

## CHAPTER 3

### THE PRESENT STUDY

In this chapter, the four research questions that motivated the present dissertation are formulated (Section 3.1 below). As mentioned throughout Chapter 2, L2 phonological acquisition research in formal learning settings is to date more limited in opposition to the great many studies carried out in L2 immersion settings. Therefore, in an attempt to cast light on the still incipient (and often divergent) findings of factors that influence the acquisition of FL phonology in a strictly instructed-classroom learning environment, the research questions of this dissertation address the role of starting age of FL learning, exposure to the TL, L1(s), and gender in the acquisition of English (FL) perception and production skills by Spanish and Catalan native speakers. Then, the investigation of the research questions is developed in subsequent chapters, an overview of which is provided in Section 3.2 below.

#### 3.1. Research questions

##### Research Question 1:

*Will an earlier starting age of FL learning result in learners' more native-like perception and production of TL sounds in a formal instruction setting?*

As seen in Chapter 2, L2 acquisition research in L2 immersion settings indicates that “the younger, the better”, particularly when it comes to acquiring a TL phonology. Thus, it is claimed that L2 learners starting to acquire the TL as early as age 6 might fail to attain native-like L2 phonological skills (e.g. Long, 1990). Moreover, in the event of older starters' advantage over younger beginners, Krashen et al. (1982), among others, have concluded that older learners' faster acquisition and/or better performance in the L2 is short-lived (i.e. refers to the initial stages of L2 acquisition). However, as time goes by, younger learners start to catch up with adolescents and adults, and finally outperform them.

Age differences have been accounted for in a number of ways. According to one particular hypothesis that has dominated much L2 phonological acquisition research over the last two decades, learners' L1 phonological system and their stage of L1 development on starting to acquire the TL will determine the degree of nativeness of L2 segmental perception and production. As noted previously, this hypothesis takes the form of several models of L2 speech learning, such as the SLM and the PAM. As for the SLM, the model predicts that even if learners are first exposed to an L2 after the establishment of L1 phonetic categories (about age 6–7), they will be able to form additional L2 phonetic categories (more so for new L2 sounds than for similar L2 sounds), based on the assumption that phonetic learning ability remains intact across the life span. Category formation of L2 sounds may therefore lead to a more native-like perception of TL segments, which, in turn, may result in a more accurate TL sound production.

As mentioned above, the SLM and other models of L2 speech learning focus on learners who have acquired the TL mostly in an L2 naturalistic setting. Besides, the subjects under examination within the SLM framework have reached their ultimate attainment. Despite this, the still incipient research in strictly formal instructional settings makes use of the hypotheses and premises of these models – mainly, the SLM and the PAM – to account for the FL learners' various degrees of native-like perception and production of TL sounds (e.g. Cebrian, 2002a, 2002c, 2003; Cortés, 2002, 2003; Rallo, 2003, 2005).

It is worth noting that studies conducted in FL instruction environments have a common trait in that the subjects examined began learning the TL after the establishment of L1 phonetic categories (Bongaerts, 1999; Bongaerts et al., 1997; Cortés, 2002; Elliott, 1995a, 1995b; Moyer, 1999; Rallo, 2003; cf. García Lecumberri & Gallardo, 2003). While this fact could lead one to hypothesise that perception and production of TL sounds in a native-like fashion would be unattainable in a formal learning setting, studies such as Bongaerts et al. (1997) have shown that FL learners can attain native-like phonological skills in the TL despite a late starting age of FL learning.

Taking all this into account, the first research question in the present dissertation is aimed at determining the effect of different starting ages of FL learning – namely, 8, 11, 14, and 18+ years – on segmental perception and production of English (as an FL). Thus, it will be studied whether in a strictly formal setting the different age groups of learners will behave as Krashen et al. (1982) note. In this case, will learners exposed to English at the age of 8 fail to discriminate and produce English sounds as well as 11-year-old, 14-year-old, and adult starters at first? Then, will 8-year-old beginners start catching up with the

other groups as their learning of the FL continues? And will they eventually discriminate and produce FL sounds at a more native-like level than older adolescent and adult learners?

Additionally, age effects (if observed) will be interpreted within the framework of the SLM, despite the fact that the learner groups in this dissertation have not attained their ultimate level of proficiency in the FL. Thus, based on the SLM's predictions, the degree to which FL learners perceive – and by extension, produce – English sounds accurately should be related to age of first exposure to the FL; hence 8-year-old starters would be expected to discern and implement English segments at higher correct rates than older learners (11- and 14-year-old beginners, and adult starters).

