WHAT IS THE BEST AGE TO START LEARNING AN ADDITIONAL LANGUAGE?



Si vous demandez à des passants quel est le meilleur âge pour apprendre une langue étrangère, la majorité d'entre eux répondront certainement «le plus tôt est le mieux». Cet article montre pourtant que la réponse à cette question est plus complexe. S'il est vrai que, en contexte de migration, les apprenants précoces tendent à atteindre un meilleur niveau sur le long terme que leurs pairs plus âgés, de nombreux exemples montrent que des apprenants tardifs peuvent aussi passer pour natifs de la L2. En ce qui concerne le contexte scolaire, les résultats clairs et consistants de plus de 50 ans de recherche montrent qu'un apprentissage précoce ne confère aucun avantage en comparaison d'un apprentissage plus tardif.

Introduction

Most people's response to the question posed in the title would undoubtedly be "the younger the better". Nor would this be an unreasonable reaction. After all, first language development is something that happens in infancy and so the general inference is that children are better equipped to acquire languages than adolescents and adults. Indeed, common experience seems to suggest that starting to learn anything early in life - the violin, chess, tennis may yield substantial advantages. With specific regard to language, we seem to get everyday evidence for this perspective from the way in which immigrant children often act as interpreters in the language of the host country for their parents. This phenomenon has been observed for a very long time. Thus, for example, the British psychologist J.S. Tomb wrote in 1925 about English families in India in the days of the Raj, commenting on the very much greater linguistic proficiency attained by the children as compared with the adults in the various Indian languages. We need to bear in mind in this context that the children referred to had vastly

more contact with the Indian house-staff than their parents. This is the general pattern with children who come to reside in a country or a region where the dominant language is different from their parents' language; they tend to become more quickly and more deeply embedded in their host community than their parents. It is important, however, to recognize that a range of interactional, social and motivational factors as well as purely maturational factors need to be taken into account in situations such as the ones referred to. Often these interactional, social and motivational factors are prime, seeming to outweigh the age factor as such (cf. the treatment of the maturational perspective, see below, where this issue is dealt with in more detail).

The Critical Period Hypothesis

An idea dating from the middle of the last century is that when childhood ends, certain neurological changes occur which preclude the subsequent complete mastery of additional languages. Thus, in the 1950s, Penfield claimed that that the opti-

David Singleton | Trinitiy College Dublin

David Singleton is Emeritus Fellow at Trinity College Dublin. He is co-author of Key Topics in Second Language Acquisition and of Beyond



Age Effects in Instructional L2 Learning and co-editor of the Multilingual Matters SLA book series. In 2015 he received the EUROSLA Distinguished Scholar Award and in 2017 Honorary Membership of AILA.

mal period for language acquisition ends when, at the end of childhood, the brain starts to lose its plasticity: "for the purposes of learning languages, the human brain becomes increasingly stiff and rigid after the age of nine" (Penfield & Roberts, 1959: 236). The current consensus among cognitive scientists, in contrast, is that the brain retains plasticity throughout life, and that it may be modified by experience at any age (Gutchess, 2014; Ramírez Gómez, 2017; Raz & Lindenberger, 2013), so that Penfield's notion that learning new languages beyond childhood is "unphysiological" is highly dubious.

Citing Penfield with approval, Lenneberg, for his part, spoke of a "critical period" for language acquisition ending at puberty, after which", according to him, "the incidence of 'language-learning-blocks' rapidly increases, "foreign languages have to be ... learned through a conscious and labored effort", and "[f]oreign accents cannot be overcome easily" (1967: 176). He related these alleged problems to a process, ending at puberty, involving the lateralization of language functions to the brain hemisphere dominant for language (usually the left). Lenneberg's version of lateralization is no longer taken seriously by neuroscientists. Current research suggests a complex and multi-factored relationship between lateralization and age (see e.g. Nenert et al., 2017). In any case, while Lenneberg suggests puberty as the "critical age", many other candidates for the "critical age" (as well as ideas about the extent of its consequences) have been proposed (see Singleton, 2005).

