

HOW DIFFERENT ARE MONOLINGUAL AND BILINGUAL ACQUISITION?

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Abstract

This paper compares monolingual acquisition to the acquisition of two languages from infancy. Basis for the comparison is the acquisition literature. Specifically for bilingual acquisition, the paper relies on findings from studies on young bilingual children who together are acquiring 13 languages in 14 different combinations. The data available to date strongly suggest that in essence, bilingual and monolingual children go through the primary language development process in fundamentally similar ways. There are also striking similarities between bilingual and monolingual children for one particular language-in-acquisition. The acquisition process, then, appears to be very robust, and quite immune to the fact whether a child is growing up with two languages or just one.

Keywords: bilingual acquisition - monolingual acquisition - comparison overview.

Introduction

In his seminal paper from 1973, Dan Slobin fundamentally sees monolingual and bilingual child language acquisition as being

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guided by the same 'operating principles'. Only 5 years later, another influential paper by Virginia Volterra and Traute Teaschner was published that made the opposite claim, viz., that young bilingual children initially approach the language learning task very differently from monolingual children. This, at least, is the implication of the authors' three-stage model of bilingual acquisition, which states that bilingual children will first develop a sort of hybrid language system that bears little relation to each separate input system and will thus sound very different from monolingual children (Volterra & Teaschner, 1978).

How different or how similar are monolingual and bilingual children? This question could not really be addressed in the 1970's or even the 1980's because of lack of appropriate empirical evidence. Fortunately the enormous increase in studies of both bilingual and monolingual acquisition covering many different languages makes it possible now to at least start with a comparative assessment.

I will limit my discussion to normally developing children who have regularly heard a particular language or set of languages from birth up until the time of study.

Basis for comparing monolingual and bilingual development

Up until the early 1980's most of modern child language research had been focused on the (monolingual) acquisition of English. Whereas indeed English is still the most widely represented language in studies of child language acquisition today, there is now a great variety of languages-in-acquisition that have been studied, whether in monolingual or in bilingual children.

For monolingual children data are currently available on at least 40 languages. These languages span a wide typological range, and include, for instance, Inuktitut (Allen, 1997), Turkish (Aksu-Koç, 1988) and Sesotho (Demuth, 1992). On the one hand, individual researchers

have been gathering data on different languages-in-acquisition which are then brought together in volumes dedicated to cross-linguistic research (see, e.g., the contributions to Slobin, 1992). On the other hand, research groups comprising scholars working on different languages are working together on particular issues in acquisition that are being approached on the basis of cross-linguistic comparisons (Dressler, 1997). Data from many different languages are now available to the child language community through CHILDES (Child Language Data Exchange System; MacWhinney & Snow, 1985; MacWhinney, 1995).

Table 1 gives a selective overview of studies on Bilingual First Language Acquisition that do not exclusively deal with specifically bilingual features of bilingual children's language use, viz., language choice and the structure of mixed utterances. The combined findings from these studies lend support for the comparisons of bilingual and monolingual acquisition in the remainder of this paper.

It is often claimed that bilingual children reported on in the literature are primarily children of (psycho-)linguists (see, e.g., Romaine, 1999). Whereas this might have been the case in the past, it certainly no longer is today. Only 8 of the 58 children in Table 1 (viz., Hildegard, Andreu, Manuela, Sonja, Odessa, Jessie and the brothers Fernando & Zevio) are children of linguists or psychologists (viz., correspondingly, Leopold, Pérez-Vidal, Deuchar, Schelleter, Jisa, Wanner and Schnitzer & Krasinski). As in most studies of child language in general, the children studied primarily live in a middle class environment that, on the whole, is fairly unexceptional in the Western world (most of the children studied live in Western Europe and North America).

