Introduction

It may seem that childhood must be the best time to start learning a second language (L2). After all, first language (L1) development happens in childhood, so it appears natural to assume that children are better equipped to acquire languages than their seniors and therefore acquire an L2 more effortlessly, more successfully and faster. Observation of children and adults getting to grips with a new language appears to confirm the notion that in the learning of additional languages, younger equals better. For example, we see young immigrant children with a perfectly functional command of the language of the host country acting as interpreters for their parents. It is important to note, nonetheless, that some adult L2 learners also attain very high proficiency levels in the relevant language. One hotly debated issue, then, is whether beginning to be exposed to an L2 as a child is qualitatively different from beginning to be exposed to the language in adulthood. Even more hotly debated, perhaps, is the value of introducing second languages into primary education (see Lambelet and Berthele 2015). Early L2 instruction (especially in English) is a growing trend all over the world despite substantial research findings that early instruction does not yield the advantages one might expect. Studies of the results of primary school L2 instruction go back decades, and there is no solid empirical evidence demonstrating that early L2 beginners outperform adolescent beginners when the number of instructional hours is held constant (see e.g., García-Mayo and García-Lecumberri 2003; Muñoz 2006). Indeed, many studies (e.g., Cenoz 2003; Muñoz 2008a, 2008b; Pfenninger and Singleton 2017) show secondary school beginners by the end of the schooling period completely catching up with primary school beginners with considerably more classroom experience of the L2 in question. There is no real dispute about the scientific facts, which are that primary school instruction in an L2 fails to equip learners with a level of L2 proficiency which by the end of secondary schooling is superior to that of those whose instruction begins later; but because early L2 learning has now been established as the norm (see, e.g., Rixon 2013) and because educational structures have been created to accommodate it, politicians and those with a stake in the educational status quo often direct a particularly envenomed ire at those who point out these facts (see Singleton and Pfenninger 2017).
The age debate

The question of the ideal age at which to be exposed to an L2 has been puzzled over in various ways throughout history. Researchers now recognise, however, that there is much more to age than maturation, and that age-related social, psychological and contextual factors may play as significant a role as strictly maturational factors (see, e.g., Moyer 2013, 2014). Indeed, we can point to methodological approaches, both quantitative and qualitative, which now allow us to assess the part played by such social, psychological and contextual factors and their contribution to effects previously ascribed solely to maturation (see discussion in Pfenninger and Singleton 2016, 2017). There is also recognition of the importance of L1 knowledge in relation to the learning of an L2 at a young age (see, e.g., Bourgon 2014; Pfenninger 2014)

Historical perspectives

Some interesting recommendations regarding L2 learning in childhood present themselves in the work of the first-century rhetorician Quintilian. Owing to the ethnic diversity of the Roman population, Rome’s admiration of things Greek and the interaction between the Latin-speaking and the Greek-speaking world, many Romans felt obliged to engage with Greek as an L2. Well-to-do families often ensured that their sons received a grounding in the language by having a Greek slave as a live-in teacher (Law 2003). Thus, exposure to Greek as an L2 frequently took place via an immersion experience closer to growing up in a bilingual family than to formal instruction (Law 2003). Quintilian’s Institutio Oratoria (‘Training of an Orator’) is a twelve-volume textbook (published around 95 AD; see Murphy 2012) on the education of rhetoricians from childhood to adulthood. The first volume addresses bilingual education, and shows that in regard to the age factor in the teaching/learning of an L2, Roman educators used argumentation comparable to that in modern educational policy documents:

1 Some hold that boys should not be taught to read till they are seven years old, that being the earliest age at which they can derive profit from instruction and endure the strain of learning . . . Those however who hold that a child’s mind should not be allowed to lie fallow for a moment are wiser . . . Let us not therefore waste the earliest years: there is all the less excuse for this, since the elements of language training are solely a question of memory, which not only exists even in small children, but is especially retentive at that age. (Institutio Oratoria I, I, 13–17)

2 Why should we despise the profit to be derived before the age of seven, small though it be? For though the knowledge absorbed in the previous years may be but little, yet the boy will be learning something more advanced during that year, in which he would otherwise have been occupied with something more elementary. Such progress each successive year increases the total, and the time gained during childhood is clear profit to the period of youth. (Institutio Oratoria I, I, 17)

