

Critical Review: Does bilingualism slow language development in children?

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This critical review examines the effects of bilingualism on language development in children. Overall, the literature *suggests* that simultaneous bilingual children are not at a disadvantage for their language development and compare to monolingual peers. Unlike simultaneous bilinguals, sequential bilinguals may need additional time to have similar skills to their monolingual counterparts. On the whole, simultaneous or sequential bilingual children's dual language skills should be viewed positively and reinforced as much as possible.

Introduction

Canada is increasingly becoming a multilingual society according to language statistics from the 2001 Census of Canada. From 1996 to 2001, bilingualism increased 8.1% and is projected to continue to climb due to childbirth and immigration (Statistics Canada, 2001). People can acquire two languages in different ways; that is simultaneously or sequentially. The simultaneous bilingual child learns two languages within the first year after birth, developing two first languages. On the other hand, sequential or second language learners are children who begin to learn an additional language after 3 years of age, after acquiring the fundamental structures of the first language (Genesee, Paradis, & Crago, 2004).

Despite the fact that as many as half the world's children are expected to acquire two languages in the preschool years, almost all data that exist on language development in children come from monolingual speakers, in particular monolingual English speakers (Holm, Dodd, Stow, & Pert, 1999). It can be assumed that with this demographic shift, Speech-Language Pathologists will likely encounter bilingual speakers in need of their services. This can be problematic as a survey conducted by Campbell and Taylor discovered that the majority of Speech-Language Pathologists did not perceive themselves as competent to deliver speech and language services to bilingual speakers (Junker, Stockman, 2002). This reflects a significant gap in the knowledge base of Speech-Language Pathologists as there is limited data available to help clinicians evaluate young children acquiring more than one language.

It is imperative to explore language development in bilingual children, and to discern whether bilingualism is an impediment or advantage to language acquisition. This knowledge will allow parents and professionals to make informed choices about language use with bilingual children in the home and in school, and give Speech-Language

Pathologists the tools to assess and deliver treatment to bilingual children with confidence.

Objectives

The primary objective of this paper is to critically evaluate the existing literature that examines the affects of bilingualism on language development in children. The secondary objective is to determine an appropriate recommendation for clinicians in the practice of Speech-Language Pathology.

Methods

Search Strategy

The research articles were found using a computerized database search, including ProQuest and Medline. The following key terms and search strategies were used: (language development) AND (bilingual) AND (monolingual)

The search was limited to articles written in English between 1995 and 2007. Articles were also located using references of reputable articles.

Selection Criteria

The studies that were selected for this critical review paper examined the relationship between learning two languages and the affect on language development in children. No limits were set on the demographics of research participants or outcome measures.

Data Collection

Results of the literature search yielded the following types of articles congruent with the aforementioned selection criteria: five cohort studies, two single group designs (comparing to monolingual norms), and one quasi-experimental study.

Results

Five of the eight studies suggested similar language abilities among bilingual and monolingual children.

Goldstein and Washington (2001) investigated phonological patterns in 12 typically developing four year old *simultaneous* bilingual Spanish-English children. The authors used a phonological measure of bilingual latino single-word phonological assessment with separate versions for Spanish and English. The bilingual scores were compared to existing data on monolingual English-speaking and Spanish-speaking children. The results showed *similar* and *different* phonological patterns for bilingual children compared to monolingual children of either language, however the profiles were generally similar.

A major limitation of this study is the measurement tool not being standardized. Like the Paradis et al. (2003) study, the monolingual control group was from previously collected data, therefore specific information regarding the methodology of those studies was limited. Further, this study included 10 girls and 2 boys which could have altered the results, as the authors indicated that four-year old girls exhibited significantly higher total scores than did four-year old boys in a previous study.

Patterson (1998) used a Single Group Design to explore the size of 102 *simultaneous* bilingual children's expressive vocabulary at 21-27 months. An adapted version of the Language Development Survey (LDS) (Rescorla, 1989) was used to gather information about the children's vocabulary in both English and in Spanish. Counting the words from *both* languages, 45% of 21-22 month-olds, 81% of the 23-25 month-olds, and 100% of the 26-to-27 month-olds were using at least 50 words. Additionally, 53% of 21-22 month olds, 84% of 23-25 month olds and 100% of 26-27 month olds were combining words, indicating that the results from the bilingual participants were comparable to monolingual norms.

