Chapter 4

The effects of English-medium instruction in higher education on students' perceived level and self-confidence in ELF

Sofía Moratinos-Johnston
University of the Balearic Islands

Maria Juan-Garau
University of the Balearic Islands

Joana Salazar-Noguera
University of the Balearic Islands

Various studies (Seikkula-Leino 2007; Pihko 2007; Doiz et al. 2014) carried out in secondary education have demonstrated the motivating effects of content-and-language-integrated-learning (CLIL) programmes. However, they also indicate some problems with students' self-concept in foreign languages caused by the difficulties encountered by learners. Compared with the sizeable number of studies focusing on CLIL and affective factors in secondary schools, there is still a lack of similar research at university level, where the term 'Integrating Content and Language in Higher Education' (ICLHE) is preferred. At this level students may have problems fully understanding lectures because of vocabulary difficulties or the lecturers' pronunciation (Hellekjaer 2010). In this study, we compare students' linguistic self-confidence and perceived level of English according to the number of ICLHE subjects taken at university. Data was collected by means of a questionnaire administered to ICLHE students (n=155) and follow-up interviews (n=9). Results indicate a significant difference in participants' level of linguistic self-confidence between those students that have taken one or two ICLHE subjects and those that have taken more than four. Similar results emerge as regards the students' perceived

level of English. These outcomes are corroborated by the interview data. They indicate that participants' initial lack of self-confidence diminishes as students become accustomed to using English in their content classes, find strategies to cope with the challenges and start to intervene more. They also note an improvement in their level of English, which is translated into greater levels of enjoyment. The present study thus seems to imply that the more ICLHE courses taken, the better in terms of boosting linguistic self-confidence and perceived level of English.

1 Introduction

The spread of courses 'Integrating Content and Language in Higher Education' (ICLHE) taught in English has been spurred by the fact that universities compete globally not only for international recognition, but also to attract foreign students and staff while promoting international research and networking (Coleman 2006; Graddol 2006; Lasagabaster 2015; Pérez-Vidal 2015). Other reasons include the promotion of multilingualism in education driven by the European Union and the Council of Europe which results in the introduction of courses that integrate language and content at all levels of education (Leuven Communiqué (2009). However, although ICLHE courses are becoming more and more common, differences can be noted in terms of their distribution across Europe. Whilst these courses are the norm in central and northern Europe, they are not so widely spread in southern Europe (Wächter & Maiworm 2014), possibly due to the lower proficiency levels found amongst university students and lecturers (Cots 2013; Arnó-Macià & Mancho-Barés 2015).

In Spain, *Content and Language Integrated Learning* (CLIL) was first implemented some two decades ago through a series of national and regional policies initiated in bilingual schools or the so-called "European sections" (Cañado 2010; Juan-Garau & Salazar-Noguera 2015). Similarly, the Spanish Ministry of Education recently introduced an initiative aimed at raising the international profile of Spanish universities, whereby one out of three degree programmes will be taught in English by 2020 (Spanish Ministry of Education 2015).

The advantages for students associated with the inclusion of ICLHE courses at university level are manifold, both academically and in terms of their future career development, be it locally or abroad. These advantages manifest themselves firstly as successful language acquisition, as shown by many studies (e.g. Coyle et al. 2010; Ruiz de Zarobe 2011; Pérez-Vidal 2013; Gené-Gil et al. 2015). However, there are also some authors (e.g. Seikkula-Leino 2007; Hunt 2011; Bruton 2013) that argue that there may be a loss of self-esteem linked to the fact that students are required to use a language they do not really know for academic communica-

tion, resulting in decreased language use and demotivation, which may hamper language acquisition. The fact that content is taught in a foreign language, and that this language may be above the current competence of the student, makes ICLHE a challenging endeavour requiring considerable effort and concentration on the students' part. In the same vein, Hood (2010) points out that, at the initial stages of instruction, enjoyment, motivation and self-esteem may suffer as students struggle to adapt to this new teaching approach. Hence, Cenoz et al. (2014) suggest the need for more research on some of these still unanswered questions. It is therefore worth investigating at what stage students start to feel more comfortable in their ICLHE classes. With this goal in mind, this study explores:

- students' linguistic self-confidence and perceived level of English according to the number of ICLHE subjects taken at university

- the reasons for any initial lack of confidence in their abilities

- the strategies that learners use to cope with the challenges.

2 Literature review

Linguistic self-confidence and self-perception of L2 achievement

Delving into the historical development of L2 motivational research (Dörnyei & Ushioda 2011), we find that during the *social psychological period* (1959-1990) Gardner & Lambert (1959) pointed out that there seemed to be two main factors affecting L2 achievement: language aptitude and a group of attitudinal and motivational variables that they referred to as the motivation factor. As a matter of fact, Gardner's (1985) most well-known contribution to the development of motivation research, the *socio-educational model,* aimed at explaining how these attitudinal and motivational components fostered second language acquisition (SLA). The relationship between motivation and *orientation* is a key feature in this model, which distinguishes between *integrative* and *instrumental orientations.*

A significant finding was the important role that the self-perception of L2 achievement played in successful SLA. These studies suggested that proficiency in English was associated with a concept that was labelled as 'Self-Confidence with English'. Students with high self-confidence:

> experienced little anxiety when speaking English in class or in real life situations, perceived themselves as being competent in their English abilities,

> reported frequent use of English, had positive attitudes towards their English class, showed motivation and desire to learn English, had experiences with more than one language at home, and performed well on indices of achievement in English. (Sampasivam & Clément 2014: 24)

A strand within Gardner's *socio-educational model*, the *socio-contextual model*, proposed by Clément (1980), accounted for the above-mentioned findings and first developed the concept of '*linguistic self-confidence*', which was defined by social contact with the L2 group and modulated by its frequency and its quality. Thus, although the concept of linguistic self-confidence is largely defined socially, particularly within multilingual communities, it also has a cognitive component - 'the perceived L2 proficiency'. The more positive our self-perceived proficiency and the lower our anxiety levels, the higher our levels of linguistic self-confidence will be. Linguistic self-confidence also greatly influences the willingness to communicate (WTC) in the foreign language classroom (MacIntyre et al. 1998). For instance some studies in Asia indicate that, apart from cultural factors, individual factors such as self-confidence play an important role in classroom situations that demand interaction such as group tasks (Shao & Gao 2016; Eddy-U 2015; Yashima 2002). Again in a classroom environment, Dörnyei (2001) drew up a list of nine demotivating factors linked to a total of 75 occurrences, 11 of which were related to reduced self-confidence following a negative experience in class. There also seem to be differences in perceived self-confidence according to the level of proficiency. Lower proficiency learners feel demotivated earlier during their learning experience and blame internal factors such as unsatisfactory performance or reduced self-confidence, while higher proficiency learners tend to blame the teachers (Falout & Maruyama 2004).