Evidence concerning the maturational perspective

Evidence quoted over the years in favour of the critical period or maturational approach in relation to additional languages generally has its source in immigrant and naturalistic studies (e.g., Asher & Garcia, 1969; Hyltenstam, 1992; Piske et al., 2002; Seliger et al., 1975), which have shown that younger arrivals in a country where the dominant language is different from their home language are more likely than older arrivals in the long run to pass for native speakers of the new language. It is worth saying, to return to the point made in the introduction, that stage of maturation at the commencement of acquisition is not the only factor to be considered here (see Cook & Singleton 2014, Chapter 2). The nature of the immigrant's relationship with the new language cannot be explained simply by reference to age. There are important differences in the experience of younger and older immigrants in terms of what they arrive with and in terms of various aspects of their life in the new country, which can plausibly be seen as impinging on proficiency attainment in the host country language and on the role of this language among immigrants arriving at different ages. In particular, these relate to the different stages of development of linguistico-cultural identity amongst younger and older immigrants, which in turn influence openness to friendships amongst different groups. Thus, Jia & Aaronson (2003) found that the children amongst their participants enjoyed more L2 contexts of use than the adolescents, having a higher number of L2-speaking friends, while the adolescents chose more L1-speaking peers as their friends. It is worth saying also that not all immigrants who arrive in their new country in childhood end up with a perfect command of the language of the host country; nor do those who arrive later in life systematically fail to attain the levels reached by those who arrive earlier.

In this latter connection one might cite Kinsella and Singleton's (2014) study which involved 20 native English speakers whose average age of significant exposure to French was 28.6 years. All were resident in France, and all reported at least occasionally passing for native speakers of French. These participants (and a control group of native French speakers) were asked to identify some regional French accents and to complete a test incorporating lexical and grammatical elements. Three of the twenty participants scored within native-speaker ranges on all tasks (outperforming many of the native speakers on the accent recognition task); all three had French spouses. This echoes Marinova-Todd's (2003) finding that the most proficient participants in her group of 30 post-pubertal learners of English co-habited with native English speakers, attaining native levels in all domains tested, including accent in spontaneous speech.

Such studies yielding nativelike performance in later starters (and there are very many of them; see Muñoz & Singleton, 2011) do not suffice, however, to falsify the Critical Period Hypothesis (CPH) for its most stalwart advocates (e.g, Abrahamsson & Hyltenstam, 2009: Long, 2013) - whose criterion for falsification is "scrutinized native-likeness" (Abrahamsson & Hyltenstam, 2009) with regard to all linguistic features in the later learner. Birdsong (2014: 47) remarks that, because of the mutual influence of an L2 user's knowledge of his/her languages, "nonnativelikeness will eventually be found". He concludes that if "across-the-board nativelikeness is what is required to disconfirm the CPH, the CPH is invulnerable to falsification". If, then, "scrutinized native-likeness" is the operative criterion, the CPH, like the existence of fairies, is immune to disproof: this however does not mean that it is true!

The instructional context Some sixty or seventy years ago, under the influence of enthusiastic and influential advocates of early L2 instruction in the school curriculum - such as Penfield - a trend began to lower the starting age of institutional L2 learning. This trend, which started slowly, in recent times has accelerated dramatically all round the world (see e.g, Murphy, 2014), flying in the face of empirical research, which for more than forty years has found that, in a normal schooling situation, pupils who are taught an L2 at primary level do not actually in the long run maintain the advantage of their early start (see Singleton & Pfenninger, 2016; Pfenninger & Singleton, 2017). As far back as the 1970s, studies were conducted (e.g. Burstall, 1975; Carroll, 1975) which failed to verify the capacity of early instruction to deliver higher proficiency levels than later instruction, and this has been the consistent finding since. Other relevant factors, such as the effects of early instruction on attitudes and learning strategies, have not been extensively explored empirically, but as far as the proficiency question is concerned the picture is crystal-clear. Moreover, the later beginners, who have less learning time, prove in due course to be equal or superior to the earlier beginners across a range of measures (see Muñoz & Singleton, 2011). In Canada and the US it was also found that older immersion learners were as successful as younger learners in shorter time periods (e.g, Swain & Lapkin, 1989; Turnbull, Lapkin, Hart & Swain, 1998; cf. Pfenninger & Singleton, in press).