Table 1. Some recent empirical studies on bilingual acquisition

child	languages	age(s)	*study/studies
Tamara	Serbian/English	0;7-1;0	Zlatic et al. 1997
Daniel	Serbian/English	0;7-1;0	Zlatic et al. 1997
N=25 **	Spanish/English	0;8-2;6	Pearson et al. 1993, 1995, 1997
Manuela	Spanish/English	0;11-1;10 1;7-2;3 1;7-3;2 1;8-2;2	Quay 1995 Deuchar & Quay 1998 Deuchar 1992; Deuchar & Clark 1992, 1996 Deuchar & Quay 2000
Zevio	Spanish/English	0;11-4;6 1;6-4;6	Krasinski 1995 Schnitzer & Krasinski 1996
Caroline	French/German	1;0-3;6 1;0-3;1 1;6-3;0 1;6-5;0 1;10-3;10 1;11-2;8 1;11-4;6	Meisel 1985 Meisel 1990 Müller 1995 Meisel & Müller 1992, Müller 1990a, 1994a, 1994b Meisel 1986, 1989 Meisel 1994 Klinge 1990
Pierre	French/German	1;0-3;6 1;0-4;0 2;6-4;0 2;7-3;3 2;7-3;8	Meisel 1985 Meisel 1990 Meisel 1989 Meisel 1994 Meisel 1986
Christoph	French/German	1;1-3;8 1;11-3;5 2;3-3;8	Parodi 1990 Schlyter 1990 Klinge 1990
Fernando	Spanish/English	1;1-3;9	Schnitzer & Krasinski 1994
Andreas	Norwegian/English	1;2-1;8	Johnson & Lancaster 1998
Maija	Latvian/English	1;2-1;11	Sinka & Schelleter 1998
boy	Italian/English	1;3-2;1	McClure 1997
Andreu	Catalan/English	1;3-4;2	Juan-Garau & Pérez-Vidal 2000
Ivar	French/German	1;4-2;9 1;5-3;0 1;5-4;3	Meisel 1990 Müller 1994a Meisel & Müller 1992, Müller 1990b

		1;5-5;0	Koehn 1994
		1;5-5;10	Müller 1994b
		1;10-3;0	Kaiser 1994
		1;10-3;5	Schlyter 1990, Müller 1993
		2;0-2;8	Meisel 1994
		2;2-3;5	Klinge 1990
		2;2-2;6	Köppe 1994
		2;4-3;5	Müller, Crysmann & Kaiser 1996
Pascal	French/German	1;5-4;0	Meisel & Müller 1992, Müller 1990b
		1;5-4;7	Müller 1994b
		1;8-4;10	Stenzel 1994
		1;9-2;11	Kaiser 1994
		1;10-2;5	Köppe 1994
		1;10-3;5	Müller 1993
		2;4-4;7	Stenzel 1996
Hildegard	German/English	1;6-2;0	Paradis 1996
Mikel	Spanish/Basque	1;6-3;0	Almgren & Barreña 2000
		1;6-3;6	Barreña 1997
		1;6-4;0	Barreña 2001
		1;7-4;0	Almgren & Idiazabal 2001; Ezeizabarrena & Larrañaga 1996
Jessie	Japanese/English	1;9-1;10	Wanner 1996
Mathieu	French/English	1;9-2;11	Paradis & Genesee 1997
Carlo	Italian/English	1;10-3;2	Serratrice 2001, 2002
Jean	French/Swedish	1;10-3;9	Schlyter 1995
Olivier	French/English	1;11-2;10	Paradis & Genesee 1996
Yann	French/English	1;11-3;0	Paradis & Genesee 1997
Gene	French/English	1;11-3;1	Paradis & Genesee 1996
Peru	Spanish/Basque	1;11-3;2	Idiazabal 1988, 1991
		1;11-4;0	Barreña 2001
Sonja	German/English	2;0-2;6	Sinka & Schelleter 1998
Annika	French/German	2;0-3;11	Stenzel 1994
Mimi	French/Swedish	2;0-4;2	Schlyter 1995
William	French/English	2;2-3;3	Paradis & Genesee 1996
Anne	French/Swedish	2;3-4;4	Schlyter 1995
Anouk	French/Dutch	2;3-3;4	Hulk & van der Linden 1996
François	French/German	2;4-3;4	Schlyter 1990
Odessa	French/English	2;7-2;9	Jisa 1995
Kate	Dutch/English	2;7-3;4	De Houwer 1990, 1997