Although the results from Patterson (1998) seem comparable to monolingual norms, certain limitations to the study exist. First, parental education ranged from sixth grade to professional and doctoral degrees, reducing the homogeneity of the groups. Additionally, the children were exposed to English a minimum of eight hours per week and to Spanish eight hours per week which seems too vague to be considered true simultaneous bilingual speakers. Consequently only one parent's report was used regardless of whether or not the parent knew only Spanish, only English or both languages. This could have lead to an unreliable estimate of the child's true vocabulary as the monolingual parent will not be able

to report words in the child's other language. Moreover, comparisons of the number of words used by bilingual and monolingual children are not appropriate because the adapted version of the LDS used in this study is not equivalent to the English monolingual version.

Junker, & Stockman (2002) used a cohort study to examine whether *simultaneous* language learning at an early age slows down the language learning process for both languages. Ten German-English bilingual toddlers were compared to monolingual German and English speaking peers around 24 months of age using the Language Development Survey (Rescorla, 1989) and a German translated version (Junker, 2002). The bilingual children were required to have a minimum exposure of 20 hours per week in each language.

Junker, & Stockman (2002) found no significant differences between average conceptual vocabulary across groups when both languages were *pooled* ($p>0.05$). The *English-only vocabulary scores* of seven bilingual participants fell within one standard deviation from the mean of the monolingual English group, however, four bilingual subjects had English-only scores above the average. More importantly, the vocabulary size of all bilingual subjects was well above 50 words with emerging word combinations reported. This indicates that the bilingual children were adequately meeting the monolingual developmental milestones when their vocabulary was *pooled* for both languages.

Overall, this study was controlled and methodologically sound. Parents were required to have above-average educational levels and professional employment of at least one parent. The German translated Language Development Survey (Junker, 2002), although not equivalent to the English version, revealed a moderately significant correlation with the English version ($r=.64$ $p<0.05$) on the Spearman rank correlation coefficient. Unlike the Patterson (1998) study, this study required parents to have native competency in one language and native-like fluency in the other language to provide valid ratings of their child's language competency.

Oller, Eilers, Urbano, & Cobo-Lewis (1996) conducted a cohort study to determine if very early bilingual experience of infants, affects the onset of canonical babbling. Forty-four monolingual infants and 29 bilingual infants (0;4-1;6) were recorded at least monthly during their first year of life and semi-monthly in their 2nd year by the examiner. Parents were asked to call the laboratory staff on the first day they heard their infant produce canonical babbling repetitively. Upon the telephone call, a series of appointments were scheduled with the examiner to confirm the observations of the parent. The results

showed the onset of canonical babbling for monolingual and bilingual infants to be almost identical (30 full term monolingual 27.3 weeks, 20 full term bilingual 26.7 weeks, $p=0.67$).

Oller, et al (1996) controlled for socioeconomic status. Additionally, Oller, et al (1996) determined the bilingual infants to be bilingual based on a parental report of 'substantial' exposure to both languages from the infant's caretakers but other details are not available. Lastly, although the data collection was not standardized, the parental report of the onset of canonical babbling was highly concordant (71/73) with examiner observations.

Speech-Language Pathologists may be interested in how bilingualism plays a role in children with *Speech Language Impairment (SLI)*. Unlike the above studies, Paradis, Crago, Genesee, and Rice (2003) conducted a cohort study to evaluate whether bilingual children with SLI exhibited difficulties with morphosyntactic structures to the same extent as monolingual children with SLI in each language. Spontaneous language samples of eight *simultaneous* bilingual children with SLI with a mean age of 6;11 were compared to age-matched monolingual children with SLI. The results of the study showed bilingual and monolingual children with SLI to have similar mean accuracy scores for tense morphemes $p>0.05$.

The results of this study indicated that bilingual children did not exhibit more profound deficits in use of grammatical morphemes than monolingual peers; however these results should be interpreted with caution, as demographic variables of the children's parents were not controlled for, such as, SES and education which can confound the results. Moreover, a specific number of hours the children interacted in each language were not documented; however the authors did state that six out of the eight bilingual children had a "one-parent/one-language" philosophy. This type of language environment may have enhanced the scores of the six bilingual children and could have lead to erroneous conclusions regarding the bilingual children with SLI, if this language method was deemed beneficial.

