

DEL HOGAR A LA ESCUELA: PATTERNS OF BILINGUAL DEVELOPMENT FROM FOUR TO EIGHT YEARS OF AGE¹

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“But I don’t want to speak English because I am not in Saint Louis, Missouri.”

1. Introduction

The ability to choose a particular linguistic system to express one’s desires, needs, and emotions is characteristic of bilingual, or multilingual, persons. The bilingual child uses this choice selectively, with the interlocutor and social situation being the most influential factors in the choice (Fantini, 1985: 188). The process by which two or more linguistic systems and the socio-cultural aspects of language use are acquired have been studied by many, from the early studies conducted by Stern & Stern (1928) and Leopold (1970) to later studies such as Peal & Lambert (1962), Fantini (1978, 1985), and Romaine (1995), to name just a few. Early studies in the acquisition of Spanish by monolinguals include studies on morphological development by Kernan & Blount (1966) and a longitudinal study of early acquisition of Spanish by López Ornat (1996). These, among many other studies, have attempted to formulate theoretical models for the acquisition of one language or for the simultaneous acquisition of two languages. Chomsky stated:

If anything far-reaching and real is to be discovered about the actual grammar of the child, then rather devious kinds of observations of his performance, his abilities, and his comprehension, in many different kinds of circumstances will have to be obtained [...].
(Chomsky, 1971: 36)

“Del Hogar a La Escuela” was designed to assess patterns of bilingual development and of language dominance in a bilingual (English / Spanish) female child from 4 to 8 years of age. By age 4, the subject had mastered most of the basic structures in both languages and had sufficient cognitive development to express ideas and

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relationships, and to describe and narrate. Also, the transition period between home and school usually begins at this age. A longitudinal study was deemed necessary to obtain sufficient data on developmental patterns. Such a study, with multiple measures and different types of observation, seemed likely to be the most fruitful model for the formulation of a theoretical framework of linguistic and cognitive development, especially in order to be able to understand the rule-making abilities of the speaker/hearer. Fantini (1985) remarked that “language is only a part of his system of communication and interaction, and therefore it cannot be studied in isolation” (1985: 197).

2. Subject

The study was conducted on a bilingual female (English and Spanish) who, at the beginning of the study, was four years old, at which point she had essentially mastered the basic structures of both languages and was approaching school age. Preliminary recordings of story telling and narrations were made with formal assessment of her communicative skills taking place between the ages of 4.4 and 8.6. She was raised both in the United States and in Mexico, and attended schools in both countries as well, although she spent more time in the United States than in Mexico. Relatives on the father’s side are monolingual speakers of English whereas relatives on the mother’s side are monolingual speakers of Spanish. Both English and Spanish are spoken in the home in the United States, while Spanish is the only language used in Mexico. Monolingual speakers of Spanish and English with similar linguistic and socio-cultural background were also studied during the same period to provide comparative data. Both of the monolingual children studied grew up in exclusively monolingual homes, while the bilingual child had extensive exposure to both languages in the home.

3. Method

Several measures were employed in order to obtain information on several aspects of linguistic development: Auditory comprehension, syntactic, and morphological development. Several sets of tests and evaluations were used to measure spontaneous speech. These measures, while assessing performance, were aimed at gaining an understanding of the underlying competence of the speaker/hearer. Other

measures, such as temporal analysis and the study of hesitation phenomena found in the speech, produced focus on the actual performance of the child in an effort to integrate cognitive and linguistic behavior at the moment of speech production.

4. Materials

The following assessment instruments were used:

Bankson, N.W. (1977). *Bankson language screening test*. The child must point to the correct picture connected with the auditory stimulus.

Boehm, Ann E. (1970). *Boehm test of basic concepts*. Here, the child must point to a picture illustrating vocabulary or spatial items.

Burt, H., M. Dulay & E. Hernández (1975). *Bilingual syntax measure*. This test employs both completion and pointing activities.

Carrow, E. (1973). *Test for auditory comprehension of language*. Available both in English and Spanish. This test measures linguistic structures as well as vocabulary. The child responds by pointing to the picture that illustrates what the examiner has said.

Kirk, S. (1968). *Illinois test of psycholinguistic aptitudes*. In order to assess morphological development, the grammatical closure subtest was used. The child supplied the necessary form(s) to complete open-ended verbal expressions, by making use of the redundancies of oral language, which help the child acquire automatic habits of handling syntax and grammatical inflections.

Lee, L. & S. Carter (1971). *Developmental sentence analysis*. The extent to which the child has generalized the grammatical rules can be estimated through an analysis of the child's spontaneous speech. Weighted scores are assigned to a developmental order of pronouns, verbs, negatives, conjunctions, yes/no questions, and wh-questions.

New York City (1974). *Language assessment battery*, Level 1, Test 1: Listening and Speaking. In this test, the child points to a picture in response to a stimulus question or statement.

Toronto, A. (1976). *Developmental assessment of Spanish grammar*. This test is the Spanish counterpart to Lee's scale of syntactic complexity. However, it is not a mere translation, but rather it takes into account Spanish developmental patterns and assigns weighted scores to six grammatical categories: Indefinite pronouns and noun modifiers, personal pronouns, primary verbs, secondary verbs, conjunctions, and interrogative words.