In their formative years – according to Quintilian before the age of seven – children, he said, learn from their family, nurses, ‘paedagogi’ (slaves responsible for ‘early training’ [Institutio Oratoria I, 69]) and peers. There is, he suggests, a clear cut-off point after these formative years. Quintilian also sings the praises of a longer learning period, which, he claims, compensates for the slow learning rate of young children.
The quote in (3) advises how young children should be taught:

3 I am not however so blind to differences of age as to think that the very young should be forced on prematurely or given real work to do. Above all things we must take care that the child, who is not yet old enough to love his studies, does not come to hate them and dread the bitterness which he has once tasted, even when the years of infancy are left behind. His studies must be made an amusement: he must be questioned and praised and taught to rejoice when he has done well . . . And at the tender age of which we are now speaking . . . memory is almost the only faculty which can be developed by the teacher. (Institutio Oratoria I, I, 20–21)

Memory work is especially fruitful for the very young, according to Quintilian, as they do not yet have the capacity for intellectual analysis. He insists on the virtue of the young filling their memory with good models rather than their own products, as this will prevent them from perpetuating their faults (Murphy 2012).

It is evident that Quintilian discussed many issues that are still current. The following propositions stand out as particularly pertinent:

- That language instruction should begin before it is ‘too late’, that children’s minds are ‘especially retentive’.
- That there is a kind of sensitive period – ‘formative years’, as he expressed it – between birth and age 7 which should not be ‘wasted’.
- That a longer learning period brings about better learning results.
- That early instruction should be pleasurable for the child, focusing on memory-based learning.

The Institutio had enormous influence (Murphy 1965), which was still strong in sixteenth-century England. For example, Elyot, in his Boke Named the Gouernour (1531), written for future ‘gouernours of the publike weale’ (quoted in Pollnitz 2015, p. 89), recommended that English boys begin their schooling in Latin and Greek before the age of seven years, because in England these were not ‘maternall tongues’ (vol. I, pp. 31–32). In line with Quintilian, Elyot also advocated a pleasant learning atmosphere for children.

4 A noble man shulde be trayned in before he come to the age of seuen yeres. Some olde autours holde opinion that, before the age of seuen yeres, a chylde shulde nat be instructed in letters; but those writers were either grekes or latines, amonge whom all doctrine and sciences were in their maternall tonges . . . I wolde nat haue them inforced by violence to lerne, but accordynge to the counsaile of Quintilian, to be swetely allured therto with praises and suche praty gyftes as children delite in. (Boke Named the Gouernour vol. I, pp. 31–32)

Further examples of Renaissance writers favouring an early start to learning are Locke and Montaigne. In his book Some Thoughts Concerning Education, Locke described a young child’s mind as a tabula rasa (blank slate) upon which the child’s experiences are written. Because, for Locke, children are born without a natural knowledge of virtue, early education greatly shapes their development, where even ‘little and almost insensible impressions on [their] tender infancies have very important and lasting consequences’ (TCE ed. Grant and Tarcov 1996, § 1). Writing of the learning of classical languages, Montaigne describes
‘a method by which they may be acquired more cheaply than they usually are and which was tried on myself’ (Essays 1.26, quoted in Singleton and Ryan 2004, p. 1): being exposed during his early life to no language other than Latin, he ‘learnt to speak as pure Latin as my master without art, book, grammar . . . whipping or a single tear’ (quoted in Stern 1983, p. 388). Attempts to teach him Greek formally later, on the other hand, are depicted as less successful. Thinking about language acquisition and the age factor goes back a good deal further. For example, at the end of the fourth century, in his Confessions, St Augustine portrays language development as virtually a defining criterion of maturation:

Passing hence from infancy I came to boyhood, or rather it came to me, displacing infancy. For I was no longer a speechless infant but a speaking boy.

(Confessions, 1.3)

Critical issues

One highly influential view is that there is a critical age beyond which it is impossible to acquire certain capacities in the new language. This idea that maturation puts constraints on what is attainable by language acquirers is the approach taken by those who favour the Critical Period Hypothesis (CPH). Some researchers replace the term critical period with the milder-sounding sensitive period – although the distinction between the two concepts is variable and ill defined. The CPH was initially applied principally to L1 acquisition (Lenneberg 1967), but it has dominated discussion of differences of attainment between L2 acquirers for many decades. Researchers are increasingly, though, regarding age as a highly complex factor, a ‘macrovariable’ (Flege et al. 1999), calling for dimensions other than maturation to be taken into account.