Three of the eight studies suggested different language abilities among bilingual and monolingual children.

Cobo-Lewis, Pearson, Eilers, & Umbel (2002) used a quasi-experimental design to examine the comparative performance of monolingual English children and bilingual children on English standardized tests. Among the bilingual participants, 333 had English and Spanish spoken at home (ESH) constituting *simultaneous* bilinguals, and 371 had only Spanish spoken at home (OSH) making up the

sequential bilinguals. Eight Woodcock-Johnson subtests from the Woodcock-Johnson Psycho-Educational Battery-Revised (Jaffe & Mather, 1996) and the Peabody Picture Vocabulary Test-Revised (PPVT) (Dunn & Dunn, 1981) were selected to evaluate oral language, reading, and writing skills. The bilingual participants were administered Spanish and English versions of these tests and the results were compared to the 248 monolingual participants scores on the English version.

Cobo-Lewis et al. (2002) found the main effect of lingualism to be significant, favouring the monolinguals. Eight out of the nine standardized tests demonstrated significant differences between monolinguals and bilinguals ($p<0.01$). Oral language tests showed the largest lingualism effects, writing tests showed moderate lingualism effects, and reading tests showed somewhat smaller effects. Additionally, the main effect of language spoken at home was significant. Bilinguals who had ESH significantly outperformed those with OSH in tests of oral language. Additionally, although not all tests for reading and writing showed significant results, the mean standard scores for bilinguals with ESH were greater than bilinguals with OSH on these tests. The significant differences in test scores between bilinguals and monolinguals, and language spoken at home, were large in Kindergarten but diminished by fifth grade. While the gap between monolinguals and bilinguals narrowed across grade, bilinguals tended to lag behind monolingual peers even at fifth grade on most tests, although not significantly.

Importantly, this study utilized the Woodcock-Johnson and the PPVT which have normed versions in both English and Spanish, however, their reference population is monolingual children. The different reference population could have shown bilinguals to be lagging behind monolingual counterparts unjustly. Additionally, many factors were controlled such as; SES, instructional method in school, language spoken at home, and language of peer interaction.

Bland-Stewart, & Fitzgerald (2001) conducted a single group design study to examine if, two, three, four and five year old *sequential* bilingual Hispanic children used Brown's 14 grammatical morphemes, and if the sequence of acquisition is similar to that of published normative data for children acquiring Standard American English. Nine girls and six boys ages 2;6 to 5;0 attending a bilingual but primarily English speaking day care were engaged in 30 minute play sessions to record and transcribe a spontaneous language sample. Results showed emergent use of Brown's Morphemes but mastery was not seen at the same ages as those expected for Standard American English speakers. Mastery was met for the morpheme '-ing' for all participants, and the plural

's' was met by the highest MLU group, that of MLU 4-4.4. Although, mastery was not met for any other morpheme, emergence was present for most.

Although results of Bland-Stewart & Fitzgerald's (2001) study revealed bilingual Hispanic children to be lagging their monolingual peers, it is important to note that these bilingual children were *sequential* bilinguals who had been in the United States no more than a year, living with parents who spoke primarily Spanish in the home. Further, all the children came from low SES backgrounds which creates homogeneity among the group, however contributes to lack of generalizability to other sequential bilingual children.

Holm, Dodd, Stow, & Pert (1999) conducted a single group design to discover if *sequential* bilingual children acquire phonology in the same way, following the same developmental stages, as monolingual children for each of their languages. Thirty-five, 4;8-7;5 year old bilingual Mirpu/Punjabi/Urdu children were primarily monolingual until they started school at four years old. They were individually tested in their native language using the Rochdale Assessment of Mirpuri Phonology (RAMP) (Holm et al., 1999) and in English using the South Tyneside Assessment of Phonology (STAP) (Armstrong & Ainley, 1988).

Results from this study indicated that phonological processes may have been present in one language but not always in the other. Additionally, phonological processes common to the two languages are not always applied in the same way. Moreover, some of the phonological processes used by the bilingual children would have been considered atypical for monolingual English-speaking children.

A major limitation to this study is the lack of knowledge regarding the reliability and validity of the RAMP (Holm et al., 1999) and the STAP (Armstrong & Ainley, 1988). Also, although certain phonological errors are considered atypical for monolingual speakers, the interference of the voicing and aspiration errors are common when a person is learning a new language (Shiple, & McAfee, 2004).