* ages are indicated in years; months (months have been rounded up to the next month for children who were at least 20 days into the next month); a dash between ages means 'from age X to age Y'; the children are listed according to the youngest age for which data were available

** this publication contains no further identification; it is just mentioned how many children were the subjects

For pre-school children exposed to two languages from birth there are currently data available on at least 13 languages in at least 14 different combinations (cf. Table 1). Most of these languages belong to the group of Indo-European languages (for instance, Catalan, Dutch, English, French, German, Italian, Latvian, Spanish and Swedish). Some non-Indo-European languages that have featured in studies of bilingual children are Basque, Cantonese, Serbian, and Japanese. Like in child language acquisition research involving monolingual children, English is much more heavily represented than any other language: of the total of 13 different language combinations listed in Table 1 nine include English. French is a distant second with four appearances.

There are by estimation at least 5000 languages in the world. Most of these remain uninvestigated as far as child language goes. Under these circumstances it is of course premature to draw any hard and fast conclusions based on the studies carried out so far. However, in the following I will outline some generalizations that are supported by the empirical evidence to date.

Children in a bilingual vs. a monolingual environment: a general characterization

There is one major difference between children growing up in a bilingual vs. a monolingual environment from their first days of life: typically, children growing up in a monolingual environment will in fact start speaking the language they hear in their environment. Children growing up bilingually, on the other hand, may never start speaking one of the languages they've been hearing from birth (they will,

however, speak the other one): It is not atypical or unusual for children raised in a bilingual environment to understand two languages, but to speak only one. For instance, 14% of 1728 children in Flanders who heard two languages spoken at home themselves spoke only one language (De Houwer, 2001). Even children who hear two languages from birth according to the 'one person, one language' principle may end up speaking only one language (this was the case, for instance, for the child Odessa up until the age of 2;7; see Jisa, 1995). Not all bilingual exposure results in active bilingualism, then (see also De Houwer, 1999).

Children who have been regularly and frequently exposed to two languages from birth and who actually speak those languages are no different from children growing up with just one language as far as the general course of language development is concerned. The main distinction between actively bilingual children on the one hand and monolingual children on the other is that the first are able to make themselves understood in two languages whereas the latter are not. Apart from this, there are far more similarities than differences.

As is becoming increasingly clear from most cross-linguistic comparisons to date, monolingual children first and foremost learn a particular language rather than 'Language' (see also Bowerman, 1985). From the earliest times of speech production onwards, children use mostly quite language-specific forms to the exclusion of other, from the viewpoint of different languages equally possible, forms. For instance, a child will use word orders that are possible in the language she hears, to the exclusion of word orders that are not possible, although it may take quite some time for the child to sort out the exact circumstances under which a particular target order can be used (compare, e.g., De Houwer & Gillis 1998 for Dutch and Wells, 1985, for English).

For actively bilingual children, it is becoming increasingly clear that they, too, usually speak a specific language when they talk. Bilingual children's first words are often relatable to their input languages (Deuchar & Quay, 2000). Just as is the case for monolingual children, bilingual children speak a clearly identifiable language most

of the time from the two-word stage onwards (for a critique of earlier theories that denied this as far as bilingual children goes, see De Houwer, 1995).

Although young bilingual and monolingual children clearly speak a particular language from a very early age onwards, they still differ quite dramatically from how the adults in their environment speak that language. Both bilingual and monolingual children make 'errors', use strange sounding neologisms, use some words with different meanings from the adult meaning and so forth: overextension, underextension, overgeneralisation, reversals, reduplications - all these processes can be found in the speech of both bilingual and monolingual children.

Further global similarities between bilingual and monolingual children concern both the timing of a number of important milestones in language development and the concomitant chronology in the course of overall development. Except for the huge range of normal individual variation that exists between monolingual children (and which there also is amongst bilingual children), there are no systematic differences between normally developing bilingual and monolingual children in the ages at which basic language skills are acquired. Just like his monolingual friend, a bilingual two-year-old can be expected to be able to carry on a brief but largely comprehensible conversation with a familiar adult using an occasional two-word utterance. One can expect a great deal more from a bilingual three-year-old (just as one can of a three-year-old monolingual): she should be able to produce utterances containing three or four words, and should be quite comprehensible to strangers.