Of the studies used, the Illinois Test of Psycholinguistic Aptitudes was the only one that was in English but not in Spanish. In order to use the same instrument in both languages, stimulus sentences were translated into Spanish and adapted by the author of this paper. It must be noted that in order to keep the same pictorial stimulus no changes were made in the stimulus, although eight items did not offer the same morphological difficulty in both languages; for instance, foot-feet is later in emerging than the regular

Spanish pie-pies. Careful interpretation of results in this test and others was needed, as it should be whenever one is dealing with cross-linguistic test items and data, because several of the published instruments were found to contain either cultural or syntactic items that did not deal with the subtleties of the other languages being studied.

5. Temporal analysis and study of hesitations

In addition to the linguistic tests described above, paralinguistic performance was also assessed. Since the production of speech takes place over time, a study of temporal parameters and vocal hesitations in spontaneous speech offered a more complete understanding of the speaker's behavior, one which reflected both the cognitive and the linguistic processes occurring at the moment of speech production. This approach provided the necessary insights for a more thorough analysis of the semantic and syntactic structure found in the produced discourse. A basic premise of this approach was that unfilled pauses and vocal hesitations are lawful phenomena and reflect communicative functions. Tape recordings of spontaneous speech were studied according to the methodology used by O'Connell and associates (1976). Tape recordings were transferred to a Brüel and Kjaer Audio Level Spectrometer that produces a graphic record of the acoustic energy, in terms of amplitude over time, from which speech rate, length, and location of unfilled pauses can be determined. Spontaneous speech was elicited by different series of picture cards, which "told a story," by asking the child to retell a familiar story such as "Three Little Pigs" or "Snow White." These amply illustrated books helped provide unity to the children's stories. Conversations about occasions such as Christmas and events in her day provide a different type of spontaneous speech and were also studied. Thus, repeated measures of spontaneous speech were taken over the four years of the study, especially before and after prolonged stays in Mexico.

6. Procedures

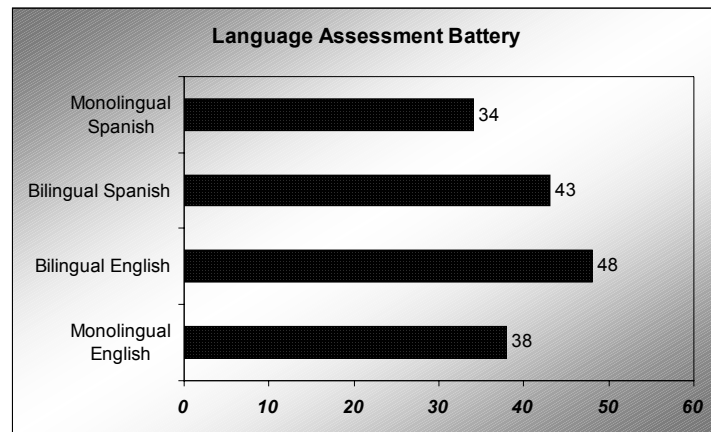
The auditory comprehension, vocabulary, and syntactic development tests were administered according to instructions. Spontaneous speech was elicited and recorded. As the experiment progressed, different tests were incorporated or discontinued as necessary. An important concern was the use of instruments that had validation data for

Spanish and English. Besides formal testing, anecdotal records of observations in naturalistic settings were kept to allow for different behavior on the part of the subjects. Sessions took place in several settings to allow for different speech behavior. Samples and observations were obtained both in the United States and in Mexico.

7. Results

As hypothesized, similarities in English and Spanish acquisition were found. This was consistent with McLaughlin *et al.* (1996) who reported that bilinguals appeared to be acquiring both English and Spanish in substantially the same way as monolinguals do in each language. Romaine states that the bilingual child, by using the total lexicon available at any given time, is able to speak both languages and to denote the same number of new concepts as the monolingual child (Romaine, 1995: 189). She also states that bilingual children seem to pass through the same developmental milestones in much the same order and the same way in both their languages as monolinguals do in their respective languages, which lends further support to those who attribute a large innate component to language acquisition (see Lenneberg (1967) and also Chomsky (1980) (Romaine, 1995: 217). Fantini concludes that the process of dual acquisition is not observably different from that of the acquisition of only one language (1985: 196). “It is true that Mario acquired more phonemes, more lexicon, and more syntactic rules than would have been required for only one language; the process, however, remained inherently the same” (Fantini, 1985: 196-197).

The next sections will describe the results of this study pertaining to auditory comprehension and morphological and syntactic development, as well the semantic and temporal analyses performed on the data. Graphical representations are included to illustrate these findings. Figure 1 shows the overall language skill assessment of each of the three subjects studied; the highest possible score in this evaluation was 50 points. The bilingual child was tested in both English and Spanish and thus separate results for each language are presented.

