

INFLUENCE OF BILINGUALISM ON THE ACADEMIC PERFORMANCE OF HEARING IMPAIRED STUDENTS IN CROSS RIVER STATE, NIGERIA.

¹Eyong, Emmanuel Ikpi

Department of Education Foundations Guidance and Counselling
University of Calabar,
Calabar

²Arikpo, Ikpi Abam

Department of Geography,
School of Environmental Science,
Federal University of Technology Yola,
Adamawa State.

³Inyango, Martina Ongbonya

Department of Vocational and Special Education
University of Calabar,
Calabar.

Abstract

This study was conducted to find out the influence of bilingualism on the academic performance of hearing impaired students in Cross River State. The study utilises the ex-post facto research design using a questionnaire titled bilingualism and academic performance of hearing impaired students (BAHIS) consisting of subscale of individual personal data and structured questions on students first language, second language and first and second language on academic performance of hearing impaired students. A pilot testing was conducted to establish the reliability of the research instrument using test retest reliability estimate. The stratified and simple random sampling technique was used in selecting the schools and the sample. Validated questionnaire was later administered on the sample size of 400. The mean (\bar{X}), the standard deviation (SD) was used to answer the descriptive statistics while the independent t - test was used to analyse the stated null hypothesis. Three research questions and hypothesis were formulated and tested at 0.05 level of significance. The findings reveals that bilingual students learn earlier than their monolingual counterparts based on their understanding that objects and their names are not the same and that one object can have more than one name based on this findings, however, it was concluded that Bilingual students are often wrongly assessed as having hearing difficulties, because basic mistakes are made in assessment and categorizations as bilingual students learn earlier than their monolingual counterparts. Possible recommendations on handling bilingualism on the academic performance of hearing impaired students in Cross River State were offered.

Key word: bilingualism, academic performance, hearing impaired, student.

Introduction

The role of language in the hearing process has pose some important questions about the nature of bilingualism and impact of bilingual or second language instructional settings on the academic performance of the impaired students abilities. There is surprisingly little systematic research on these issues. The term according to Rueda (2009) bilingual refers to individuals who can function in more than one language. The category of bilinguals is very broad encompassing individuals who are sophisticated speakers, readers, and writers of two or more languages, as well as those who use a limited knowledge of a second language (L2) for purposes such as work or schooling, and who may be literate in only one language (or even completely illiterate). Because of the consequences of colonization, migration, nation-formation, traditions of exogamy, and modernization, some degree of bilingualism is typical of most people in the world.

Bilingualism is a feature not just of individuals, but also of societies. Societies in which two languages are used regularly, or in which more than one language has official status or a recurrent functions, can be called bilingual. For example, Canada is a bilingual country because French and English are both official languages, even though many citizens of Canada are monolingual English speakers.

Bialistok, (2001) bilingualism is often the product of second language (L2) hearing after the first language (L1) has been acquired either through no tutored exposure or through instruction. Individuals can become bilingual at any age, depending on when the need to learn the L2 emerges or when instruction becomes available. In some cases, though, bilingualism is a characteristic of a students' earliest language system. For example, students growing up in bilingual households where both parents speak two languages regularly, or where each parent speaks a different language are typically bilingual from the very beginning of language acquisition. Students growing up with parents who speak a minority language (within the larger societal context) may also be natively bilingual. English as a second language (ESL) refers to the process of producing bilinguals by teaching English as an L2 to learners in an English-speaking context.

Statement of the problems

There has been much discussion of the consequences of early bilingualism. Historically, early bilingualism was seen as dangerous, leading to confusion and exacerbating language disorders and language delay. Research has made it clear that early bilingualism may well bring cognitive advantages, particularly in domains such as helping students understand the arbitrary nature of language systems and literacy systems. Nonetheless, such advantages are also small few months' precocity on tasks that monolingual students also typically come to accomplish without difficulty.

Purpose of the Study:

The general purpose of this study was to find out the influence of Bilingualism on the academic performance of hearing impaired students in Cross River State

Specifically, this study intends to:

1. To ascertain the influence of first language on the academic performance of hearing impaired students.
2. Find out if there is any significant influence of the second language on the academic performance of hearing impaired students.
3. To ascertain whether there is any significant influence of first and second language on the academic performance of hearing impaired students.