There is as yet no empirical basis for the claim that, as a group, bilingual children's language development is delayed in comparison with that of monolingual children.

A very robust finding from cross-linguistic research to date is that normally developing (monolingual) children tend to follow a very similar path on their way towards speaking like the people around them. The first year of life is typically marked by a long period of linguistic silence (but lots of communicative activity - see, e.g.,

Koopmans-van Beinum & van der Stelt, 1998) that ends with a babbling period. For bilingual children there are hardly any studies available that trace communicative development in the first year of life. The picture emerging for Leopold's daughter Hildegard who heard German and English from birth, however, confirms what has been found for monolingual development (Leopold, 1970 c. 1939-49).

Soon after the babbling period, both bilingual and monolingual children start off their conventionally meaningful language production using 'single word sentences' or 'holophrases' (for bilingual children see, e.g., Ronjat, 1913). This typically happens in the second year of life, when children start to produce what the people in their environment interpret as 'words', i.e., as linguistically meaningful items of speech (cf. also Tomasello & Bates, 2001). Somewhere around the second birthday, children start to combine words or morphemes - first only two at the time, later three and four. The normal three-year-old can usually say a number of phrases or what counts as clauses in a particular language, and most four-year-olds can combine clauses into complex sentences, and can tell a simple, connected story.

The increase in syntagmatic skills is accompanied by an increase in the use of bound morphology in bilingual and monolingual children alike. Depending on the language that is being acquired, both may use a number of bound morphemes at a very early stage in development, and will increase their repertoire as they grow older.

A similar picture emerges for that phonological development. The available evidence suggests that bilingual children develop their phonologies in generally the same way as monolingual children. The phonological system in production starts from a small number of phonemes and is slowly expanded in a course of development in which substitution processes initially play a large role (compare, e.g., Fikkert, 1998 for the monolingual development of Dutch and Ingram, 1981 for the bilingual development of Italian and English).

In general children are able to understand quite a bit more than they themselves can say (compare Bates, Dale & Thal, 1995 for

monolingual children and Pearson, Fernandez & Oller, 1993 for bilingual children). Both bilingual and monolingual children start off with a very small expressive vocabulary that gradually increases in size (*ibidem*). Just as can be the case for monolingual children, bilingual children's first words may refer to concrete objects, actions, and a few perceptual qualities of objects (compare, for instance, Quay, 1995 for a bilingual child acquiring English and Spanish and Dromi, 1987, for a monolingual child acquiring Hebrew). Both bilingual and monolingual children's first words include some that have a primarily pragmatic rather than referential meaning.

For all children, language-based social interaction, either with adults or with other children, is one of the prerequisites for human language development to take place (Trevarthen & Aiken, 2001). The communicative functions or effects of early utterances depend very much on the specific interpretation of a particular vocalization by the infant's interlocutor (Ninio & Snow, 1996). During this early period of pragmatic development, one form is often related to one function. It is only in the second year of life that children clearly exhibit differentiated communicative functions, which, however, are usually clearly related to the here-and-now. As children are more and more able to express different communicative functions, their form-function relationships start to be more diverse as well, with one form expressing different pragmatic functions, and a particular form being realized by more than one form. After their second birthdays, children develop more and more different communicative functions, and their language use starts being more and more decontextualized. The combination of different functions to achieve one overarching communicative goal is a skill only present in school-age children (Baker, Blankenstijn & Roelofs, 2000).

Although most of the research on the development of pragmatic functions comes from English-speaking children, it is clear that the timing of the specific pragmatic functions that children acquire within a particular language depends on the language that children are acquiring (Baker, Blankenstijn & Roelofs, 2000).

This highly language-dependent aspect of pragmatic development is probably also quite relevant in the development of turn-taking, but here there is rather less cross-linguistic information available. In languages that have been investigated such as Dutch, English and Hebrew, children have been found to develop turn-taking behavior very gradually, and partly as a function of morphosyntactic development (e.g., if children do not understand a complex interrogative because they lack insight into clause dependencies they will be unable to respond). It also takes quite some time before children are able to carry on fully contingent conversations. Also the length of their conversational turns increases as they get older. Children as old as 10 years of age are still fully in the process of acquiring the conversational skills needed to function appropriately in their language community.

