

COGNITIVE AND LINGUISTIC ABILITIES OF BILINGUAL CHILDREN REVISITED¹

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This work¹ reviews the current research into the capabilities of bilingual children, asserting, from the evidence obtained, that bilingual children do not possess a universal advantage or disadvantage, although, given the appropriate conditions, they can attain high levels of language proficiency and academic achievement. The conclusions that can be drawn from these findings and their implications for policy making and the development of bilingual education programmes are also explored. The Ten Papers which make up this monograph are based on original research and differ from earlier studies which were constrained in their design and by the political assumptions that inspired them, both of which producing an unwillingness to confront the conventional wisdom of the time. Now, in all these recent studies, crucial factors from both the social and the educational environments are openly acknowledged and taken into account. In this way a closer study of bilingualism is made.

The issues dealt with in the different chapters concern linguistics, psychology and education, examining in each, issues related to the specific abilities of bilingual children. At the same time an analysis of these children's performance over a range of language uses is undertaken. As the editor Bialystok herself states in the preface, both second language (L2) acquisition and bilingualism on the one hand, and psycho-linguistic descriptions of first language (L1) proficiency on the other are tackled together, contributing "... to the goal of integrating theory and research across the subdisciplines." (p. xii). In fact, much of this book is a completely revised version of the papers presented in the invited symposium "Language Acquisition and Implications for Processing in Bilingual Children" held by the Society for Research in Child Development in 1987 in Ontario, Canada.

Bialystok reminds us that although the study of the cognitive and linguistic achievements of bilingual children has attracted research interest both in psychology and education for some time, hard evidence from empirical research is scant. Thus the consequences held for bilingualism concerning children's cognitive development, school achievement, linguistic processing and meta-linguistic abilities have been mainly speculative and lacking firm empirical foundations. She acknowledges the difficulties in disentangling the complexity of children's bilingualism, i.e. the

critical differences in the conditions surrounding it. Since the 1970s three main research approaches have emerged in the study of language processing by bilingual children, and which roughly correspond to three different perspectives on language, that is, linguistic, socio-linguistic, and psycho-linguistic perspectives. From each of them educational implications can be inferred.

Bialystok considers that the research focused on the linguistic, namely applied linguistic perspective, has been the most relevant to work done on bilingualism. Linguistic accounts of L2 development have been the dominant issue in this research area. Different linguistic frameworks involve different psycho-linguistic processes. Thus we have the contrastive analysis approach of the early 1970s which developed from Lado's (1957) early work and that, comparing two languages linguistically, claimed that transfer could completely explain L2 learning, since the psycho-linguistic basis on which this process was understood entailed the substitution of mother tongue linguistic features for target language ones. By the mid-1970s the scene drastically changed when it was claimed that there was no need of transfer since a L2 was learnt in the same way as a L1, i.e. Dulay and Burt's (1977) process of creative construction. Finally, more recently a new view has gained ground and tempered the claims previously held, reconciling both the role played by transfer in the learning process as well as recognizing that it cannot entirely account for it. There is unquestionably room for the active participation of the learner in the development of that process. Furthermore, another linguistic explanation of learning a L2 is provided by the Chomskyan paradigm of Universal Grammar (UG) and its Government and Binding recent version where "... L2 learners use their L1 instantiations of UG as a stepping stone ..." (Cook, 1988: 184) to their L2 competence and reset the non-L1 values to the parameters of the L2 which require it (Goodluck, 1991; Atkinson, 1992). The course of L2 learning was thoroughly documented by the research carried out in the 1970s.

Socio-linguistics was the second perspective on language which availed itself of the research of the 1970s into language learning and language use. It is worth noting that it was this perspective that highlighted the contextual factors relevant to distinguish different bilingual situations. It was also decisive in identifying such distinctions as additive vs. subtractive bilingualism, frequent vs. infrequent use of the language, full vs. partial control of language, high- vs. low-status languages, etc. There is even a theory of L2 learning which relies totally on social factors, i.e. Schumann's (1978a; 1978b) acculturation model.

The third perspective of the research of this decade is that of psycho-linguistics, the aim of which was to ascertain why the learning of a L2 was easier and better accomplished by some learners than for others. It tackled issues such as aptitude, motivation, personality style, type of instruction, etc. so as to account for the ultimate level of achievement attained. Abundant studies were carried out on the characteristics shown by good and poor language learners (Naiman et al., 1978) in order to assess the relevancy of the features mentioned above. It became clear that "good language learners" varied among themselves, i.e. there is no one single profile of them. However, it was also obvious that no longer could individual differences be ignored when L2 learning was addressed. It was similarly evident that L2 learning had its own idiosyncrasy, different from that manifest in L1 acquisition.