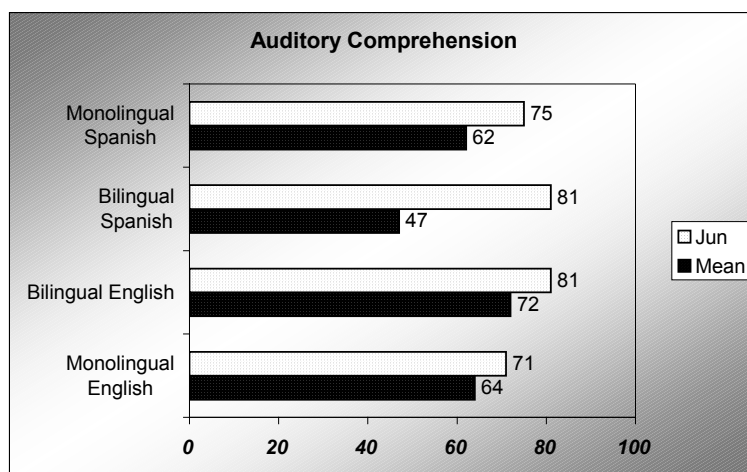
Figure 1³

8. Auditory comprehension

Differentiation of receptive and productive language skills was found in the retention of auditory comprehension skills in one language or another, although the oral expression skill might be lost after prolonged exposure to one language or another. McLaughlin *et al.* (1996) and Umbel *et al.* (1992) found that most bilingual children make unequal progress in acquiring two languages. Researchers now believe that it is quite rare to be a true balanced bilingual and that most bilingual children do have one language that is more dominant than others (Chiocca, 1998: 5). Burt, Dulay & Hernández (1975) observed: “Usually in cases of interrupted native language development only production ability is affected. Comprehension is retained to the full extent to which it was first acquired. ‘Deactivation of speaking proficiency’ rather than complete loss of speaking proficiency” (Burt, Dulay & Hernández, 1975: 13). This deactivation was observed in the bilingual subject, especially after summer-long stays in Mexico. In long distance calls to the United States from Mexico, she was not able to speak in English to her father or her friends, nor was she able to communicate with playmates upon her return from Mexico. Within two to three weeks, however, her speaking skills returned to the pre-Mexico level. A noteworthy finding is the increased scores obtained in both English and Spanish auditory comprehension after a prolonged stay in Mexico at ages 4 and 5. Interestingly, the effect of exposure to one language or another was less marked after age 7. This is interpreted to indicate an internalization of

³ NYC Language Assessment Battery. (1976). New York Office of Educational Evaluation.

the “weaker” language that takes place in the bilingual child as both maturity and cognitive development advance; in this way, linguistic skills appear to be less affected by a prolonged exposure to a particular language.

Figure 2⁴

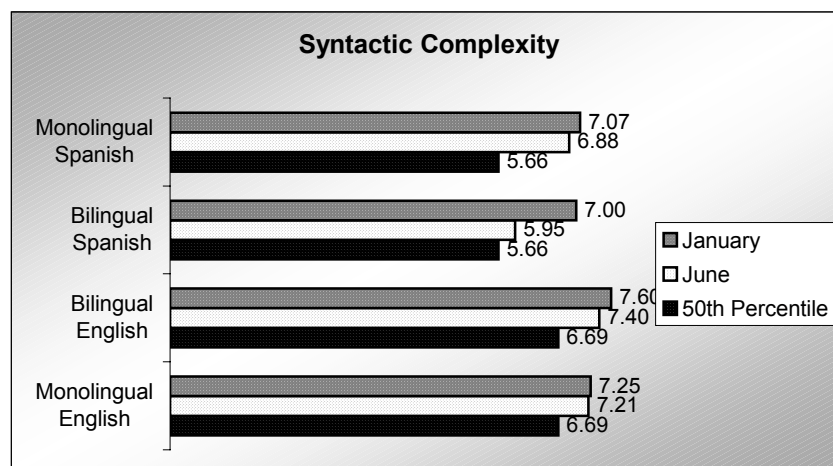
9. Morphological and syntactic development

During the process of mastering a language, particular syntactic structures are used correctly in some occasions and incorrectly in others. This instability of morphemes was often found to be the case in testing situations where irregular forms such as “better” would be used only minutes before or after “*gooder” would have been used in regular conversation. Kernan & Blount (1966), among others, found that children who often used a certain form correctly during a test, would use it incorrectly during spontaneous speech. Instances of “*gooder”/ “better,” “*morida”/ “muerte,” and “*robó”/ “robío” were found in the bilingual child’s speech samples. Extended exposure to one language yielded significant improvement in morphological development in both languages.

Late emerging forms, as reported in studies by Kernan & Blount (1966) and Berko (1958), also presented difficulties to both monolingual and bilingual subjects: *Stealed, *theirselves, *hissself, *mouses, and *sheeps. These forms were found in both the monolingual English and the bilingual subjects’ speech. Nevertheless, a greater instability of certain structures was noted in the bilingual’s acquisition of Spanish, which is not usually found in monolingual speakers of Spanish. This was particularly

⁴ Carrow, E (1973). *Test of auditory comprehension of language*, available both in English and Spanish.