To my knowledge there have so far not been any studies that have specifically looked at the development of turn-taking behavior or communicative functions in bilingual children. On the other hand, one aspect of pragmatic development particular to bilingual children, viz., context sensitive language choice, has been investigated in a number of studies (see, e.g., Genesee, Boivin & Nicoladis, 1996; Mishina, 1999). As far as language choice is concerned there is increasingly more evidence that from before the age of two, children growing up with two languages from birth can and do adjust their language choice to that of their conversational partner. Since by definition monolingual children do not have any choice in what language they speak, these types of pragmatic adjustments are unique to bilingual children, although they may have their reflections in style and register variations in monolingual children. That monolingual 4-year-olds are capable of changing their language style in function of addressee was already shown in 1976 by Sachs and Devin in a study of how 4-year-olds address younger siblings.

Finally, metalinguistic awareness as evident from repair strategies seems to be present in both mono- and bilingual children from a young age (compare, e.g., Clark & Andersen, 1979, and Comeau & Genesee, 2001).

Comparing bilingual and monolingual children for one particular language-in-acquisition

There are quite detailed similarities to be noted for bilingual and monolingual children concerning the developmental course of one specific language for morphosyntactic phenomena. In other words, if comparisons are being made, for instance, of the English morphosyntactic structures used by a bilingual child and a monolingual child of approximately the same age, the similarities are quite striking. It is mostly impossible to say on the basis of a corpus of lexically English utterances by a three-year-old whether they were produced by a bilingual or a monolingual child. Monolingual and bilingual children acquiring the same language from birth use that language in very similar ways: they produce the same sorts of utterances (some studies even report identical utterances - see, e.g., De Houwer, 1990), with similar types of errors and characteristics.

Detailed comparisons between bilingual and monolingual children's morphosyntactic development so far have been undertaken for Basque, Dutch, English, French, German, and Spanish (see, e.g., Almgren & Barreña, 2000; De Houwer, 1990; Meisel, 1985). It must not be forgotten, however, that in comparisons between bilingual and monolingual children acquiring a common language there may be a great deal of variation between individual children. That individual variation makes it quite difficult in some cases to determine whether a small point of difference is relatable to the fact that the bilingual child is simultaneously acquiring another language or not. Future studies will have to show to what extent the minimal differences that do crop up here and there in very detailed comparisons are to be explained in terms of individual variation or other factors. One problem here is that often there is often little material available for monolingual acquisition that could be used as a dependable basis for comparison (this problem sometimes occurs even for English, the most frequently researched language in acquisition studies). In 1913, Ronjat complained about this problem too. Unfortunately, his problem is still with us today. Another

problem is that studies of spontaneous child speech often have few quantitative data, so that it is impossible to decide to what extent there might be quantitative differences between monolingual and bilingual children in the frequency of occurrence of particular types of linguistic structures.

The only study so far to attempt a detailed monolingual-bilingual comparison for the early development of segmental phonology is the one by Johnson & Lancaster (1998). A comparison of the acquisition of Norwegian and English by a bilingual child and group data for monolingual acquirers of each language found both differences and similarities. However, as the authors note, these differences may well be within the expected range of individual variation.

Comparisons for vocabulary development have been carried out mainly by Pearson and her former colleagues at the University of Miami for English and Spanish. However, because of the daunting methodological problems involved (Pearson, 1998) it is premature to make any specific claims here regarding detailed similarities or differences between bilingual and monolingual children.

Conclusion

When Slobin assumed no fundamental difference between monolingual and bilingual acquisition in his 1973 paper, he had very little empirical evidence to back up this assumption. Three decades later we fortunately do have available many studies that can speak to the issue of the fundamental similarity or difference between monolingual and bilingual language development. The interim conclusion that we can posit on the basis of the aggregated evidence strongly suggests that in essence, bilingual and monolingual children go through the primary language development process in fundamentally similar ways. That process appears to be quite immune to the fact whether a child is growing up with two languages or just one.

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