

Raising Children Bilingual: Should We, and When?

Bilingualism in Development: Language, Literacy, and Cognition

by Ellen Bialystok

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Review by Ping Li

Misconceptions abound in our society about raising children bilingual. Folk wisdom and educational policy both present childhood bilingualism negatively despite scientific evidence to the contrary. *Bilingualism in Development* demonstrates clearly the advantages of being bilingual early on, from early development of phonological awareness to quantity judgment, from literacy to problem solving, and from cognitive to personality benefits. So, why worry about raising our children bilingual? For the public, the fear stems from confusions about getting children confused in two or more languages. For the educators, the concern is simply to get children through to a mainstream language as the foundation for academic achievements.

A nonspecialist reader may be dismayed to find out that much of this text belongs to a psycholinguist's eye (perhaps with the exception of the last chapter), as the goal of the book is to unravel the cognitive and linguistic mechanisms underlying developmental bilingualism. However, a cognitive researcher may find true interest in bilingualism through reading this book, as the book's success lies in its ability to identify the nature and origin of the advantages associated with early bilingualism. In particular, Bialystok argues that because children have to juggle between two or more languages all the time, the direct benefit of this experience is a high level of control over attention and inhibition. That is, being able to speak two or more languages early provides one with opportunities to learn to inhibit irrelevant information

or misleading cues when encountering interference. Consider how often a bilingual has to handle interference from another language when speaking to groups of people talking in different languages (a typical scene at the Max Planck Institute for Psycholinguistics's coffee breaks, where English, German, and Dutch can all kick in simultaneously). It is thus no wonder that children growing up bilingual have an accelerated development of selective attention, compared with monolingual children.

Bialystok goes on from here to discuss many more interesting things, for example: (a) a "deficit" of attentional control is characteristic of elderly people (as opposed to youth), of the brain-injured (as opposed to the brain-intact), and of the monolingual child (as opposed to the bilingual child), and (b) the high level of attentional control in early bilinguals has direct consequences on many cognitive operations, including earlier phonological awareness, more accurate quantity judgments, more flexible classification of objects, and even stronger problem-solving abilities. The fact that being bilingual enhances attentional control, which in turn brings these other cognitive benefits, is strong evidence against the modularity of mind hypothesis (Fodor, 1983), according to which language is an autonomous cognitive module, encapsulated from other mental modules. The author has been careful, however, in not blindly emphasizing the positive effects of childhood bilingualism. It is true that a bilingual child will seem to lag behind in vocabulary development, compared with age-matched peers,

in each of the corresponding languages, but considering that the child handles two lexicons at the same time and that in the long run the child will function well in both languages, this temporary early delay is not too bad, and certainly no cause for alarm among parents and educators! Arithmetic computation is another area where bilingual children show slower speed in mental operation than their monolingual peers, but this disadvantage seems to occur in only the child's weaker language.

Given the overall benefits discussed above, the temporary vocabulary delay and arithmetic disadvantages should hardly be the real concern for not raising children bilingual. So, the question seems not whether we should raise our children bilingual, but when. In a globalized world like ours, knowing two or more languages is a necessity, not a luxury. Although young children seem to acquire two languages seamlessly, adults learn even the basics of another language painstakingly. The irony now is that we have to conclude, the earlier we learn a second language, the better. Beyond a certain age we do not seem to be able to acquire a language as naturally as native or young speakers.

Bialystok devotes a significant number of pages in Chapter 3 (pp. 71–89) to discuss the role of critical period in language acquisition. I found her discussion of this important issue very thorough and stimulating. Starting from defining the concept of critical period in language and other domains, the author presents several important points that echo arguments of other scholars in the field. First, in contrast to the classical thinking, critical period is not "critical" in the sense that outside this period it is impossible to achieve native or native-like performance in a second language. Rather, it is a gradual process with learners' performance

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decreasing linearly, with no sharp boundaries between native performance and non-native performance at any given point. Second, there may be several critical periods, depending on which component of the language one is looking at: for phonology, the critical period may be very early; for syntax and grammar, it may end around puberty; and for lexicon, there seems to be no clear-cut critical period. Third and most important, performance differences related to age in language learning cannot be unequivocally attributed to differences in the brain with respect to neural development or biological maturation. So far, no real experiment has been done to control for some of the most crucial variables (e.g., equivalence in the environments for learning) that could cause age-related differences in language acquisition.