Supporters of the CPH by and large have accepted such evidence on the failure of early L2 instruction to deliver advantages over later L2 instruction, and indeed interpret their own findings as

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consistent with it. Thus, for example, two of the most oft-quoted CPH advocates, Johnson and Newport, take the view "that the learning which occurs in the formal language classroom may be unlike the learning which occurs during [naturalistic] immersion, such that early instruction does not necessarily have the advantage for ultimate performance that is held by early [naturalistic] immersion" (Johnson & Newport, 1989: 81). Another CPH champion, DeKeyser, agrees: for him, school-based L2 learning is typically explicit in nature and largely unaffected by maturational constraints: "[r]ather than suggesting the importance of starting early, [age differences] indicate that the instructional approach should be different depending on age" (DeKeyser, 2003: 335).

Conclusion

The answer to the question regarding the best age for beginning L2 learning is therefore mixed. In the naturalistic context it seems to be the case that people who start to be exposed to the L2 as children in the long run do better than those who start their L2 experience as adolescents or adults. That is not to say that older beginners cannot - given the right interactional, social and motivational conditions - achieve very high levels indeed of proficiency. I have cited a couple of relevant studies. I shall refer to one more case, that of the the late Robert Maxwell, member of the UK House of Commons, owner of a number of British newspapers and publishing houses, and Chairman of Oxford United Football Club, whom I, together with most of British people who heard him speak, long assumed was a British native speaker of English. In fact, he started life

References

Abrahamsson, N. & Hyltenstam, K. (2009). Age of acquisition and nativelikeness in a second language: Listener perception vs. linguistic scrutiny. Language Learning 59, 249–306.

Asher, J. & Garcia, R. (1969). The optimal age to learn a foreign language. Modern Language Journal 53 (5), 334-341.

Birdsong, D. (2014). The Critical Period Hypothesis for second language acquisition: Tailoring the coat of many colors. In: M. Pawlak and L. Aronin (eds), Essential topics in applied linguistics and multilingualism. Heidelberg: Springer, pp. 43-50.

Cook, V. & Singleton, D. (2014). Key Topics in Second Language Acquisition. Bristol: Multilingual Matters.

DeKeyser, R. (2003). Implicit and explicit learning. In: C. J. Doughty & M. H. Long (Eds.), Handbook of second language acquisition. London: Blackwell, pp. 313-348.

Gutchess, A. (2014). Plasticity of the aging brain: New directions in cognitive neuroscience. Science 346 (6209), 579-582.

Hyltenstam, K. (1992). Non-native features of non-native speakers: On the ultimate attainment of childhood L2 learners. In: R.I. Harris (ed.), Cognitive Processing in Bilinguals. New York: Elsevier, pp.351-368.

Jia, G. & Aaronson, D. (2003). A longitudinal study of Chinese children and adolescents learning English in the United States. Applied Psycholinguistics 24, 131-161.

Johnson, J. S. & Newport, E. L. (1989). Critical period effects in second language learning: The influence of maturational state on the acquisition of ESL. Cognitive Psychology 21.1, 60-99.

Kinsella, C. & Singleton, D. (2014). Much more than age. Applied Linguistics 35 (4), 441-462.

Lenneberg, E.H. (1967). Biological Foundations of Language. New York: Wiley.