While linguistic self-confidence is thought to have a positive effect on SLA and motivation (Dörnyei 2005), its opposite, 'anxiety', has a mostly negative effect. MacIntyre et al. (1994: 284) define it as 'the feelings of tension and apprehension specifically associated with second language contexts'. Horwitz et al. (1986) refer to the foreign language classroom environment as a context where learners are very likely to have difficulty understanding others and making themselves understood. Research shows that the effects of foreign language anxiety on the learner include forgetting previously learned material, decreased participation, negativity and avoidance behaviour (Gregersen & Horwitz 2002). Consequently, learners will only be confident in their linguistic abilities if they lack anxiety and have positive feelings about their proficiency in the L2. Sampasivam & Clément (2014) have put together a model describing the relationship between a number of factors that determine L2 confidence. At the centre of the model are richness

and self-involvement. Richness refers to the various channels through which we receive the L2 input, which should be varied in form and allow for feedback to be effective. The fact that we are able to understand this rich input positively affects self-confidence, while self-involvement is related to the level of interaction that learners maintain in response to this input. Yashima (2002) claims that self-involvement is in turn shaped by the perceived importance of the contact experience and gives an example of this relationship which is related to the concept of *international posture*. People who value international communication are more likely to place more value on this type of contact experiences and be therefore more motivated to learn the L2, which in turn results in higher levels of L2 confidence (Yashima 2009).

The relationship between richness and L2 confidence is mediated by two variables: (1) frequency of contact; and (2) proficiency. An increased frequency of contact, even when low in richness, is expected to lead to an increase in L2 confidence. Similarly, proficiency is also associated with L2 confidence. Learners with adequate levels of proficiency are less likely to be overwhelmed by rich input, experiencing greater levels of satisfaction and confidence while beginners can suffer from anxiety if they are exposed to rich forms of contact Ozdener & Satar (2008).

The last variable described in Sampasivam & Clément's (2014) model is *quality*, which influences the relationship between self-involvement and L2 confidence. This variable refers to the pleasantness of the contact experience and how it positively or negatively affects self-confidence.

Since linguistic self-confidence and the self-perception of L2 achievement are thought to play an important role as regards motivation, WTC and subsequent SLA, these are variables worth considering when researching how the introduction of a teaching approach such as ICLHE affects the learners. More specifically, as this approach is supposed to foster interaction between teacher and learners and the learners themselves (Coyle 2007), WTC will become especially important in these classes. Moreover, ICLHE is also known to be cognitively demanding (Coyle et al. 2009) and therefore may affect each learner's self-esteem differently. In the next section, we will look at the nature of these challenges, their consequences and how the students tackle the difficulties they may encounter.

3 Content and language integration: the challenges, students' responses and the effects of increasing exposure to ICLHE

The sociocultural tenet that language use mediates language learning (Swain 2000) in an ICLHE context implies 'a level of talking, of interaction and dialogic activity which may be different to that of the traditional language or content classroom' (Coyle 2007: 554). Moreover, if the content is conceptually difficult, the added hurdle of the foreign language may make it even more difficult for students to assimilate both language and content simultaneously (Seikkula-Leino 2007). Some students may feel that they are expected to perform at a more advanced level than that which they consider realistically possible, resulting in a decreased lack of confidence, despite the improvement in their grades. There may be therefore a discrepancy between the progress revealed by formal assessment and the students' own perception of progress (Mearns 2012). If we now turn to the CLIL contexts, their demanding nature requires higher levels of concentration amongst students, who may perceive this as too much of an imposition (Hunt 2011) and feel more anxious, as Sylvén & Thompson (2015) and Santos Menezes & Garau (2013) confirmed. These studies were undertaken in secondary schools at initial stages of CLIL implementation, when students had not yet had much exposure to this new teaching approach. However, as exposure increases by the third grade of secondary education, differences between CLIL and non-CLIL students' anxiety levels seemed to decrease, as Doiz et al.'s (2014) study reveals.

As regards ICLHE research in Spain, Arnó-Macià & Mancho-Barés (2015) and Breeze (2014) discovered that ICLHE students were very aware of their low language proficiency level, including problems of comprehension and their inability to express complex content knowledge in a foreign language (Muñoz 2001; Feixas et al. 2009). Nevertheless, Aguilar & Rodríguez's (2012) study, targeting engineering students, reported satisfactory results in terms of vocabulary acquisition and listening skills, despite objections to the lecturer's level of English. It is precisely lecture comprehension, a skill that seems hard to master in ICLHE classes, which worries students. For example, Flowerdew & Miller (1992) discovered that some of the areas that students identified as difficult were handling the speed of lecture delivery, understanding new terminology and concepts and concentrating during extended periods of time. In Norway, Hellekjaer (2010) described difficulties understanding certain parts of the lecture because of unclear pronunciation, unknown vocabulary and difficulty taking notes. To all this Breeze (2014) added the high speed of delivery of lectures, which hinders comprehension. Fi-

nally, students also appreciated a clearer structure in lecture organization as Dafouz and Núñez (2010) pointed out. Although switching to a foreign language can have an initial negative effect that may adversely affect university students' grades, Klaassen (2001) found that differences in grades between students following ICLHE and traditional teaching methods were no longer noticeable after one year. The students had adapted to the language change thanks to a number of strategies that helped compensate for these negative effects. The strategies students used to overcome their language problems included: looking up difficult words and L1 use (see also Coonan 2007); researching the subject both before and after the lecture; relying on peers and teachers or tutors for help, and trying to improve their concentration skills (Flowerdew & Miller 1992). Airey & Linder (2007) found that some students would concentrate on taking notes instead of focusing on the contents. The solution in this case was to stop taking notes and read the textbook or class materials before the lecture instead.