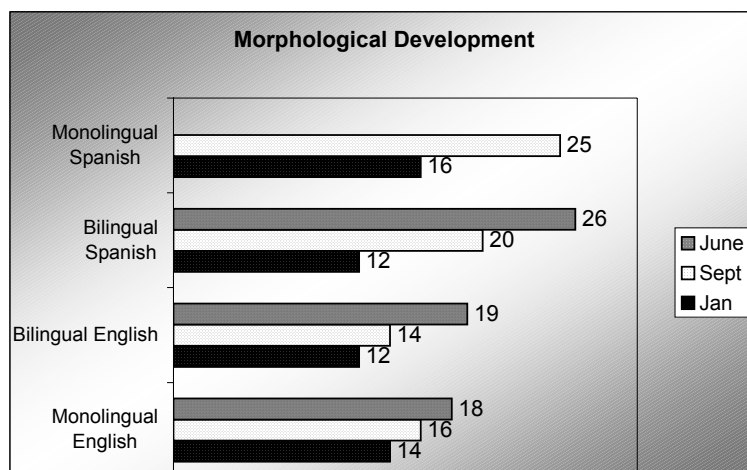
evident in the agreement of gender and in the mood selection (subjunctive) in Spanish. Furthermore, it was hypothesized that the appearance of certain forms would be different among monolinguals and bilinguals. Examples of this were found in the bilingual child's continued use of *sabo and her lack of consistency in the use of correct gender in Spanish: *La puerta está abierto; while her Spanish counterparts had started to use "se" and correct gender agreement. English performance of both monolingual and bilingual children were, as hypothesized, approximately the same since the bilingual subject was raised in a primarily English speaking environment, so that English came to be considered as her dominant language.

Figure 3⁵

An irregular progression in the acquisition of morphemes was evident in bilingual development, as compared with normative data of different instruments: The smooth progression of monolinguals is contrasted with the smaller advances, if any, and the "long leaps" made at other times by the bilingual child. This was found during earlier testing and observation and was usually related to a prolonged stay in one country or another. For example, as reported by Gray (1980) in her study of English morphology in French immersion children, regular or over-regularized forms preceded irregular forms. This was also found to be true for the acquisition of English and Spanish; for instance, man / men was later in appearing than hombre / hombres. Results from the grammatical closure subtest of the ITPA and the DSS and DASG also indicated this parallelism in the acquisition of morphemes. Burt, Dulay & Hernández

⁵ Burt, H., M. Dulay & E. Hernández (1975). *Bilingual syntax measure*. New York: Harcourt, Brace, Johanovich.

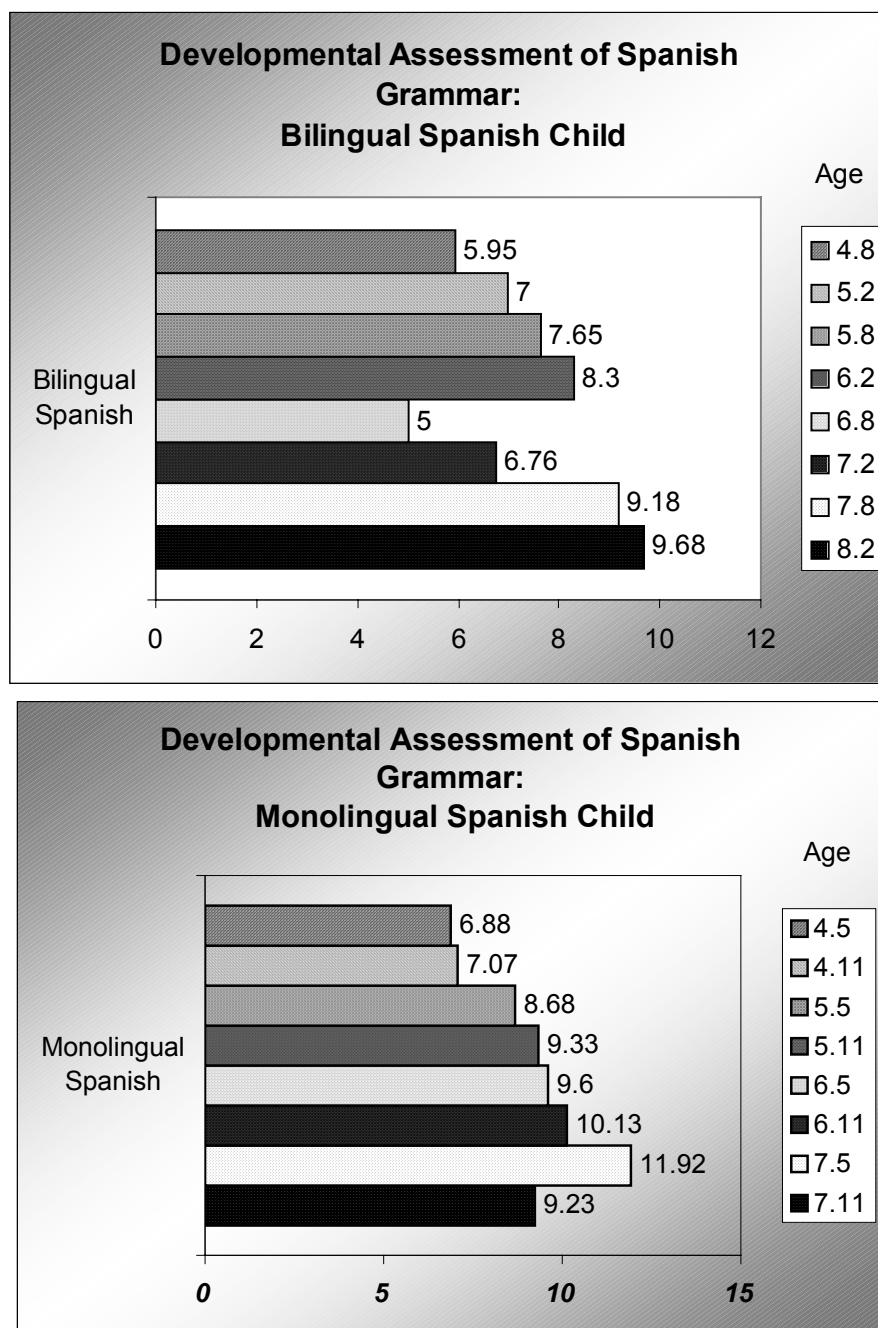
(1975) noted that a bilingual child may be balanced with respect to syntactic proficiency, but dominant in another aspect of the second language. Syntactic analysis of speech produced by the bilingual child demonstrated this balance in structural correction in both English and Spanish, with the above noted exceptions.