Long, M. (2013). Maturational constraints on child and adult SLA. In: G. Granena & M. Long (eds), Sensitive Periods, Language Aptitude and Ultimate Attainment. Amsterdam: John Benjamins, pp. 3-41.

as Ján Ludvík Hoch in a Yiddish-speaking Jewish family in pre-Second World War Czechoslovakia. His first encounter with English was in 1940, when, at the age of 17, he arrived in Britain fleeing from the Nazis.

As for the formal instructional context. it is certainly not the case that embarking on learning an additional language at school in one's childhood years confers any kind of long-term linguistic advantage over later starters. Those who begin as teenagers catch up with the younger beginners often within a very short time;

Marinova-Todd, S. (2003). Comprehensive Analysis of Ultimate Attainment in Adult Second Language Acquisition. Unpublished Ph.D. thesis, Harvard University.

Murphy, V. A. (2014). Second Language Learning in the Early School Years: Trends and Contexts. Oxford: Oxford University Press.

Nenert, R., Allendorfer, J.B., Martin, A.M., Banks, C. Vannest, J., Holland, S.K. & Szaflarski, J.P. (2017). Age-related language lateralization assessed by fMRI: The effects of sex and handedness. Brain Research 1674, 20-35.

Muñoz, C. & Singleton, D. (2011). A critical review of age-related research on L2 ultimate attainment: State of the Art article. Language Teaching 44 (1), 1-35.

Penfield, W.G. & Roberts, L. (1959). Speech and Brain Mechanisms. New York: Atheneum Press.

Ramírez Gómez, D. (in press). Language Teaching and the Older Adult: The Significance of Experience. Bristol: Multilingual Matters.

Raz, N. & Lindenberger, U. (2013). Life-span plasticity of the brain and cognition: From questions to evidence and back. Neuroscience & Biobehavioral Reviews 37 (9B), 2195-2200.

Pfenninger, S. E. & Singleton, D. (2017). Beyond Age Effects in Instructional L2 Learning: Revisiting the Age Factor. Bristol: Multilingual Matters.

Pfenninger, S. E. & Singleton, D. (in press). Starting age overshadowed: The primacy of differential environmental and family support effects on L2 attainment in an instructional context. Language Learning.

certainly, by the end of secondary school period, the performance of older beginner groups and younger beginner groups is indistinguishable. The reasons for this "kick-start" amongst the teenagers still need to be explored. Pfenninger and Singleton (2017) mention in this connection, for example, the possible impact of the more future-oriented, goal-oriented motivation of the older beginners, but it is clear that the matter calls out for more research, including research dealing with different kinds and with different degrees of intensity of instruction.

Piske, T., Flege, J.E., MacKay, I.R.A. & Meador, **D.** (2002). The production of English vowels by fluent early and late Italian-English bilinguals. Phonetica 59 (1), 49-71.

Seliger, H., Krashen, S. & Ladefoged, P. (1975). Maturational constraints in the acquisition of second language accent. Language Sciences 36. 20-22.

Singleton, D. (2005). The Critical Period Hypothesis: a coat of many colours. International Review of Applied Linguistics (IRAL) 43 (4), 269-285.

Singleton, D. & Pfenninger, S.E. (2016). Reporting on politically sensitive issues: The case of telling the truth about early L2 instruction. In: H. Rose & J. McKinley (eds.), Doing Real Research in Applied Linguistics). London: Routledge, pp. 214-224.

Swain, M. & Lapkin, S. (1989). Aspects of the sociolinguistic performance of early and late French immersion students. In: R. Scarcella, E. Anderson & S. Krashen (Eds.), On the development of communicative competence in a second language, Cambridge, MA: Newbury House, pp. 41-54.

Tomb, J.W. (1925). On the intuitive capacity of children to understand spoken languages. British Journal of Psychology, 16, 53-54.

Turnbull, M., Lapkin, S., Hart, D. & Swain, M. (1998). Time on task and immersion graduates' French proficiency. In: S. Lapkin (Ed.), French second language education in Canada: Empirical studies. Toronto: University of Toronto Press.