To conclude, over the years there have been various studies analysing the impact of ICLHE courses, focusing on their effect on the students and the many challenges these have to face (e.g. Arnó-Macià & Mancho-Barés 2015; Aguilar & Muñoz 2014). We believe that more research is needed on the latter aspect, including analysing the point at which these challenges and their effects on students' linguistic self-confidence start to recede as a consequence of their increased exposure to ICLHE courses. These issues will be analysed in this study along with the strategies students use to overcome the difficulties they face, with a view to helping other students who are uncertain about their linguistic abilities.

4 The present study

The research questions that this study intends to answer are the following:

RQ1. At what stage do ICLHE students start to build up linguistic self-confidence and perceive an improvement in their level of English?

RQ2. Why do some ICLHE students display an initial lack of self-confidence and what strategies do these students use to overcome the difficulties they face?

5 Method

5.1 The study's design, setting and sampling decisions

Our study forms part of a larger project that examines motivation in different language learning contexts: Formal Instruction (FI), ICLHE and Study Abroad (SA) (Moratinos Johnston (forthcoming)). Within this project, we decided to focus specifically on students that had experienced ICLHE subjects, since the literature review had revealed the potential detrimental effects on their linguistic self-confidence caused by the challenges associated with simultaneous content and language learning.

Our study targets undergraduate students in the University of the Balearic Islands, a university which is also involved in a process of internationalization aiming to attract foreign students. In terms of the number of subjects taught in English, the degree that offers the most is obviously the English major degree. As for other degrees, the number varies according to the faculty and department policy. Some faculties, such as Tourism or Business and Economics, offer an optional pathway in English. For example, the Tourism Faculty requires students following the pathway to take 30 mandatory ECTS in English, study abroad for at least one semester and write a dissertation in English. The requirements in the Business and Economics Faculty are similar yet more demanding since students have to take at least 100 ECTS of the degree in English. Apart from all these ICLHE subjects offered on Tourism and Business and Economics degree courses, other degrees also offer a much smaller amount of ICLHE subjects, ranging from nine in the case of the Law degree to two in the case of Biochemistry. Considering that one of the aims of this study was to target students who had experienced ICLHE, the sampling technique chosen was *stratified random sampling* where 'the population is divided into groups or *strata* and a random sample of proportionate size is selected from each group' (Dörnyei 2007: 97). The stratification variables used were the different subject areas present in the university, which allowed us to include a higher proportion of students from the Tourism, Social Sciences and Law degrees, since these are the most popular degree courses.

A smaller sample was extracted, in order to carry out in-depth interviews. Participants were selected based on the results of a questionnaire (see for a detailed description 4.3 below). Since we were interested in obtaining a diverse sample, reflecting various levels of linguistic self-confidence, we looked at the participants' scores on this scale in the questionnaire, together with the number of ICLHE subjects they had taken. Nine students that showed a high variance on these measures and in L2 proficiency levels were thus selected.

5.2 Participants

In the present study, we analysed the data from a group of students (n=155) from the University of the Balearic Islands in Spain. The overall majority of these students know Catalan and Spanish, the two official languages in the region, Catalan being the local and Spanish the state language.

Table 1 presents an overview of the participants' main characteristics and the number of ICLHE subjects they took. These students were in their first (N=51), second (N=33), third (N=28) and fourth (N=43) year of their studies and the majority were between 18 and 22 years of age.

Table 1: Characteristics of the sample and number of ICLHE subjects taken

General information			
Sex	Female	94	60.6%
	Male	61	39.4%
Studies	Tourism	74	47.7%
	Modern languages	24	15.4%
	History	18	11.6%
	Primary Education	17	10.9%
	Business and Economics	12	7.8%
	Engineering and Science	10	6.6%
ICLHE	1 subject	54	34.8%
	2 subjects	23	14.8%
	3 subjects	24	15.5%
	4 subjects	4	2.6%
	> 4 subjects	50	32.3%

More than half of the students (66.9%) declared that they had an intermediate level of English (B1/B2), as shown in Figure 1. Amongst them, one third of the participants (35.1%) declared they had a B2, the minimum level of listening ability that Breeze (2014) recommends before one begins an ICLHE course, while (20.7%) stated that they had a C1 level or above, which probably means that these students could feel at ease and possibly learn more in their classes. The remaining students' (12.4%) perceived level ranged between a B1 to basic level (A1/A2) or non-existent.
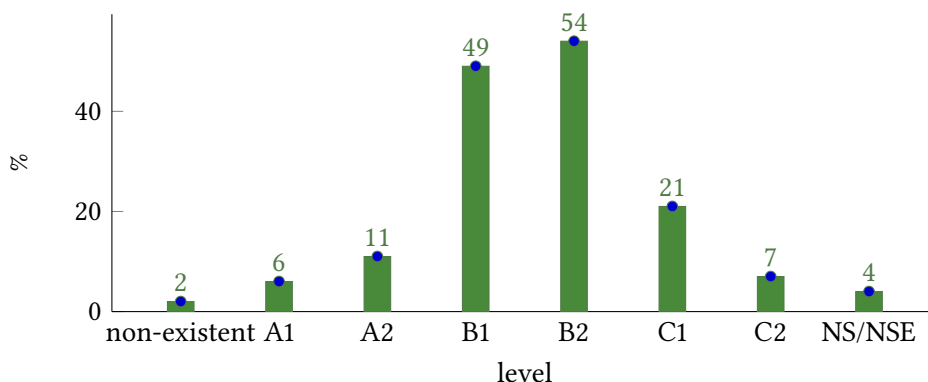
Figure 1: Perceived level of English of the participants. NS(E)= native speaker (equivalent).

Interviewees (n=9) were balanced for gender and came from a varied range of degree courses where ICLHE subjects were offered, as seen in Table 2 below.

Table 2: Characteristics of the interviewees

Initials	Gender	Degree	Year	No. ICLHE subjects	Perceived level of English
MG	male	Economics	2	2	C1
MV	male	Catalan	1	1	A2
MJG	female	Tourism	3	>4	B1
DM	male	Tourism	1	3	B1
MFS	female	English	4	>4	C1
LM	female	English	4	>4	C2
VC	female	History	1	1	A2
IM	male	History	1	1	A2
IR	male	History	1	1	B2

5.3 Instruments

A mixed-method approach was followed, as it offers the advantages of triangulation, complementarity and cross-validation of the findings (Ivankova & Greer 2015). Thus, two research instruments were used in our study, a questionnaire and interviews.