Figure 4⁶

Other developmental phenomena such as over-regularization was found both in Spanish and English: *Sabo (instead of irregular “Se”, I know); *gooder, *mens. Use of the subjunctive form followed a similar pattern, with respect to over-regularization. The subject progressed from the correct usage at an early age: “Quiero que vengas...(I want you to come)”, to an incorrect usage of the indicative –instead of the subjunctive– at a later age: “*Quiero que te lo comes...(I want you to eat it)”; and finally, back to the correct usage of most required Spanish subjunctive (except for compound tenses). Her correct usage of subjunctive at ages 4 and 5 is contrasted with a greater number of errors at age 8, when a conscious effort to use the language correctly is affected by a lack of internalization of rules that control mood choice. Speech samples include utterances such as “*yo te los poní” and “*yo no sabía que a.. este...estabías aquí” (age 5.10) which demonstrate the correct use of the preterite instead of the imperfect, although the incorrect verb form is used.

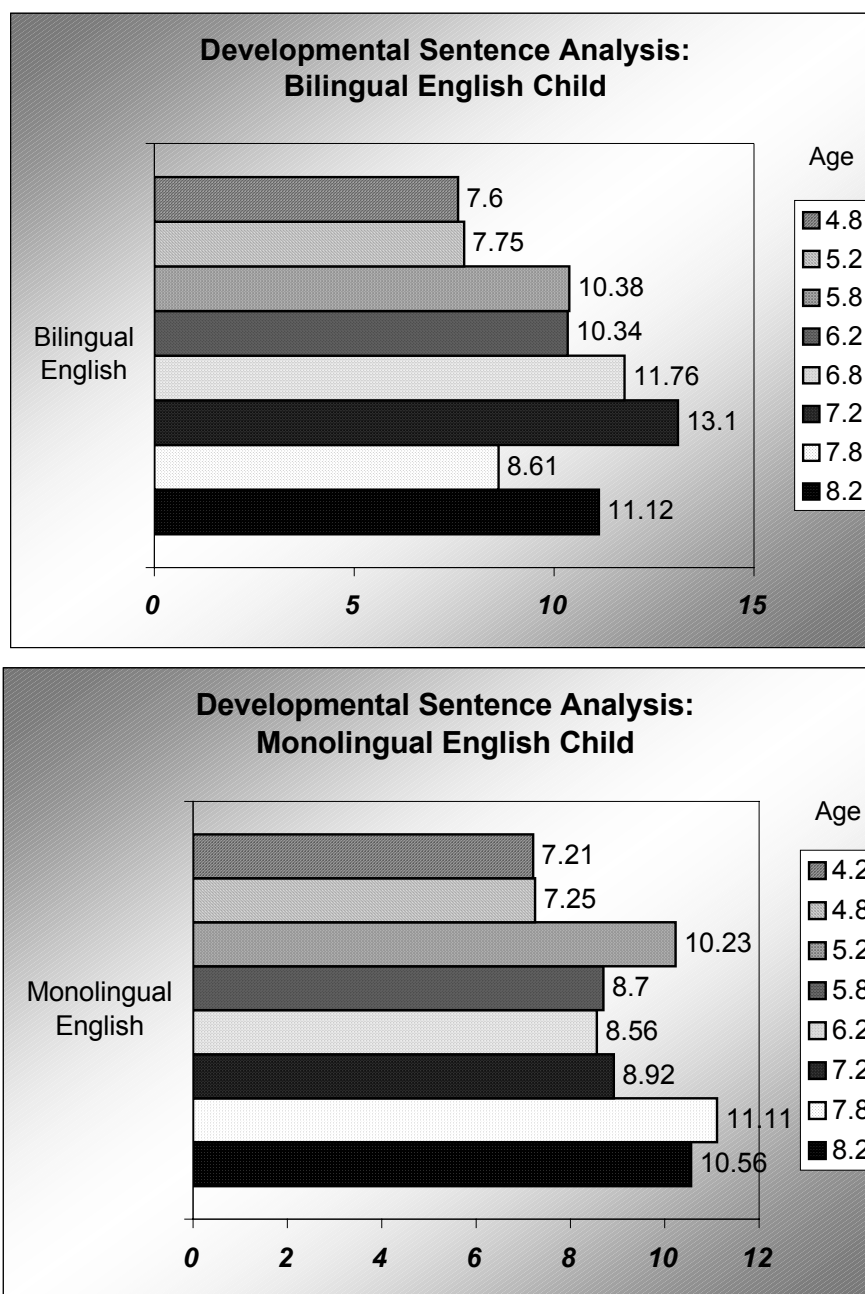
⁶ Kirk, S. (1968). *Illinois test of psycholinguistic aptitudes*. Urbana: University of Illinois.