Some L1 findings cited in favour of a critical period relate to individuals deprived of the experience of language in childhood. When such children (see, e.g., Jones 1995) are integrated into a language-rich environment in adolescence, they typically exhibit progress in language development – but of a limited kind. Lenneberg was not persuaded, however, of the value of such evidence in regard to the CPH, since it is interpretable in terms of the general damage done to an individual by isolation and deprivation of interaction (Lenneberg 1967, p. 142; cf. Muñoz and Singleton 2011, p. 407). Other L1 evidence comes from profoundly deaf subjects who had no access to sign language in their early years and who then acquired a sign language as their L1 at a later age (e.g., Mayberry and Lock 2003). Research into such cases has not found an abrupt cut-off point to language acquisition or that language completely fails to develop, but they have revealed deficits in the language of later signers. Deprivation of language-mediated social relationships during the period when cognitive development is most intense could have general psychological/cognitive effects (see above); it may well be that such effects are reflected in their later language development.

It is worth bearing in mind that the CPH is actually a cluster of hypotheses with very different predictions (see Singleton 2005). As Aram et al. point out, ‘the end of the critical period for language in humans has proven . . . difficult to find, with estimates ranging from 1 year of age to adolescence’ (1997, p. 85). Also, there is much discussion about what kinds of linguistic capacities are supposed to be affected, by the critical period at different stages and ages (e.g. Granena and Long 2013; Huang 2014).

The evidence from L2 research favouring the critical period notion is generally derived from immigrant studies. There has been a longstanding plethora of work (e.g., Hyltenstam 1992;
Patkowski 1980; Seliger et al. 1975) showing that younger immigrants arriving in a location where the dominant language is not their home language are more likely than older arrivals to end up passing for native speakers of the new language. It is noteworthy, however, that the younger equals better tendency is only a tendency. It is not the case that all immigrants who arrive in their new country in childhood end up with a perfect command of the language of the host country; nor that those who arrive later always fail to attain the levels reached by younger arrivals. One can cite in this latter connection Kinsella and Singleton’s (2014) study of 20 native English speakers whose average age of significant exposure to French was 28.6 years. Three of the participants scored within French native-speaker ranges on all the tasks they were given.

The relevance of the native speaker concept in this connection goes back to Lenneberg, the ‘father of the CPH’ who in his 1967 book claimed that individuals who began to learn a second language beyond puberty were incapable of attaining to the proficiency level of native speakers of the language in question. In fact, the native-speaker construct in this context has in more recent times come under a cloud (see Singleton and Muñoz 2011). Cook, for example, argues that the focus should be on L2 users in their own right rather than in comparison with native speakers. He remarks that, while ‘ultimate attainment is a monolingual standard rather than an L2 standard’ (2002, p. 6), there is no intrinsic reason why the L2 user’s attainment should be the same as that of a monolingual native speaker. Davies discusses the difficulty of defining what a native speaker actually is. He expresses the view that ‘the distinction native speaker – non-native speaker . . . is at bottom one of confidence and identity’ (2003, p. 213).

‘Hardline’ critical period advocates (e.g., Abrahamsson and Hyltenstam 2008; Long 2013), nevertheless, still cling to the ‘native-speaker’ criterion as enunciated by Lenneberg. For them cases like Kinsella and Singleton’s are of no account; their criterion for falsification of the CPH is ‘scrutinized native-likeness’ (Abrahamsson and Hyltenstam 2008) with regard to every detail of the later learner’s L2 proficiency. Birdsong, a CPH sceptic, accepts (2014, p. 47) that, because of the interaction of a multilingual’s knowledge of his/her languages, ‘nonnativelikeness will eventually be found’ – so that if ‘across-the-board nativelikeness is what is required to disconfirm the CPH, the CPH is invulnerable to falsification’.

The growing consensus is that the relationship between users of additional languages and the relevant languages cannot relate to maturation alone but must also depend on socio-affective factors. We can refer in this context to a study which shows that socio-affective factors rather than maturational considerations may relate to L2 success. The study in question (Walsh and Singleton 2013) focused on the lexical acquisition of nine same-aged Polish children of immigrants to Ireland. The differences among the Polish children were in part explored via the profiles of the two highest-scoring children. Both used Polish at home with their families but also regularly enjoyed activities with friends, in which English was used. Both children’s parents had learned English, and so the availability of parental support for their English was also similar. In other words, we see elements which appear partly to account for differences in their performance from that of their age-peers which relate to the enjoyable nature of the experience of English and the degree to which it was supported.