In connection with the last point, Bialystok makes an interesting proposal on a principled learning difference that could underlie the early plasticity and late stability as seen in the critical period. She argues that there is a conceptualization difference with regard to the learner's ability to create new categories, for language and other cognitive domains alike: early on, as knowledge is limited, the learner is more willing to create new categories, a process that Piaget would call accommodation; later on, the learner is more ready to fit new information to the existing knowledge base or structure, a process that Piaget would call assimilation. This early-accommodation-late-assimilation pattern, if true, could explain why young children are more likely than adults to create new phonological and syntactic categories in language learning, especially when these categories are similar to the ones in the first language, and therefore children, not adults, would sound more like native speakers.

The take-home message in my assessment of *Bilingualism in Development* is that we should raise our children bilingual, and that the earlier

we do so the better. Do we need to worry about children getting confused in two languages? No, definitely not. Do we need to worry about their temporary vocabulary delay and speed in arithmetic computation? Not in the long run. Childhood bilingualism has many positive effects, and above all, it enhances selective attention. Finally, then, do we need to worry about not learning another language perfectly if we happen to learn it at age 20, 30, or even 50? No solid scientific evidence exists to say that you cannot speak like a native, especially in domains like vocabulary use and writing (Henry Kissinger may speak English with a German accent but writes perfectly in English).

Most current theories of psycholinguistics are built on studies of language processing in adults, and most developmental theories of language are built on what we know about children's learning in monolingual contexts. *Bilingualism in Development* takes us beyond this divide to a formidable task of children's learning of two or more languages early on. In this book Bialystok does a beautiful job in instilling the latest theories and issues, integrating monolingual and bilingual language acquisition, and expanding the horizon beyond. It takes true scholarship to do this. I can only concur with the author at her conclusion for the relative lack of research in this domain: "Meaningful studies of bilingual children often require intersecting skills in cognition, linguistics, sociology, and education, a combination not usually enlisted by most researchers" (p. 248).

To some scholars, the book's discussions may at times appear sketchy. For example, there is no detailed description of the development of the bilingual lexicon with respect to initial semantic learning (does syntactic bootstrapping play a role? cf. Gleitman, 1990), growth profile (is there a vocabulary spurt in each language? cf. Bloom, 2000), or structural change (how does semantic organization take place for two competing lexicons? cf. Bowerman, 1982). To others, a deeper question may be asked about why young children, but

not adult learners, have the selective attention advantage (perhaps because the learning histories and contexts of usage are very different for children and adults? cf. Grosjean, 1997). To still others, mechanistic formalism of bilingualism in development is lacking (e.g., how connectionist models can be implemented; cf. Li, 2002; Li & Farkas, 2002). However, none of these concerns is sufficiently great to warrant dismissal of the book's intellectual strength. I would enthusiastically recommend this book to any cognitive scientists interested in bilingualism, for its ability to identify important psycholinguistic mechanisms and its integration of issues across a wide range of cognitive domains. I would also recommend the book highly to neuroscientists interested in bilingual issues, as neuroscientists have embarked on an important enterprise of imaging bilinguals (see Grosjean, Li, Münte, & Rodriguez-Fornells, 2003; but note Bialystok's critical view on this enterprise; pp. 91–95). However, I would be rather hesitant to recommend the book to parents and teachers, as it is more of a scientific text than a practical guide, compared with other texts out there for lay readers (e.g., Cunningham-Andersson & Andersson, 1999). □

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