Figure 5⁷



⁷ Toronto, A.S. (1976). "Development Assessment of Spanish Grammar". *Journal of Speech and Hearing Disorders* 41, 150-171.

Figure 6⁸



⁸ Lee, L. & S. Canter (1971). "Developmental sentence scoring: A clinical procedure for estimating syntactic development in children's spontaneous speech". *Journal of Speech and Hearing Disorders* 36, 315-40.

10. Semantic analysis

One source of difficulty for the bilingual child's semantic development is the fact that two terms exist in one language to represent what is only one term in the second language. Greater difficulty was observed in items with less social and cultural connections. An example was the confusion of "quedar/dejar" (both can express to leave) at a much later stage of development compared to items such as "casa": house/home, or to be: "ser/estar." The second set of items, i.e., "casa": house/home, offers a greater challenge to students of Spanish as a second language but was used correctly at early stages in the bilingual child, thus acquisition of such terms paralleled that of monolinguals. The variable pattern observed appears to be related to the true linguistic contrast offered to the speaker that is based on pragmatic and / or nonlinguistic factors, and would require a more in-depth study for a more complete explanation. Romaine reports that almost all the studies of bilingual children show the existence of cross-linguistic interference at the semantic level (Romaine, 1995: 217). Below is an example of semantic development, which in this case accompanied bilingualism. The conversation took place in English while both siblings were in Mexico.

Older sister trying to convince bilingual child to wear pigtails: –In fact, cowgirls wear pigtails.

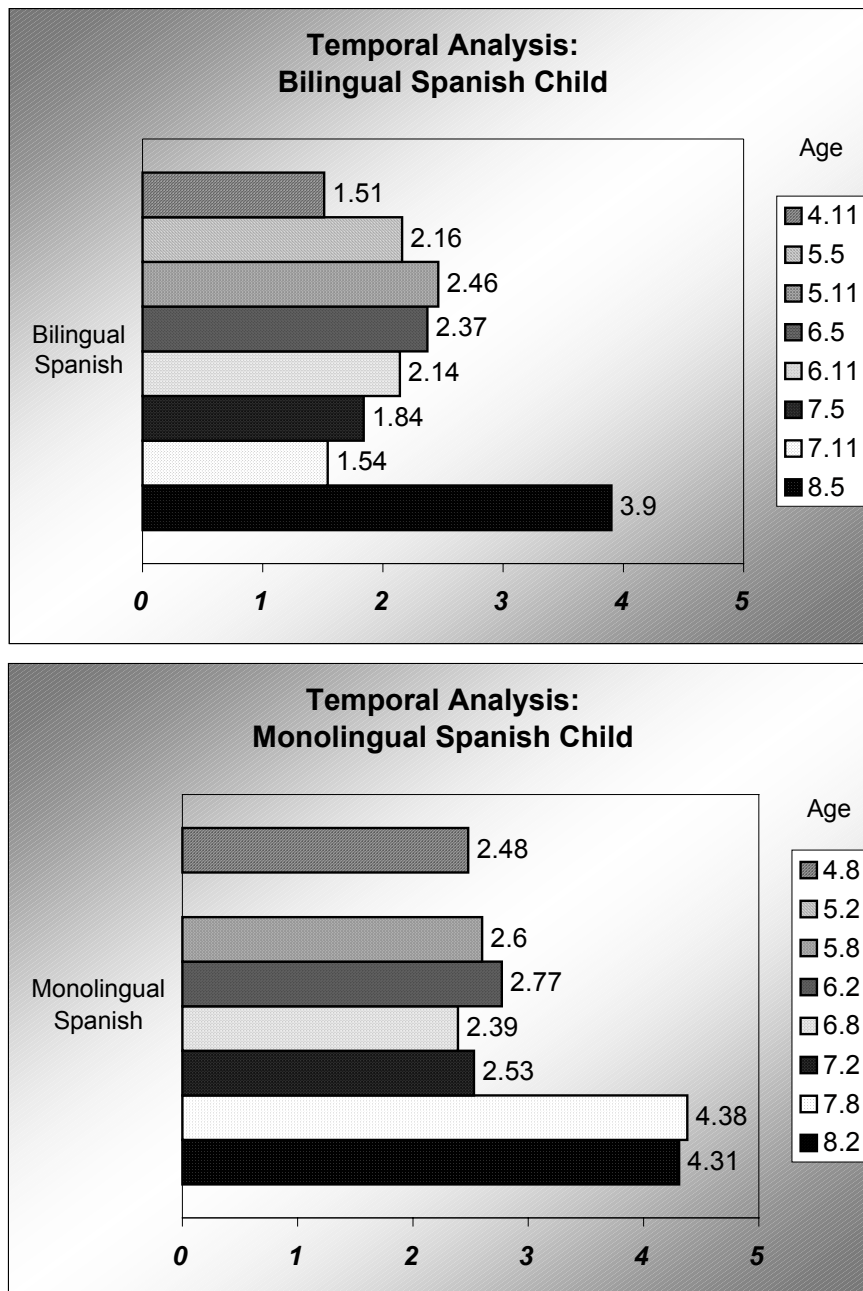
Bilingual child: –Yes, but we are not in fact, we are in Mexico.