Moyer (2013, p. 19) has suggested that ultimate attainment in additional languages is a function of the quantity and quality of language experience rather than simply a matter of maturation. She comments that ‘insights from the empirical research highlight these relationships between age, affect and linguistic experience’ (Moyer 2013, p. 19)
Current contributions and research

It is thus widely recognised (Montrul 2008; Muñoz and Singleton 2011) that the age factor is a macrovariable that is systematically and inextricably intertwined with other, co-occurring variables such as contextual, affective and personal factors. For example, in a naturalistic setting, there are factors that seem to operate more favourably in respect to younger learners (e.g., positive attitudes, open-mindedness, greater commitment of time and/or energy, general support system, educational and leisure environment) and so their effects have often been taken to be maturationally rooted. Along these lines Moyer (2013, p. 1) cautions:

a host of interrelated variables is at play, having to do with learner orientation and experience . . . One valuable contribution of sociolinguistic work in SLA has been to call attention to social, cultural, and psychological circumstances relevant to individual L2 users – a reminder to take a more nuanced look at what underlies age effects in SLA.

In an educational context, age of onset (AO) has been found to interact with school effects or treatment variables (e.g., type of instruction) as well as micro-contextual variables such as classroom and clustering effects (Pfenninger in press). Thus, not only does AO not work similarly across settings (naturalistic vs. school contexts), but also school/class context and climate interact with student-level variables such as AO. Thus, students under conditions of different school context and school climate demonstrate different educational attainment irrespective of AO, which has direct policy implications for policy makers, administrators, teachers, and parents (Pfenninger in press). Finally, not only do different structures like morpho-syntax and lexico-semantics show different sensitivity to age of acquisition (see, e.g., DeKeyser 2012) but also different tasks/skills such as listening skills.

Precisely because it cannot be disentangled from other variables, the significance of starting age and biological age is difficult to determine. The age question therefore demands both a very comprehensive and a very delicate perspective. Pfenninger and Singleton (2016, 2017) claim that it necessitates both qualitative and quantitative methodologies, and that the quantitative approach used needs to go well beyond the kinds of general linear models employed in this area in the past – that family of statistical models which assumes a normal distribution among other features, e.g., t-tests, ANOVA, or multiple regression models (e.g., Plonsky 2013). They suggest that multilevel modelling (MLM) approaches are ideal for a potentially generalizable study of age effects, as these analyses encourage a shift from a myopic focus on a single factor such as the age factor to examining multiple relationships among variables, including contextual variables. Since allowing for the simultaneous generalization of the results on new items and new participants as well as the assessment of the impact of context-varying factors on age, the use of such models enables us to integrate individual-level and contextual-level data in order to assess the impact of context-varying factors in relation to age effects. Although it would be statistically possible to separate the learner from context, it is untenable to do so because this would carry the implication that the two are independent. As Larsen-Freeman (2015, p. 16) puts it, ‘[w]ith the coupling of the learner and the learning environment, neither the learner nor the environment is seen as independent, and the environment is not seen as background to the main developmental drama’.

Furthermore, since it is increasingly felt that age research needs to take account of the social and psychological factors that shape the learner’s overall approach to, and experience of, the L2, such research needs to base itself on qualitative as well as quantitative findings, ideally in a methodology in which the two kinds of findings interact. In such a
'mixed methods’ approach, qualitative and quantitative research are strategically mixed or combined at the data collection level and/or at the analysis level in such a way that they illuminate each other (see Johnson and Christensen 2004; Tashakkori and Creswell 2007). Mixed methods rest on five rationales: triangulation (corroboration of results from different methods and designs); complementarity (illustration, and clarification between the results of two methods); development (using findings from one method to help inform another method); initiation (discovering elements that lead to the reframing of research questions); and expansion (of the breadth and range of research by using different methods) (see, e.g., Johnson and Onwuegbuzie 2004). However, though most scholars agree that the suitability of combining qualitative and quantitative approaches depends on the research questions and the practical issues in play (Johnson and Christensen 2004), there is no consensus as to the exact mixture considered appropriate. Bachmann (2006) laments that the combination oftentimes appears to be opportunistic and unplanned, but other researchers (e.g., Dörnyei and Ushioda 2011, p. 241) see nothing wrong in ‘adding [qualitative] flesh to the bones’ if quantitative results cannot be readily interpreted.