Bialystok considers these three perspectives are the product of the research into bilingual children. Non the less she points out crucial differences between the prob-

lems this research sought to address and those encountered by bilingual children. That is, age and effect. The former refers namely to the similarities and differences between child and adult L2 learners. A question still pending is whether conceptually immature children follow the same course of language acquisition as that of adults. The second problem of effect relates to the alleged consequences of already possessing another language, i.e. having learnt another language. Foreseeable consequences impinge on the child's cognitive, linguistic, social and educational experiences. And it is precisely to this second problem that the book concentrates. Reasons seem to exist to explain why at present the study of both the linguistic and cognitive development of bilingual children is thriving. First the fact that L2 studies have entered the main stream of linguistic and psycho-linguistic theory. Second the predominance of process models in psycho-linguistic research over product descriptions. That is, not only is the body of knowledge about L1 acquisition vast but researchers also acknowledge that perceptive insights into it could be gained if information concerning L2 acquisition were incorporated into its theoretical approach, i.e. Bates and MacWhinney's (MacWhinney, 1987) completion model of language processing. On the other hand, we are witnessing the all embracing importance of process analyses of the causes of children's cognitive and linguistic development instead of merely describing the products of their accomplishments. Thus, it is openly admitted "... that children's experiences determine critical aspects of their cognitive organization, and that organization is instrumental in influencing the kinds of intellectual achievements that children can attain." (p. 5). It seems, then, that bilingualism can be an experience with major consequences as far as children's intellectual development goes.

Also recently this type of process-oriented study has been undertaken to investigate how children become able to deal with complex uses of language such as those of the literacy skills of reading and writing. It seems that these skills are reliant on both specific types of language processing and the availability of a number of meta-linguistic insights. A feature that distinguishes all these process models is that they are integrative in nature, that is, they incorporate many aspects of children's competence. Bilingualism has not yet been tapped in the contributions it may make to such linguistic processes.

The research reported here is set within the new tradition outlined above and its ultimate aim is to account for the acquisition and mastery of a L2, developing a cognitive description of the processes which lead to it. It is thought once this is achieved it will be possible to infer the implications of becoming bilingual, as far as how children process language and what kind of insights they consequently obtain in relation to the structure of language. Thus, throughout the volume "... the child's cognitive resources and their role in the child's development of specific types of intentional language-processing" (p. 7) are given prime importance, always taking into account the contextual factors that define the specific bilingual situation tackled. Thus, the following issues are addressed: (i) language processing able to accommodate processing in two languages by M. Sharwood Smith, (ii) phonological ability and phonological development of bilingual children with an evaluation of alternative models of phonological processing by I. Watson, (iii) L2 acquisition by immigrant children interpreted within a model of acquisition which has three components - social, linguistic and cognitive by W. Fillmore, (iv) L1 influence on the acquisition of proficiency in a L2, incorporating a new distinction between contextualized and decontextualized use of language by J. Cummins, (v) investiga-

tion in bilingual and monolingual children of the type of skill - whether linguistic or meta-linguistic - needed to give formal definitions by Snow *et al.*, (vi) variation in performance as a result of bilingualism in language tasks other than providing definitions, where bilingualism does not in fact influence performance, by E. Bialystok, (vii) translation skills and meta-linguistic awareness in bilinguals, focusing on their linguistic organization and processing by M. Malakoff and K. Hakuta, (viii) the effect of bilingualism on intelligence, addressing the interaction between bilingualism and cognitive development by R. Díaz and C. Klinger, (ix) the cognitive growth effects of constructive processes in bilingualism by J. Johnson, and finally (x) language, cognition and education of bilingual children are considered by E. Bialystok and J. Cummins, taking into account the most relevant findings of language processing and language awareness of bilingual children offered by the research of the last decade.

Overall it can be said that this book advances our understanding of the complex area of language acquisition, at the same time that it highlights many related issues of educational concern in general and policy setting, aiming at the development of bilingual education programmes in particular.

Notes

1. Ellen Bialystok (ed.) (1991) *Language Processing in Bilingual Children*. Cambridge: Cambridge University Press: 238pp.

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