The questionnaire used in the survey was developed following Dörnyei's (2010) guidelines, and comprised two parts: the first consisted of 19 questions designed to establish the participants' linguistic profile (e.g. mother tongue and self-rated English proficiency level) and the types of language learning context experienced (FI, CLIL and SA), while the second part included 47 six-point Likert-type items (ranging from strongly disagree to strongly agree). These items were adapted from three previously published motivation questionnaires: Csizér & Kormos (2009) Motivation Questionnaire for College and University Students in Hungary, Taguchi et al.'s (2009) motivation questionnaires and Ryan's (2009) Motivation Factors Questionnaire. The items were translated and modified (where necessary) to suit the Spanish cultural context. The administration procedure involved first contacting UIB lecturers, whose ICLHE courses had been selected on a random basis. These lecturers then informed their students that a questionnaire would be administered to all those wishing to participate. On each occasion, the administrator (i.e. the first author of this paper) introduced the questionnaire which took on average 15 minutes to fill in. Response rates were high (over 98%).

In this study, we will focus on the findings revealed by the questionnaire as regards the two variables under scrutiny – the perceived level of English of the participants and their linguistic self-confidence as described below:

- Perceived level of English: participants rated themselves by choosing one of seven CEFR levels ranging from non-existent to native speaker/native speaker-like.

- Linguistic self-confidence (5 items adapted from Ryan's (2009) questionnaire): measuring the level of confidence that the participants had in their abilities as L2 learners and users. The items, three of which were negatively worded, were the following:

  1. I am sure I am able to learn a foreign language.
  2. I worry that other students will laugh at me when I speak English.
  3. Learning a foreign language is easy for me.
  4. I think I am the type who would feel anxious and ill at ease if I had to speak to someone in a foreign language.
  5. I always think that my classmates speak English better than I do.

The linguistic self-confidence scale was found to have a high internal consistency (Cronbach's alpha = .78).

Interviews were an additional instrument of this study. They were used to further interpret the findings revealed by the questionnaire data. Thus, the larger scale perspective was enriched by personal exchanges with the participants, following a model that Dörnyei (2007: 170) describes as 'questionnaire survey with follow-up interviews or retrospection'. This approach allows us to interpret unexpected results that may arise from the data by inviting the participants to explain them individually. In addition, the interviews became narrative accounts of the participants' language learning history. The learners' accounts described how they felt throughout different stages across microlevel timescales (Mercer & Williams 2014). Interviews also allowed the participants to point out and develop those factors that they themselves found the most relevant to their learning history.

The semi-structured interviews with set questions aimed at exploring:

- the participants' feelings at the time of their lessons,

- their language simultaneously,

- strategies used to overcome potential learning difficulties,

- their overall evaluation of the course (including the teacher, their peers, materials, impressions of their level of English and the fact that they were learning content and etc.).

These questions allowed us to investigate a wider topic area, resulting in nine in-depth narrative interviews in the participants' mother tongue, which lasted between 60 and 90 minutes. Participants' quotations are reported using an identification code, which includes the initials of their first and last name. After obtaining the participants' consent, all interviews were audio recorded and fully transcribed following Richards (2003) recommendations. Excerpts presented in this study were translated from Catalan or Spanish into English by the interviewer.

5.4 Data analysis

The questionnaire was piloted and went through reliability analysis by means of principal component analysis using SPSS 22. We then carried out normality tests, which showed the normality of the data, allowing us to use parametric tests.

The interviews were coded according to emerging themes, patterns or conceptual categories that helped structure the data in order to discover the wider

picture developing from some of these recurring themes (Saldaña 2013). The conceptual categories in the theoretical framework on L2 confidence developed by Sampasivam & Clément (2014) were used as the basis for analysis. The goal was to identify the links between the recurrent themes and these conceptual constructs (Pavlenko 2007), yet also keeping an open mind for possible unexpected themes that might have appeared. The coding process was done using NVIVO 11.

6 Results and discussion

6.1 RQ1. Linguistic self-confidence and perceived level of English according to ICLHE subjects taken

In order to answer the first research question, we analysed whether there were any statistical differences between the participants as regards their levels of linguistic self-confidence and perceived level of English according to the number of ICLHE subjects taken using a one-way between groups ANOVA.

The results revealed that there was a statistical difference in terms of linguistic self-confidence $F_{(4, 154)} = 3.98$, ($p = .004$) between the groups of participants divided according to the number of ICLHE subjects taken. The effect size, calculated using eta squared, was .09, which according to Cohen (1988) is considered a medium effect size. *Post hoc* comparisons with Tukey HSD indicated that the mean score for the students that had taken one (M=4.22) and two ICLHE subjects (M=3.92) were lower and significantly different from the group of students that had taken more than four subjects (M=4.76), who had higher levels of linguistic self-confidence on the six-point scale, as seen in Table 3. There were no statistically significant differences amongst the other groups. However, although the difference was only statistically significant after taking more than four ICLHE subjects, having done three subjects (M=4.61) already helped to improve the students' self-confidence. These findings are in line with Doiz et al. (2014) study that noticed a decrease in levels of anxiety in the third grade of secondary education as students progressed in their studies and became used to instruction in English. Furthermore, they confirm that the more frequent the contact with rich input, such as after taking multiple ICLHE classes, the higher the L2 confidence (Sampasivam & Clément 2014), although this pattern clearly emerges only with students taking more than four subjects in English.

As far as the perceived level of English is concerned, mean scores were calculated according to the students' self-ratings based on the Common European Framework Reference (CEFR) levels. This is a standardised linguistic competence

Table 3: Results for the linguistic self-confidence scale

No. of ICLHE subjects	N	Mean	SD
1 subject	53	4.22	.95
2 subjects	23	3.92	1.04
3 subjects	24	4.61	.88
4 subjects	4	4.06	1.70
>4 subjects	50	4.76	.94
Total	154	4.41	1

rating well-known to the majority of students, since it is used in most language schools, official exams and in the UIB to determine acceptable levels of competence to obtain a Bachelor's degree. The questionnaire gave students a choice on the following scale: 0=non-existent; 1=A1, Beginner; 2=A2 Elementary; 3=B1 Intermediate; 4=B2 Upper-Intermediate; 5=C1 Advanced; 6=C2 Proficiency; 7=native speaker/native speaker like (Ortega & Sheehan 2016).