There are several advantages of such a mixed methods approach for age factor research. On the one hand, it allows us to answer a broader range of research questions and provides fuller, deeper, more meaningful answers to these questions (see, e.g., Kinsella and Singleton 2014; Winitz, Gillespie, and Starcev 1995). Many insights may be missed if we use only a single method – e.g., understanding which contextual elements may be relevant to motivation in a given classroom, the interaction of AO and other (often hidden) variables such as motivation, attitudes and beliefs, the participants’ reflections on their experience of L2 learning, as well as on the early introduction of several additional languages in elementary school, rather than just measuring their learning growth and end state. Furthermore, such an approach results in well-validated and substantiated findings. Multiple approaches in a single study enable us to obtain converging evidence to yield richer and better supported interpretations and insights into the age factor in SLA. This is important inasmuch as age research has important implications for L2 education in relation to decision making about (1) language policies in multilingual countries, (2) early instruction in different languages at primary level, and (3) later instruction in and through different languages at secondary school.

Another major point to be mentioned in the context of current contributions to the age factor debate is the concern about promoting the L1 of L2 learners. In Murphy and Evangeliou’s (2016, pp. 11–12) words,

> [a]s countries lower the age at which English language education is introduced, . . . we have a situation where a foreign language is introduced at a time when the L1 has not yet fully developed . . . [I]n the zeal to learn English, some educators, parents and policy makers seem to have lost sight of the importance of supporting the L1.

It is well known that L2 learners are able to transfer knowledge from their L1 to the L2 in the domain of academic linguistic, literacy and cognitive skills, which means they do not have to learn everything twice (Geva and Wang 2001). It has also been documented (e.g., Flege 1995) that phonological learning ability is strongly influenced by the learner’s L1. Older students therefore have the benefit of a well-developed L1 and, in particular, fully or well-developed L1 literacy skills that can facilitate acquisition of L2 literacy skills (Swain et al. 1990; Sparks et al. 2009). It is generally thought that the level and kind of L1 ability that children acquire prior to coming to school are important predictors of success in school. As
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early as 1988, Collier suggested that it may be the case that when young children are asked to learn a L2 for use at school before their L1 has sufficiently matured to serve as a source of transferable skills, the learning task is very burdensome and requires more time than older children need – children whose L1 skills are available for transfer. Indeed, in a recent study, Pfenninger (2014) and Pfenninger and Singleton (2017) found that the well-documented fast progress in the first stages of language acquisition that was found for Swiss learners of EFL with a later starting grade could be attributed in part to the late starters’ superior literacy skills compared with those of earlier starters, which had a tremendous impact on the learning outcome.

On the other hand, numerous studies have documented that there is no loss of L1 due to early exposure to a new language (e.g., Goorhuis-Brouwer and de Bot 2010). Bilingualism research over the past 50 years and very recently has suggested that (1) learning two languages can have positive cognitive consequences for children (e.g., enhanced metalinguistic awareness), and (2) maintaining continued development of the L1 of young L2 learners is advantageous for their cognitive, academic and social-emotional development (e.g., Bialystok 2001; Paradis 2016).