Along with language acquisition, a child will learn to recognize the cultural value of a concept. Thus, bilingualism and biculturalism often develop simultaneously. This manifests semantically in the correct sociolinguistic usage of vocabulary. Moreover, Lambert (1980), along with several other studies, provides favorable results regarding the benefits of biculturalism in the cognitive development of the bilingual child. It is also noted that biculturalism does not have a negative effect on personal identity. The bilingual subject of this particular study functions in an environment where monolingual, native speakers speak both of her languages, which is perhaps the reason why her identification with both cultures is rather complete. She demonstrates complete integration in either socio-cultural environment where the linguistic requirements are identified with each particular group, and the varied cultural expectations are met according to what the circumstances demand.

11. Temporal analysis

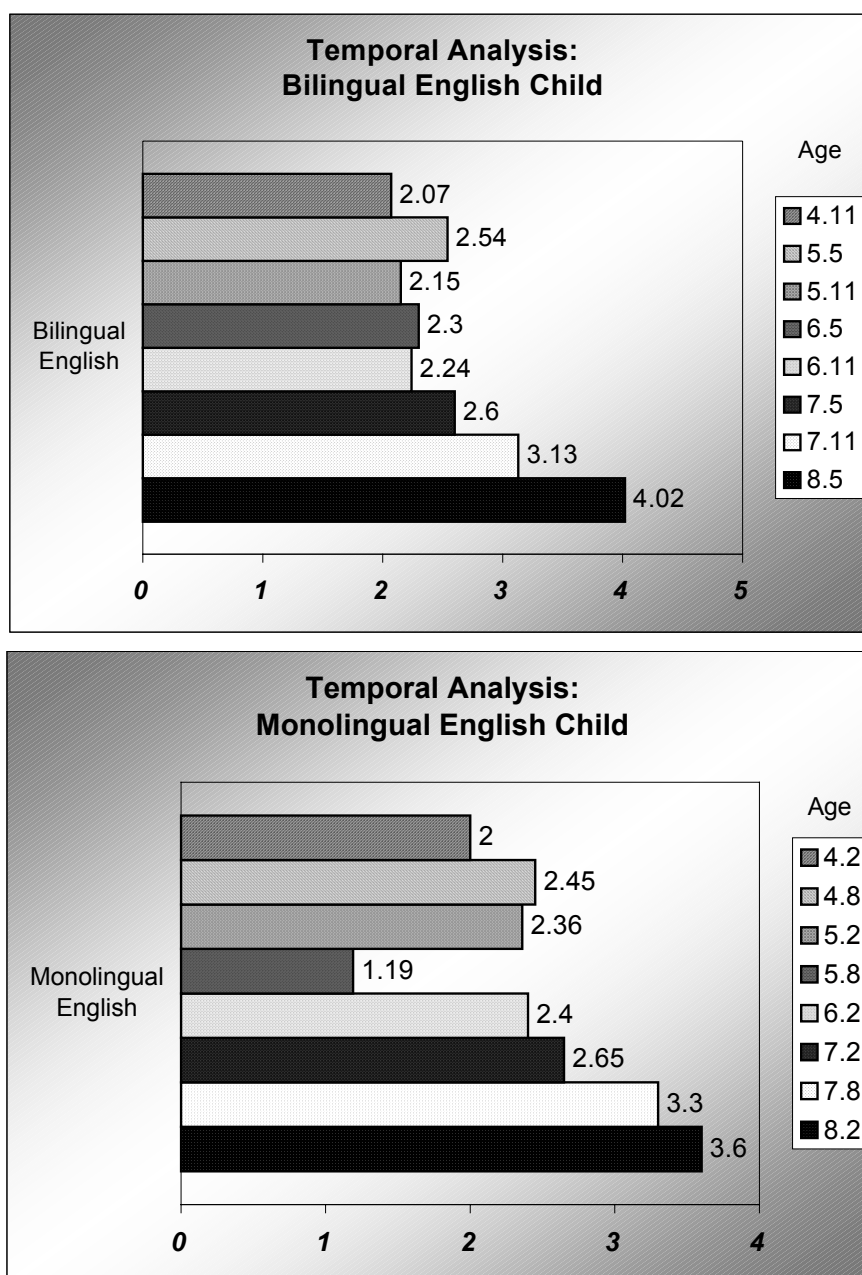
A temporal analysis included speech rate and the study of hesitation phenomena, such as parenthetical remarks, false starts, repeats, and silent and filled pauses. The speech rate observed was found to be within the range reported by other studies of young monolingual (English) children. O'Connell and associates (1976) report a mean of 2.15 syl/sec. for six year old monolingual English-speakers. A low score of 1.51 syl/sec. was recorded for the bilingual child in June in Spanish, prior to her summer-long stay in Mexico. After her three-month stay there, her speech rate went to 2.10 and then to 2.60 syl/sec in Spanish. Therefore, prolonged exposure to the language at this stage of development had a significant effect on her speech rate. An expected pattern of higher scores in chronologically later tests was found. It was noted, however, that speech rate scores and the hesitation phenomena used needed to be carefully interpreted since they can vary according to the complexity of the task being performed and the emotional state of the subject. Nevertheless, within each task, the speech rate measure was stable, mirroring the internalization of the Spanish language system in the bilingual child's performance. An analysis of vocal hesitations such as false starts, parenthetical remarks, and repeats provided evidence of commonalities in the use of hesitations in both languages. In contrast, filled pauses show language-specific use. Spanish speakers use "Este" (this), "Bueno" (good), and "Pues" (then), which are lexical items and therefore, by definition, parenthetical remarks, to perform the function of English "Uh" and "Mmm," which are the filled pauses for English. Spanish samples contain a large number of "Este" while English samples contain "Uh" and "Mmm," thus showing that the bilingual child acquired linguistic and paralinguistic skills in both languages.