Results revealed that again there was a statistical difference $F_{(4, 154)} = 14.95$ ($p \leq .001$) between the groups of participants regarding their perceived level of English. The effect size, calculated using eta square, was .4, which according to Cohen (1988) is considered a large effect size, indicating that the number of subjects taken plays an important role in determining the participants' perceived level of English. The *post hoc* comparisons using Tukey HSD showed that the mean score for the students that had taken one (M=3.17), two (M=2.96) and three ICLHE subjects (M=3.58) were lower and significantly different from the group of students that had taken more than four subjects (M=4.62) demonstrating that the latter group's perceived level of English tended towards a C1, as opposed to the B1 level of the 1-ICLHE subject group. The group that had taken 4 subjects did not differ statistically when compared with the others (Table 4); however, it was composed of four students only.

Overall, the results depicted in Table 4 show a general rise in the perceived level of English as the number of subjects increases. However, the 1-ICLHE and 2-ICLHE subject groups stated on average that their perceived level of English was an intermediate level (B1). This could indicate that although the students may experience linguistic gains, they still seem to consider their proficiency to be rather low, which could be related to the intrinsic challenges involved in the ICLHE approach. These results coincide with Arnó-Macià & Mancho-Barés (2015), Muñoz

Table 4: Results for the Perceived level of English scale

No. of ICLHE subjects	N	Mean	SD
1 subject	53	3.17	1.12
2 subjects	23	2.96	1.18
3 subjects	24	3.58	.97
4 subjects	4	3.25	1.50
>4 subjects	50	4.62	1.02
Total	154	3.68	1.27

Note: Students mean scores are calculated according to the following scale: 0=non-existent; 1=A1; 2=A2; 3=B1; 4=B2; 5=C1; 6 =C2; 7=native speaker/native speaker like

(2001), and Feixas et al. (2009) as regards the student's impression of their low proficiency level. Interestingly, for both linguistic self-confidence and perceived level of English, the 2-ICLHE subject group did not show an increased score, on the contrary, there was a very slight decrease, indicating that two ICLHE subjects did not seem to be enough for students to feel at ease in their classes. These and other issues are explored further in the analysis of the interviews described in the next section.

6.2 RQ2. Reasons for initial lack of self-confidence and strategies used to overcome it

6.2.1 Richness and proficiency

To answer our second research question, regarding the reasons for the participant's initial lack of self-confidence and the strategies used to overcome it, our interview data reveal that the link between richness and proficiency is an important part of our study, especially since we noticed that one of the most frequently used words amongst our participants was the word 'level'.

Rich forms of contact, as found in an ICLHE class, can provoke anxiety for those who consider they have low proficiency, and thus negatively affect levels of self-confidence. For instance, LM, an English degree student, who now defines her level of English as a C2 (>4 ICLHE subjects), describes how she confronted her first literature subject in English with a clear lack of self-confidence: 'at that moment I didn't have the level of English required to explain something that for me was very difficult or very complex such as a poem'. However, this feeling of anxiety seems to recede with time and practice. DM (Tourism, 3 ICLHE subjects)

also found it hard to take notes in the ICLHE class initially: 'in the beginning I didn't know how to write the words, I still don't know how to, I write them as they sound, but I consider it a challenge, but you survive, you get used to it and you improve with the help of your peers and teachers'. MJG (Tourism, >4 ICLHE subjects), who defined her initial level as too low and who was anxious and struggled in her classes, describes her mixed feelings regarding her perceived language proficiency: 'every time I understand more, making less of an effort, of course, but I don't think that I have yet reached at all the level that I would like'. She further stated that her English level (B1) restricts the amount of questions that she asks the teacher, which means that she misses a lot of the finer points. MJG is an unusual case: unlike the majority of participants, she still does not perceive an important increase in her level of English after more than four ICLHE subjects. She believes that one of the ways ICLHE can be improved is by ensuring students have the right level of English from the outset to cope with the challenges this approach entails as well as including extra English language support. This would prevent students from being stressed, or making such an enormous effort, while allowing them to feel more confident to ask questions in class, etc. In summary, they would profit more fully from the whole experience. Some of the improvements mentioned, such as the need for higher initial English levels and language support, echo those expressed by previous studies researching student's experiences with ICLHE in Spanish universities (Aguilar & Rodríguez 2012; Arnó-Macià & Mancho-Barés 2015).

Sampasivam & Clément (2014) also point out that a context that is high in richness involves both being capable to comprehend and produce a response in the L2 and this will lead to higher levels of self-confidence. In other words, these rich contexts should include a certain degree of interaction, which is precisely what DM likes about his ICLHE classes: 'the teacher keeps on asking: what is your opinion? what did we refer to earlier…?' together with the fact that there is a lot of group work. At one point, he states: 'every Thursday we did project work in a group and in this group we share our English knowledge and this helps. It helps a lot'.

6.2.2 Self-involvement and quality

The forms of contact which require some interaction, as described in the previous section, will also lead to greater self-involvement, which is in turn affected by perceived importance. In other words, the greater the importance one attaches to L2 contact experiences, the greater the involvement and the more likely they are to lead to L2 confidence. According to Yashima (2002; 2009), learners with

a strong international posture will also have higher levels of involvement and highly value L2 contact experiences. In contrast, our data revealed that MV (who took one ICLHE subject), a Catalan degree student, who is reluctant to accept English as the *lingua franca* and use it when he travels abroad, does not accept having to take an ICLHE subject either. His low English level (A2) does not help and he describes his experiences during his initial ICLHE classes as embarrassing:

I went the second day and I said, 'oh there are so many people [...] sixty, seventy, eighty people'. It was awful. I didn't go back to class, I stopped going after fifteen days, because of what they might ask me to do... if they made me speak, because they made me read one day and I died from embarrassment. I am not embarrassed to read in English, don't get me wrong, but there in front of everyone and people could laugh at me, I didn't feel like it. I said, 'I'm not going back to this class'.