Recommendations for practice

We have three sets of recommendations for practice. The first relates to the disappointing results concerning early L2 instruction. At the very least, teachers, parents and students should be made aware by those responsible for educational arrangements of the fact that two or three hours a week of L2 instruction at primary school or kindergarten will not give them a long-term advantage over those whose instruction in the language in question commences in secondary school. We also recommend in this connection that consideration be given to changing the way in which early L2 instruction is delivered – moving in the direction of more intensive FL programmes. However, time is one of the most valuable pedagogical resources and the most hotly contested; accordingly, it is difficult to increase the student allocation of hours for FLs. One possibility to intensify the input without adding to the timetable is the teaching of the target language in blocks, i.e., alternating more intense periods (e.g., three times per week small groups sessions combined with two times per week individual sessions) with intervals (for examples, see Murphy and Evangelou 2016). Another prominent example is immersion or ‘content and language-integrated learning’ (CLIL), that is, a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language, thereby extending the experience of being exposed to a FL and providing a motivational basis for purposeful communication to take place (Coyne et al. 2010). CLIL always allows for a wide range of educational practices, provided that these practices are conducted through the medium of an additional language and that they integrate both language and the subject (see Cenoz et al. 2014) – from a couple of hours a week to 50:50 two-way bilingual programmes – i.e. programmes with 50% German instruction and 50% English – and full CLIL instruction. In contrast to immersion, which is a form of ‘additive bilingualism’ (Garcia 2009) and is carried out in languages present in the learners’ environment, CLIL teachers are normally non-native speakers of the target language and are typically content rather than FL specialists. CLIL lessons are usually timetabled as content-lessons (biology, music, geography, mechanical engineering, etc.), while the target language normally continues as a subject in its own right in the shape of FL lessons. In addition to the general CLIL goal of improving institutional language learning, CLIL education experts have formulated an array of additional goals that CLIL is said to
support, such as cultural awareness, FL sensitization, cognitive advantages, deeper content learning, internationalization, self-confidence, motivation, pluriliteracy, learner autonomy and several others (see Coyle et al. 2010).

Since the 1990s, a considerable amount of CLIL research has been carried out in intensive school classes, and various benefits of CLIL have been indicated (despite several methodological pitfalls, see Aguilar and Muñoz 2014, and Bruton 2011), such as advantages in relation to receptive skills and comprehension (listening and reading), oral fluency, syntactic complexity, lexical range and confidence/risk-taking in the target language; improvement of verbal and non-verbal communication skills, cognitive skills and divergent thinking; and minimizing individual differences (e.g., Collins and White 2012; Dalton-Puffer and Smit 2013; Lasagabaster 2011; Serrano and Muñoz 2007). The evidence shows that degree of intensity of input will not, however, change the basic pattern: taking a comparable but in ways dissimilar context, late immersion students (for example, in Canada) seem to catch up with early immersion students in most respects (see, e.g., Genesee 2016). What early immersion delivers in the best circumstances, however, is an early ease with the L2, a genuine capacity to communicate in it at an early age, which early drip-feed instruction does not (for a discussion of this, see Muñoz 2015). This will need to be verified specifically for the somewhat different pattern of CLIL programmes in Europe; in Juan-Garau and Salazar-Nogueras’s (2015) words, ‘the debate continues as to the best age and timing for CLIL’ (6), and the issue of an optimum initial proficiency level for CLIL at primary level has not been addressed as an object of research yet (Muñoz 2015). The eventual findings of such research will offer educators and parents choices with respect to when children may begin FL instruction using bilingual education without necessarily compromising outcomes.

Our second set of recommendations concerns researchers working on age and its implications for L2 pedagogy. We have seen that findings in this area have largely been ignored in regard to the trend towards the introduction of additional languages into primary-level curricula, which appears to have been underlain by the widespread belief on the part of parents – whose views feed into the decisions of governments (cf, Spolsky 1989) – that an early start in L2 instruction is a panacea overriding and neutralizing all other factors. It is also true to say that there is in many educational quarters an atmosphere of denial of the basic fact of the non-advantaging nature of early L2 instruction. While more or less everything important has been clarified about the ‘catch them young’ notion and what it means (and does not mean) in L2 contexts, the main question now is how to induce parents and decision makers to hear such messages. To try to counter the denial of the facts, we need (1) to endeavour to convince people of the need for closer integration between L2 research and pedagogy and (2) to educate them about recent trends in age-related L2 research. Intensive collaboration between practitioners, politicians and researchers is essential in order for mutual interests and concerns to be understood and addressed through shared discussions, data collection, analysis and interpretation. This points to the need for researchers to operate an ‘open door’ policy – to present their results to lay audiences; to offer workshops for practitioners; to respond positively to invitations for newspaper interviews and radio and television appearances; and to underline the fact that there are numerous factors accounting for the consistent advantages and greater progress of older learners in school contexts. Bachman (2006, p. 182) reminds us that our audiences are not restricted to members of our own research community but also include an audience from a more public, more politically potent sphere, including people that have the power to make real research-inspired decisions in the world. The message should be that the goal is simply to help teachers, politicians and policy makers set realistic expectations for themselves and the students involved.
Our third set of recommendations relates to the importance of the L1 in the context of early L2 instruction. Since the L1 represents a strong foundation for subsequent language learning, as it can both support and enhance L2 development, educators concerned with additional languages should consider the role that initial literacy plays in learning such languages, and should bear in mind that mastery of literacy skills in the primary school years is important for students in this connection. Ordóñez (2016), for instance, laments that even though learning a foreign language from a very young age is not desirable in Colombia since educational provision is not even adequately developing L1, early bilingualism in English is still imposed ‘both by policy and common belief’ (233). She propounds the implementation of ‘a genuinely bilingual curriculum’, in which reading and writing in English are not to be introduced before third grade, when reading and writing in Spanish (the L1) are already advanced.