Figure 7⁹



⁹ O'Connell, D.C., E. Sabin, E. Clemmer & S. Kowal (1976). *The development of temporal patterns in speech*. Louisville: Perspectives of Language Conference.

Figure 8¹⁰



¹⁰ O'Connell, D.C., E. Sabin, E. Clemmer & S. Kowal (1976). *The development of temporal patterns in speech*.

12. Conclusions

Evidence to support a theory of independent development of each language was found. Bergman's (1976) findings in her study of infant bilingualism, listed below, correlate well with the findings of this study: 1. Proficiency in either language is limited only to the extent in which the language is used in the child's environment; 2. Given an appropriate language environment, children can acquire two native languages in the same manner as they acquire one; 3. Each language is able to develop independently and follows the same pattern of acquisition in monolingual children. Even the occasional appearance of "mixed" language such as *"flushalo," *"que me bringaste," and *"you foom too much" provide evidence for this independent development, as the mixture of morphemes and words was done according to the rules of the language being used.

Furthermore, the auditory portion of this study confirmed the deactivation of speaking proficiency observed by Burt, Dulay & Hernández (1975), but the bilingual child's proficiency returned to previous levels within two to three weeks. Higher scores in auditory comprehension were observed after a prolonged stay in Mexico, although this effect diminished with time, possibly indicating an internalization of the weaker language. Not surprisingly, the study also showed an improvement in morphological development after an extended exposure to one language or the other. The bilingual child manifested a greater instability in certain structures of the non-dominant language, e.g., gender and mood selection. Additionally, morphemes appeared to be acquired in an irregular fashion and the over-regularization observed in other studies was confirmed here. The semantic analysis showed that items with less social and cultural connections presented a greater challenge to the bilingual child than items with greater sociocultural significance. This may be a semantic manifestation of the interlocking dynamics between bilingualism and biculturalism. Lastly, the temporal analysis showed an increase in the bilingual child's speech rate in Spanish after a prolonged stay in Mexico, paralleling linguistic development in other young, monolingual children.

Although not directly addressed in this study, maintenance of bilingual skills, once they are acquired, is a different, but related area. Different strategies can be used to develop

these skills. Nevertheless, the NEED to express oneself in more than one language seems to be the only way to maintain these skills, and it is probably more difficult for a child to become a true bilingual while living in a country in where only one language is dominant, even when the minority language is a high status language, unless the child belongs to a cohesive linguistic minority (Grosjean, 1982: 175-177). It is necessary to include all of these other factors in a discussion of bilingualism, because all research to date shows that bilingualism is more than only a linguistic process.

Examination of the ways in which young children use language in speech situations shows that the acquisition of bilingual skills not only adds a second dimension to the child's linguistic repertoire, but also multidimensionally increases the ability of the bilingual child to express him/herself and to choose the correct style and register in either language in any given speech situation. A further analysis of speech samples and a consideration of the different factors influencing cognitive development, especially in languages with greater differences than English and Spanish, are necessary for a more complete understanding of bilingualism.

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