As we can notice from MV's description, in terms of quality of contact, situations where there is a lot at stake, and which thus greatly involve the self, are particularly affected by the feelings that the learner experiences. For example, if the learner experiences contact with the L2 in an unpleasant manner, it is likely to lead to decreased L2 confidence and vice versa (Sampasivam & Clément 2014). In the case of MV, it meant that he stopped going to class, so he belongs to that group of students, who, as Coyle (2007) found, simply gave up. In other cases, such as MG (Economics, 2 ICLHE subjects), it was when he interacted with the teacher that he really felt he was learning: 'when you ask questions, you no longer ask a question about how to conjugate a verb, things related to grammar or such, but you ask a question about something you are studying, yet in English. So, I remember I learnt lots of vocabulary this way, in all truth'. DM has similar feelings of self-involvement: 'every time I ask a question, and I ask a lot of questions, I love it, I don't understand everything she [the teacher] says, and it's also in English [....] but I ask about the contents. Thus, I consider that I have improved a lot, as I ask questions better and I also understand the answers better'. These two students found taking ICLHE subjects a positive challenge that they were willing to embrace as it granted them the chance to establish meaningful communication.

6.2.3 Challenges and coping strategies

We will now explore the second part of the second research question, referring to the strategies participants used to overcome the difficulties they faced in the ICLHE context.

Most students mentioned the fact that their ICLHE classes were mentally exhausting and required greater levels of concentration in order to learn the content and the target language simultaneously. Our interviewees told us about the strategies they used to cope with these difficulties. For example, VC (History, 1-ICLHE subject) reported that she studied the theoretical aspects of the subject thoroughly beforehand, so that when she attended the class she already knew them and could concentrate on understanding the teacher. IR (History, 1-ICLHE subject) became quite confident mainly by working hard at home, taking responsibility for his own learning and preparing the classes well in advance. Towards the end, he recalls how he even met other peers, who struggled in class, and he offered to help them. MJG does not believe that the teachers used a different methodology in their ICLHE classes that would aid the students to cope with unknown vocabulary (e.g. using visual aids or glossaries). Students would rely on fellow students looking words up or did it themselves. Both VC and IM (History, 1-ICLHE subject) appreciated the teacher's positive attitude towards them: for instance, IM says 'the teacher was quite helpful. I used to often go to tutorials, in the run-up to the exam. The teacher would then talk to me in Spanish, but in the classroom, she only used English. It's the only way to learn'.

In terms of understanding the teachers' lectures, MJG found the teacher's accent difficult to follow because she had never come across a native English-speaking teacher before, while MG complained about the local teacher's pronunciation, and her lack of English knowledge, neither of which inspired confidence. Similar problems with lectures have been reported by previous studies and seem to remain unsolved (Flowerdew & Miller 1992; Hellekjaer 2010).

7 Conclusion

This study aimed at analysing at which point students' possible lack of self-confidence caused by the challenges associated with ICLHE starts to recede. A contribution of this research is the finding that both linguistic self-confidence and perceived level of English clearly increase by the time students have taken three ICLHE subjects. However, statistical differences were only observed after the students had taken more than four subjects.

This initial lack of confidence seems to be caused by a perceived insufficient level of English, which hinders WTC. This is not helped by overcrowded university classrooms. Two participants found the teacher's accent difficult to understand, in one case because the learner was confronted for the first time with a native English-speaking teacher, in the other because the local teacher's accent was not good enough and made her lose face.

Most students (except for one, who had a very negative attitude) found that their initial anxiety diminished as the course progressed or when they had taken at least three ICLHE subjects. At first, they were concerned about speaking in class and expressing themselves correctly, but they gained in confidence the more practice they got. Three of the students said that they felt from the outset that this was a rewarding challenge that motivated them even further.

As Wilkinson (2013) points out, students' complaints are common during the first years of instruction in English. However, these seem to decrease as students adapt to hearing different accents, studying and discussing in English. In our opinion, the students' language weaknesses need to be addressed early, so that they can start their ICLHE courses having an adequate English level allowing them to feel confident enough in their linguistic abilities to follow their lessons. Other solutions include collaboration between content and language teachers to address language deficiencies. Parallel courses could also be offered providing the necessary language support, such as traditional language courses or English for Academic Purposes (EAP).

Our results are in line with some researchers, who have found a correlation between increased exposure to richer forms of communication within ICLHE contexts and increased English proficiency (Wong 2010). Similarly, Coyle (2013) points out the opportunities that ICLHE courses offer for richer discussion, self-involvement and interaction, which helped develop confidence and feelings of achievement amongst students.

Limitations of this study include the small sample used (n=155), which hinders the generalisability of the study. Therefore, further studies should contemplate using bigger samples to analyse, also longitudinally, how linguistic self-confidence develops during the earlier and later stages of ICLHE.

Acknowledgements

References

Aguilar, Marta & Carmen Muñoz. 2014. The effect of proficiency on CLIL benefits in engineering students in Spain. *International Journal of Applied Linguistics* 24(1). 1–18.

Aguilar, Marta & Rosa Rodríguez. 2012. Lecturer and student perceptions on CLIL at a Spanish university. *International Journal of Bilingual Education & Bilingualism* 15(2). 183–197.

Airey, John & Cedric Linder. 2007. Disciplinary learning in a second language: A case study from university physics. In Robert Wilkinson & Vera Zegers (eds.), *Researching content and language integration in higher education*, 61–171. Maastricht: Maastricht University Language Centre.

Arnó-Macià, Elisabet & Guzman Mancho-Barés. 2015. The role of content and language in content and language integrated learning (CLIL) at university: Challenges and implications for ESP. *English for Specific Purposes* 37. 63–73. DOI:10.1016/j.esp.2014.06.007

Breeze, Ruth. 2014. Identifying student needs in English-medium university courses. In Ruth Breezes, Carmen Llamas Saíz, Concepción Martínez Pasamar & Cristina Tabernero Sala (eds.), *Integration of theory and practice in CLIL*, 143–159. Amsterdam, Netherlands: Rodopi.

Bruton, Anthony. 2013. CLIL: Some of the reasons why … and why not. *System* 41(3). 587–597.

Cañado, María Luisa Pérez. 2010. Globalisation in foreign language teaching: Establishing transatlantic links in higher education. *Higher Education Quarterly* 64(4). 392–412.

Cenoz, Jasone, Fred Genesee & Durk Gorter. 2014. Critical analysis of CLIL: Taking stock and looking forward. *Applied Linguistics* 35(3). 243–262.

Clément, Richard. 1980. Ethnicity, contact and communicative competence in a second language. In Howard Giles, William Peter Robinson & Philip M. Smith (eds.), *Social psychology and language*, 147–159. Oxford: Pergamon.

Cohen, Jacob. 1988. *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ.

Coleman, Jim. 2006. English-medium teaching in European higher education. *Language Teaching* 39(1). 1–14.