Conclusion

The important question regarding bilingualism and its affect on language development has been carefully scrutinized through a critical review of the literature surrounding this topic.

Although three of the nine studies reported that bilingual children were different from their monolingual peers, these studies all included sequential bilingual language users. Bland-Stewart & Fitzgerald's (2001) and Holm, et al (1999) concluded that bilingual children are at a disadvantage for

language development, however their study participants were sequential bilinguals. Research has shown that it may take two to five years for a sequential bilingual child to perform like a native speaker in their second language (Paradis, Saad, Coursen, 2007). This "catch up" is also apparent in the Cobo-Lewis et al. (2002) study, where the bilingual sequential and simultaneous language learners became more similar to their monolingual peers by fifth grade. The gap has been speculated to narrow as the sequential bilingual children gained more experience with English as they progressed through school (Cobo-Lewis et al. (2002). Cobo-Lewis (2002) also used standardized tests with a monolingual reference population which could have led to erroneous conclusions regarding the development of bilingual children.

Moreover, all five studies with simultaneous bilingual children suggested that they were developing language similarly to their monolingual counterparts. Despite the limitations of each article, 100% consensus was achieved among all the authors with simultaneous bilingual language users as their study participants, a factor difficult to ignore. Importantly, the bilingual children were equivalent to monolingual peers when assessing vocabulary, only when their lexicon was pooled for both languages. The bilingual children's lexicon was not equivalent to monolinguals when compared to their English vocabulary only.

Overall, the literature collected on the affects of bilingualism on language development suggests that simultaneous bilingual children are not at a disadvantage for their language development and compare to monolingual peers. Unlike simultaneous bilinguals, sequential bilinguals may need additional time to have similar skills to their monolingual counterparts. On the whole, simultaneous or sequential bilingual children's dual language skills should be viewed positively and reinforced as much as possible.

Clinical Implications:

The aforementioned results and conclusions have important clinical implications for Speech-Language Pathologists. First, Speech-Language Pathologists can inform parents, that research suggests that simultaneous bilingualism does not put their child at a disadvantage. However, it will be important to mention that sequential bilinguals may trail behind their monolingual peers until later grades in school. Additionally, although it is suggested that simultaneous bilingualism does not put children at a disadvantage for language acquisition, it is important to note that individual differences exist.

Further, the fact that bilingual children's lexicon was not equivalent to monolinguals when compared to their English vocabulary only, has significant clinical consequences. Since most bilingual children in Canada are still receiving education in the majority language, low skills in English would still put the child at a disadvantage for academics.

In terms of assessment and treatment of speech and language disorders, it is essential that Speech-Language Pathologists are aware that simultaneous bilingual children with a speech-language impairment experience difficulties in both languages and assessment of both languages is recommended (Genese et al., 2004). Certain simultaneous bilinguals are likely to have a dominant language and it is important not to mistake dominance in one language as a disorder in the other language (Genese et al., 2004). If, however, it is not possible to carry out the diagnosis in both languages, assessment should be done in the child's dominant language (Genese et al., 2004).

Some standardized tests exist in other languages, however it is important to note that there are no standardized tests whose norms are based on bilingual children (Genese et al., 2004). Therefore, at certain ages and on particular subtests, simultaneous bilinguals may test slightly below the monolingual norms even if they do not have a language disorder (Genese et al., 2004). Also, it is very important that professionals and parents do not translate standardized measures as the norms will not apply to any translated adaptation (Genese et al., 2004). Since there is a lack of standardized tests for bilinguals, informal group referencing is often encouraged and preferred over referencing to native-speaking age-peers only (Paradis, Saad, Coursen, 2007).

If the Speech-Language Pathologist is not fluent in the child's two languages, collaborators such as other bilingual professionals, community liaison workers or parents can be recruited who know the child's language and cultures so they can assist in getting a complete and accurate picture of the child.

Contrary to the simultaneous language learner, sequential bilingual children should be diagnosed with a language impairment using their first language only. Additionally, since they often take time to match their monolingual peers' language skills, sequential bilingual's assessment should be viewed as ongoing (Genese et al., 2004)

For further information on assessment and intervention considerations for the simultaneous bilinguals and second language learners please refer to the Genese et al. (2004) reference, *Dual Language Development and Disorders: A Handbook on Bilingualism and Second Language Learning*.

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