiety and share their strategies employed to reduce students' anxiety levels. Their contributions could be brought together with students' reports in a scheme of strategies from which the learners with a higher propensity to anxiety could benefit.

A number of pedagogical implications can be drawn from these findings. It is essential that teachers become aware of the role of anxiety and help students cope with anxiety-provoking situations. Particularly in tasks involving evaluation, they should provide positive reinforcement and allay students' fears of making mistakes or performing badly so that they understand that mistakes are part of the learning process.

Classmates appeared to be a key element in the study, since their negative comments, stares, laughter and distractive noises, among others, caused discomfort among some participants. In this regard, organising small groups may be helpful because students could perform exclusively in front of the members of their group, who will provide constructive feedback rather than negative comments. As a result, group dynamics may create an adequate learning environment, and learners may perceive peer support and gain confidence to engage in classroom interactions.

If oral tasks are made in front of the whole class, the teacher needs to carry out previous work to avoid any comment or gesture that could lead to anxiety-provoking situations. Students must be aware that empathy and respect are key values and that some of their classmates may feel a high degree of anxiety due to lower self-confidence and personality traits, which is why teachers should be very strict when signs of lack of respect are found in class. This is not always taken into consideration by some teachers, but our results clearly indicate that this question should be paid heed to.

With reference to the methods employed, developing dynamic and engaging activities (such as 'spelling bee', i.e. a spelling competition mentioned by two participants) may not only attract their attention and strengthen their motivation, but it may also contribute to reducing their anxiety experienced in the language classroom.

Acknowledgements

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Appendix: FLA Questionnaire

In the following section, I would like you to *circle* the degree to which you agree or disagree with the following statements:

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree, 0 = Not sure

Anxiety in the English-medium classes						
1. It embarrasses me to volunteer in my subjects given in English because I feel that there are too many eyes observing me.	1	2	3	4	5	0
2. I worry when there are too many students in my subjects learnt in English.	1	2	3	4	5	0
3. I feel nervous when the teacher asks me questions which I haven't prepared in advance in my English-medium classes.	1	2	3	4	5	0
4. I feel nervous when I can't write or express myself in English.	1	2	3	4	5	0
5. It **wouldn't** bother me at all to take more classes in English.	1	2	3	4	5	0
6. I keep thinking that the other students are better at English than I am.	1	2	3	4	5	0
7. I **don't** feel anxious when I speak English in front of the class.	1	2	3	4	5	0
8. I worry about how demanding the subjects taught in English are.	1	2	3	4	5	0
9. I am afraid that the other students will laugh at me when I speak English.	1	2	3	4	5	0
10. I feel nervous when standing to give a presentation in English in front of the class.	1	2	3	4	5	0
11. It worries me not understanding the contents of the English subjects.	1	2	3	4	5	0
12. Although I am well prepared for the English subjects, I feel anxious about it.	1	2	3	4	5	0
13. I **don't** feel comfortable with my classmates in the subjects given in English.	1	2	3	4	5	0
14. I **don't** worry about making mistakes in the English-medium classes.	1	2	3	4	5	0
15. I find it hard to study these subjects in English, because they are taught in English.	1	2	3	4	5	0
16. I am usually relaxed during my lessons taught in English.	1	2	3	4	5	0

Anxiety in the Basque-medium classes						
17. I get nervous when I don't understand the contents in the Basque-medium subjects.	1	2	3	4	5	0
18. I start to panic when the teacher asks me to speak without preparation in my Basque-medium classes.	1	2	3	4	5	0
19. I **don't** get nervous when I give oral presentations in Basque.	1	2	3	4	5	0
20. I **don't** like volunteering in my subjects learnt in Basque because I am a shy person.	1	2	3	4	5	0
21. I **don't** worry about the group size in my subjects given in Basque.	1	2	3	4	5	0
22. Even if I prepare the Basque-medium classes in advance, I feel nervous.	1	2	3	4	5	0
23. I have difficulties in learning Basque subjects, because they are taught in Basque.	1	2	3	4	5	0
24. It **doesn't** embarrass me to make mistakes in my subjects learnt in Basque.	1	2	3	4	5	0
25. I feel uncomfortable with my classmates in my subjects given in Basque.	1	2	3	4	5	0
26. I feel very confident when I have to speak in my Basque-medium classes.	1	2	3	4	5	0
27. I feel that my subjects taught in Basque **aren't** very demanding.	1	2	3	4	5	0
28. I get nervous when I can't express what I want in Basque.	1	2	3	4	5	0
29. It worries me giving less lessons in Basque.	1	2	3	4	5	0
30. I always feel that the other students know Basque better than I do.	1	2	3	4	5	0
31. I usually feel nervous in my subjects learnt in Basque.	1	2	3	4	5	0
32. I don't care if my classmates laugh at me when I speak in my Basque classes.	1	2	3	4	5	0

Anxiety related to COVID-19 measures						
33. I get upset when they don't understand me while I am speaking because of the mask.	1	2	3	4	5	0
34. I get upset because the current health protocol does not allow us to do many activities or play certain games.	1	2	3	4	5	0
35. It bothers me that we can't share material in class.	1	2	3	4	5	0
36. Not sitting next to my friend, due to the safety distance, makes me feel anxious.	1	2	3	4	5	0

37. I would rate my level of overall anxiety in my English-medium classes:

    extremely high   high   moderate   low   extremely low

38. I would rate my level of overall anxiety in my Basque-medium classes:

    extremely high   high   moderate   low   extremely low

Thank you very much for your participation!! 😊