Coonan, Carmel. 2007. Insider views of the CLIL class through teacher self-observation–introspection. *International Journal of Bilingual Education and Bilingualism* 10. 625–646.

Cots, Josep Maria. 2013. Introducing English-medium instruction at the university of LLeida, Spain: Intervention, beliefs and practices. In Aintzane Doiz, David Lasagabaster & Juan Manuel Sierra (eds.), *English-medium instruction at universities: Global challenges*, 106–131. Bristol: Multilingual Matters.

Coyle, Do. 2007. Content and language integrated learning: Towards a connected research agenda for CLIL pedagogies. *International Journal of Bilingual Education and Bilingualism* 10(5). 543–562.

Coyle, Do. 2013. Listening to learners: An investigation into "successful learning" across CLIL contexts. *International Journal of Bilingual Education & Bilingualism* 16(3). 244–266.

Coyle, Do, Bernardette Holmes & Lid King. 2009. *Towards an integrated curriculum – CLIL national statement and guidelines.* http://www.rachelhawkes.com/PandT/CLIL/CLILnationalstatementandguidelines.pdf, accessed 2017-09-14.

Coyle, Do, Philip Hood & David Marsh. 2010. *Content and language integrated learning.* Cambridge: Cambridge University Press.

Csizér, Kata & Judit Kormos. 2009. Leaning experiences, selves and motivated learning behaviour: A comparative analysis of structural models for Hungarian secondary and university learners of English. In Zoltán Dörnyei & Ema Ushioda (eds.), *Motivation, language identity and the L2 self*, 99–119. Bristol: Multilingual Matters.

Dafouz Milne, Emma & Begoña Nuñez Perucha. 2010. Metadiscursive devices in university lectures: a contrastive analysis of L1 and L2 teacher performance. 213–231.

Doiz, Aintzane, David Lasagabaster & Juan Manuel Sierra. 2014. CLIL and motivation the effect of individual and contextual variables. *The Language Learning Journal* 42(2). 209–224.   DOI:10.1080/09571736.2014.889508

Dörnyei, Zoltán. 2001. *Teaching and researching motivation. Applied linguistics in action.* Harlow: Pearson.

Dörnyei, Zoltán. 2005. *The psychology of the language learner: Individual differences in second language acquisition.* Mahwah, NJ: Lawrence Erlbaum.

Dörnyei, Zoltán. 2007. *Research methods in applied linguistics.* Oxford: Oxford University Press.

Dörnyei, Zoltán. 2010. *Questionnaires in second language research: Construction, administration, and processing.* London: Routledge.

Dörnyei, Zoltán & Ema Ushioda. 2011. *Teaching and researching: Motivation.* Harlow: Pearson Education.

Eddy-U, Mary. 2015. Motivation for participation or non-participation in group tasks: A dynamic systems model of task-situated willingness to communicate. *System* 50. 43–55.

Falout, Joseph & Mika Maruyama. 2004. A comparative study of proficiency and learner demotivation. *The Language Teacher* 28(8). 3–9.

Feixas, Mónica, Eva Codó, Digna Couso, Mariona Espinet & Dolors Masats. 2009. Enseñar en inglés en la universidad: Reflexiones del alumnado y el profesorado en torno a dos experiencias AICLE. Investigar desde un contexto educativo innovador. In Rosabel Roig Vila (ed.), *Investigar desde un contexto educativo innovador.* 137–53. Alicante: Editorial Marfil.

Flowerdew, John & Lindsay Miller. 1992. Student perceptions, problems and strategies in second language lecture comprehension. *RELC Journal* 23. 60–80.

Gardner, Robert C. 1985. *Social psychology and second language learning: The role of attitudes and motivation.* London: Edward Arnold.

Gardner, Robert C. & Wallace E. Lambert. 1959. Motivational variables in second-language acquisition. *Canadian Journal of Psychology/Revue canadienne de psychologie* 13(4). 266–272.

Gené-Gil, Maria, Maria Juan-Garau & Joana Salazar-Noguera. 2015. Development of EFL writing over three years in secondary education: CLIL and non-CLIL settings. *The Language Learning Journal* 43(3). 286–303.

Graddol, David. 2006. *English next.* https://englishagenda.britishcouncil.org/sites/default/files/attachments/books-english-next.pdf.

Gregersen, Tammy & Elaine K. Horwitz. 2002. Language learning and perfectionism: Anxious and non-anxious language learners' reactions to their own oral performance. *The Modern Language Journal* 86(4). 562–570.

Hellekjaer, Glenn Ole. 2010. Language matters: Assessing lecture comprehension in Norwegian English-medium higher education. In Christine Dalton-Puffer, Tarja Nikula & Ute Smit (eds.), *Language use and language learning in CLIL classrooms*, 233–259. Amsterdam: John Benjamins.

Hood, Philip. 2010. Evaluating the impact of CLIL programmes. In Do Coyle, Philip Hood & David Marsh (eds.), *Content and language integrated learning*, 133–149. Cambridge: Cambridge University Press.

Horwitz, Elaine K., Michael B. Horwitz & Joann Cope. 1986. Foreign language classroom anxiety. *The Modern Language Journal* 70(2). 125–132.

Hunt, Marylin. 2011. Learner's perceptions of their experiences of learning subject content through a foreign language. *Educational Review* 63(3). 365–378.

Ivankova, Nataliya V. & Jennifer L. Greer. 2015. Mixed methods research and analysis. In Brian Paltridge & Aek Phakiti (eds.), *Research methods in applied linguistics*, 63–83. London: Bloomsbury.

Juan-Garau, Maria & Joana Salazar-Noguera. 2015. Learning English and learning through English: Insights from secondary education. In Maria Juan-Garau &

Joana Salazar-Noguera (eds.), *Content-based language learning in multilingual educational environments*, 105–123. Berlin: Springer.

Klaassen, Renate Gerarda. 2001. *The international university curriculum: Challenges in English-medium engineering education*. Delft: Delft University of Technology dissertation.

Lasagabaster, David. 2015. Different educational approaches to bi- or multilingualism and their effect on language attitudes. In Maria Juan-Garau & Joana Salazar Noguera (eds.), *Content-based language learning in multilingual educational environments*, 13–30. Berlin: Springer.

Leuven Communiqué. 2009. The Bologna Process 2020: The European Higher Education Area in the new decade. In *Conference of European Ministers Responsible for Higher Education*, 1–6.