Future directions

a Perhaps the most pressing desideratum with regard to the future is to move away from the errors which have beset age research in the past: (a) that of placing too much emphasis on unsuccessful adult L2 learners while ignoring older learners who – even in the naturalistic sphere – achieve extremely high levels of L2 proficiency; (b) the overgeneralization of findings from the naturalistic setting to other learning contexts; (c) the misattribution of conclusions about language proficiency to facts about the brain; and (d) exclusively recruiting participants who are highly educated (such as university students).

b Age-related research has demonstrated increased sensitivity to the contexts of research, the characteristics and diversity of research participants (inter- and intra-learner variability), and the need to consider carefully constraints on the generalizability of results. There are voices – particularly from those who favour the Complex Dynamic Systems Theory (CDST) approach – which opine that the findings of any linguistic investigation must always be partial and provisional and that the potential of classroom research to generalise observations is limited. The theory argues that since language is a complex dynamic system, using traditional approaches to examine language learning will not provide reliable results. By avoiding ‘linear causality’ and ‘generalizable predictions’, CDST pursues ‘tendencies, patterns and contingencies’ (De Bot and Larsen-Freeman 2011, p. 23) instead. That is not to say that forgoing the usual statistical procedures used to generalise means that generalizability is impossible from a CDS perspective. Case studies may not reveal much about a population of language learners, but do have a direct bearing on theory (see, e.g., Verspoor, de Bot and Lowie 2011). According to Duff (2014, p. 242) generalization in relation to a case provides the researcher with ‘the opportunity to shed empirical light about some theoretical concepts or principles . . . that go beyond the setting for the specific case’. The downside of such an approach, in our view, is that it neglects to make claims that contain widely generalizable insights, and contribute more broadly to L2 pedagogy. It is important that age researchers try to attach meaning to age-related outcomes by generalizing to other individuals or groups of individuals, or other contexts.

c One contextual divergence that certainly needs to be taken into consideration, besides that between naturalistic and formal settings, is the difference between early L2 learning in a normal, ‘drip-feed’ input school situation (two or three hours of L2 input per week) and schooling involving various kinds and degrees of ‘immersion’ in the L2. As one
would expect, significantly more input leads to significantly better results. Young learners seem to achieve quite a high level of proficiency under immersion conditions. The question remains, however, whether this advantage is maintained when compared to the attainments of school students who benefit from full immersion (e.g., bilingual education), or whether the late immersion students simply catch up with the early immersion students. The answer to this question seems to be that catch-up is what indeed occurs, but it would be useful to obtain a detailed, nuanced picture of the speed with which the catch-up happens under different degrees of immersion.

Further reading


   This is a relatively brief but succinct recent review of the age factor research literature as it concerns instructed second language learning. It is a brave attempt to make sense of a complex and controversial domain, and offers a useful source of information both to researchers and to those involved in teaching and educational policy making.


   This volume brings together the work of scholars who were invited by the British Council to further develop our understanding of English language learning through ‘Early Childhood Education and Care’ (i.e., pre-primary L2 learning) and its consequences for appropriate policy, curricula, provision and teacher education.


   Assembled in this volume are a variety of studies dealing with second language learning experiences across a range of contexts which provide intensive exposure to the target language. It sheds light on the role of intensive exposure as a critical distinctive factor in the comparison of learning processes and outcomes.


   In this longitudinal study the authors empirically explore issues regarding the unique profiles of early vs. late learners of EFL, as well as the significance of factors that are stronger than starting age in determining the rate of acquisition and the learning outcomes at the end of mandatory school time, such as effects of school contexts, amount and type of input, L1 literacy skills, and socio-affective variables.

Related topics

Multilingualism, contexts of learning, researching very young learners, motivation

References


The age debate