**Research Question 2:**

*Will FL learners perceive and produce English segments in a more native-like fashion as a function of exposure to the FL?*

Within the SLM framework, an increase in learners' experience in the L2 can result in the learners' ability to perceive phonetic differences between L2 sounds and the closest L1 sounds, which, in turn, may end in a new phonetic category (or categories) being established. Thus, more experience in the L2 is believed to lead to more accurate perception and production of L2 sounds (e.g. Flege, Bohn, & Jang, 1997). However, nonsignificant L2 experience (or exposure to the L2) effects have also been extensively reported in the literature (see 2.2 and 2.3.3 above).

Divergent findings of the effects of exposure to the TL are particularly evident in studies carried out in formal learning contexts where learners have (very) limited exposure to the FL (compare, e.g., Bongaerts et al., 1997; Cebrian, 2002c, 2003; Rallo, 2003, 2005; vs. García Lecumberri & Gallardo, 2003; see Chapter 2, as well). Among others, García Lecumberri and Gallardo (2003) (see also Singleton, 1995) have suggested that the lack of a clear beneficial effect of formal instruction (or exposure to the FL) might be attributed to the differences between formal learning and L2 immersion settings in the amount of input learners receive, being very much greater in the latter context. (Recall that after 6–7 years of instruction in English, Basque/Spanish NSs differing in starting age of FL learning – 4, 8, and 11 years – in the García Lecumberri and Gallardo study did not perceive the FL vowel and consonant sounds at native-like levels. Nor were they successful in producing the English sounds accent-free).

In this dissertation experience is understood as the total number of hours of formal exposure to the FL in a school setting, ranging from 200 hours, 416 hours, to 726 hours (or 2.5, 4.5, and 7.5 years on average). Thus, the second research question will examine whether an increase in subjects' experience will follow the trends outlined by the SLM. If so, will all age groups of learners improve in their discrimination and production of TL sounds, along with an increase in exposure to the FL? Moreover, results will be compared to those of García Lecumberri and Gallardo (2003) in order to help determine whether 7.5 years of exposure to English in an instructed-classroom learning context will lead to native-like performance in the FL phonology by any of the learner groups in the dissertation.

**Research Question 3:**

*Will the phonetic features of the learners' L1(s) have any (beneficial) effect on English sound perception and production?*

Findings of late FL learners' native-like attainment of perception and production skills in the TL point to the fact that both the learners' L1 and FL were typologically related (e.g. Dutch and English in Bongaerts et al., 1997; German and English in Moyer, 1999; cf. Dutch and French in Palmen et al., 1997; as cited in Bongaerts, 1999).

Research conducted in both naturalistic and formal learning contexts has illustrated the difficulty of native Spanish and Catalan (older) learners of English in perceiving and producing certain English sounds at native-like levels, irrespective of experience in the TL (see 2.3.2). Particularly, Spanish and Catalan NSs have been observed to make use of temporal cues in the distinction of tense/lax vowel contrasts, unlike English NSs' reliance on spectral cues mainly; hence failing to discern and produce the tense/lax vowel distinction accurately (e.g. Cebrian, 2002c; Flege, Munro, & Fox, 1994). However, when compared to Spanish, Catalan has a larger number of sounds that appear in the English phonetic inventory, which might lead one to hypothesise that Catalan NSs will be more successful than Spanish NSs at English sound discrimination and production, as some observations in the literature seem to suggest (e.g. Coe, 1987).

Therefore, the third research question will investigate whether the fact that Catalan "shares" more sounds with English than does Spanish, together with the observation that Catalan NSs tend not to find certain English sounds as difficult to perceive and pronounce as Spanish NSs, are an asset to native Catalan subjects in achieving a more native-like perception and production of English sounds.

**Research Question 4:**

*Will gender differences show up in the perception and production of English sounds?*

While it is generally believed that female subjects are better language learners than male subjects, findings of gender effects on the native-like attainment of segmental perception and production in the TL are not clear-cut either in L2 immersion or in formal learning settings (compare, e.g., significant effects in Asher & García, 1969/1982 vs. nonsignificant effects in Elliott, 1995a; Snow & Hoefnagel-Höhle, 1977/1982). Moreover, Piske et al. (2001) have stated that, in the event of significant gender differences, female subjects' performance was often judged to be more native-like than that of male subjects. Yet the authors suggest that the former finding also appears to be subject to starting age of L2 learning and amount of experience in the L2 (e.g. Flege et al., 1995a).

Thus, the fourth research question will look at male and female subjects' performance on the perceptual and production tasks in an effort to provide rather conclusive evidence about the popular belief that female subjects are "better" language learners than male subjects.

**3.2. Overview of the present study**

The following chapters describe the actual study that was carried out in order to provide answers to the four research questions outlined above. Thus, Chapter 4 deals with the methodological aspects of this research, namely subjects, speech materials, procedures, and data analysis. Chapter 5 presents the results subjects obtained on the perceptual and production tasks designed to examine the research questions. Chapter 6 discusses the results reported in the preceding chapter and offers an interpretation in light of previous findings. Finally, Chapter 7 contains some concluding remarks and suggestions for further research.