MacIntyre, Peter D., Zoltán Dörnyei, Richard Clément & Kimberly A. Noels. 1998. Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal* 82(4). 545–562.

MacIntyre, Peter D., Robert C. Gardner & Ian Richmond. 1994. The subtle effects of language anxiety on cognitive processing in the second language. *Language Learning* 44(June). 283–300.

Mearns, Tessa L. 2012. Using CLIL to enhance pupils' experience of learning and raise attainment in German and health education: A teacher research project. *Language Learning Journal* 40(2). 175–192.

Mercer, Sarah & Marion Williams. 2014. *Multiple perspectives on the self in SLA*. Bristol: Multilingual Matters.

Moratinos Johnston, Sofía. Forthcoming. *Influence of language learning contexts on the L2 selves of Spanish students in higher education*. University of the Balearic Islands dissertation.

Muñoz, Carmen. 2001. The use of the target language as the medium of instruction: University students' perceptions. *Anuari de Filologia. Secció A, Filologia anglesa i alemanya* 10. 71–82.

Ortega, Angeles & Susan Sheehan. 2016. *The core inventory for general English – resources – eaquals.* http://www.eaquals.org/resources/the-core-inventory-for-general-english/, accessed 2017-07-17.

Ozdener, Nesrin & H. Muge Satar. 2008. Computer-mediated communication in foreign language education: Use of target language and learner perceptions. *Turkish Online Journal of Distance Education* 9(2). http://files.eric.ed.gov/fulltext/ED501098.pdf, accessed 2017-07-07.

Pavlenko, Aneta. 2007. Autobiographic narratives as data in applied linguistics. *Applied Linguistics* 28(2). 163–188.

Pérez-Vidal, Carmen. 2013. Perspectives and lessons from the challenge of CLIL experiences. In Cristian Abello-Contesse, Paul M. Chandler, María Dolores López-Jiménez & Rubén Chacón-Beltrán (eds.), *Bilingual and multilingual education in the 21st century: Building on experience*, 59–82. Bristol: Multilingual Matters.

Pérez-Vidal, Carmen. 2015. Languages for all in education: CLIL and ICLHE at the crossroads of multilingualism, mobility and internationalisation. In Maria Juan-Garau & Joana Salazar-Noguera (eds.), *Content-based language learning in multilingual educational environments*, 31–50. Berlin: Springer.

Pihko, Marja-Kaisa. 2007. Foreign language anxiety in content and language integrated learning (CLIL) classes and in traditional language classes. In Seppo Tella (ed.), *From brawn to brain: Strong signals in foreign language education proceedings of the Vikipeda-2007*, 129–143. Helsinki: University of Helsinki.

Richards, Keith. 2003. *Qualitative inquiry in TESOL*. Basingstoke: Palgrave Macmillan.

Ruiz de Zarobe, Yolanda. 2011. Which language competencies benefit from CLIL? An insight into applied linguistics research. In Yolanda Ruiz de Zarobe, Juan Manual Sierra & Francisco Gallardo del Puerto (eds.), *Content and foreign language integrated learning: Contributions to multilingualism in European contexts*, 129–153. Frankfurt: Peter Lang.

Ryan, Stephen. 2009. Self and identity in L2 motivation in Japan: The ideal L2 self and Japanese learners of English. In Zoltán Dörnyei & Ema Ushioda (eds.), *Motivation, language identity and the L2 self*, 120–143. Bristol: Multilingual Matters.

Saldaña, Johnny. 2013. *The coding manual for qualitative researchers.* Los Angeles: SAGE Publications.

Sampasivam, Sinthujaa & Richard Clément. 2014. The dynamics of second language confidence: Contact and interaction. In Sarah Mercer & Marion Williams (eds.), *Multiple perspectives of the self in SLA*, 23–35. Bristol: Multilingual Matters.

Santos Menezes, Edleide & María Juan Garau. 2013. Análisis de la relación entre el modelo formativo de aprendizaje del inglés - AICLE y enseñanza formal- y la ansiedad. *Revista Española de Lingüística Aplicada* 26. 457–473.

Seikkula-Leino, Jaana. 2007. CLIL learning: Achievement levels and affective factors. *Language and Education* 21(4). 328–341.

Shao, Qing & Xuesong Gao. 2016. Reticence and willingness to communicate (WTC) of East Asian language learners. *System* 63. 115–120.

Spanish Ministry of Education. 2015. *Strategy for the internationalisation of Spanish universities.* http : / / www . mecd . gob . es / educacion - mecd / dms / mecd / educacion - mecd / areas - educacion / universidades / politica - internacional / estrategia - internacionalizacion / EstrategiaInternacionalizaci - n - ENGLISH . pdf%20(6%20May,%202017)..

Swain, Merrill. 2000. The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In James. P. Lantolf (ed.), *Sociocultural theory and second language learning*, 97–114. Oxford: Oxford University Press.

Sylvén, Liss Kerstin & Amy S. Thompson. 2015. Language learning motivation and CLIL: Is there a connection? *Journal of Immersion and Content-Based Language Education* 3(1). 28–50.

Taguchi, Tatsuya, Michael Magid & Mostafa Papi. 2009. The L2 motivational self system among Japanese, Chinese and Iranian learners of English: A comparative study. In Zoltán Dörnyei & Ema Ushioda (eds.), *Motivation, language identity and the L2 self*, 66–97. Bristol: Multilingual Matters.

Wächter, Bern & Friedhelm Maiworm (eds.). 2014. Bonn: Lemmens Medien GmbH.

Wilkinson, Robert. 2013. English-medium instruction at a Dutch university: Challenges and pitfalls. In Aintzane Doiz, David Lasagabaster & Juan Manuel Sierra (eds.), *English-medium instruction at universities: Global challenges*, 3–27. Bristol: Multilingual Matters.

Wong, Ruth M H. 2010. The effectiveness of using English as the sole medium of instruction in English classes: Student responses and improved English proficiency. *PORTA LINGUARUM* 13. 119–130.

Yashima, Tomoko. 2002. Willingness to communicate in a second language: The Japanese EFL context. *The Modern Language Journal* 86(1). 54–66.

Yashima, Tomoko. 2009. International posture and the ideal L2 self in the Japanese EFL context. In Zoltán Dörnyei & Ema Ushioda (eds.), *Motivation, language identity and the L2 self*, 144–163. Bristol: Multilingual Matters.