Research Questions

- 1 To what extent does proficiency in the first language influence academic performance of hearing impaired students?
2. To what extent does proficiency in the second language influence academic performance of hearing impaired students?
3. Is there any significant influence of first and second language influence academic performance of hearing impaired students?.

Research Hypothesis

The following null hypothesis were therefore postulated for this study which was tested at 0.05 level of significance.

1. There is no significant influence of proficiency of first language on the academic performance of hearing impaired students.
2. There is no significant influence in the proficiency of second language on the academic performance of hearing impaired students.
3. There is no significant influence of first and second language on the academic performance of hearing impaired students.

Significances of the study

This study is of utmost significance to students in that they will be able to understand the essence of bilingual education as it will provide the greatest support for bilingual learners in the development of their first and second language. It is important that new input is connected to the learner's previous knowledge, including linguistic, conceptual and learned knowledge.

Parents on their own should encourage their students on the need of bilingualism to be given an opportunity to develop if there is to be a long-term positive impact. Bilingualism brings with it many positive attributes that can enable learners' linguistic and academic development.

Teachers should also understand that learner's first or home language plays a significant role in the hearing of the additional language in terms of cognitive, linguistic and socio-cultural influences.

Counselors, curriculum planners and the society at large should understand that bilingual education can be very beneficial in the development of the second language this is because, Hearing a language and becoming bilingual is also about hearing and living in different societies and cultures. It is not just about acquiring a new language, but also about understanding another culture and developing another identity.

Development of English Language on the Learners impaired students

The central role of language in the emergence of hearing impaired students has raised important questions about the nature of language/ hearing development among bilingual students, and about the impact of bilingual or second language instructional settings on students emerging literacy-related abilities. There is surprisingly little systematic research on these issues (Sheng, McGregor & Marian 2006). It is known, however, that monolingual speaking students show wide variation in both their first and second language hearing. Since students abilities in both of these areas have been shown to independently predict English reading performance in middle school, both must be considered critical to students' future academic success. Sommers and Danielson (1999) informed that there is also considerable evidence that many key literacy-related skills, including phonological awareness, print concepts, decoding skills, and extended discourse, are transferable from an L1 to an L2. Low-income ELLs, like other students of low socioeconomic status, tend to begin school with relatively few literacy-related skills in general, and they may have vocabularies in each of their two languages that are more restricted even than those of their low-income, monolingual peers—possibly because they have had fewer resources and opportunities to acquire at home the language and literacy skills that have been linked to school success.

English as a Language of Instruction Studies

Diaz (1983) informed that one critical question is how instruction is linguistically organized in bilingual or second language. Non-English-speaking or bilingual preschool students in the Nigeria typically find themselves in one of three types of classroom language settings: first-language classrooms in which all interaction occurs in the students primary language; bilingual classrooms in which interaction is split between the primary language and English; and English-language classrooms in which English is the exclusive language of communication. Studies of the education offered to L2 learners tend to focus on language use, rather than on the quality of students hearing opportunities. These studies, nevertheless, converge on two important sets of findings. Schrauf (2008) First, studies that have compared preschool program types by language have found certain academic and linguistic advantages for students in bilingual, as opposed to English-only, classrooms at the pre-school level. Cohen-Mansfield, (2008) informed that second, studies that have explored the language proficiencies of students who attended preschool versus those who stayed home have found that the main effect of preschool attendance, even in bilingual programs, is improved English proficiency. There is contradictory evidence, however, as to whether acquiring English in pre-school necessarily endangers students home language development. Kan and Kohnert (2008) systematic studies focused on investigating the predictors of Bilingualism were launched in 2000, when the National Institute of Students Health and Human Development (NICHD) and the Office of Educational Research and Improvement (OERI) initiated collaborative funding focused on bilingual reading. Questions about both the design and quality of schooling for Bilingualism are of practical as well as theoretical importance, especially since the majority of Bilingualism preschoolers and school-age students in the Nigeria find themselves in predominantly English-language classroom settings. Expressing concern for the additional risk that such settings may pose.

Influence of first language on the academic performance of hearing impaired students

Blumenfeld and Marian, (2007) Bilingualism is a feature not just of individuals, but also of societies. Societies in which two languages are used regularly, or in which more than one

language has official status or a recurrent functions, can be called bilingual. For example, Canada is a bilingual country because French and English are both official languages, even though many citizens of Canada are monolingual English speakers. Saudi Arabia is also a bilingual society, as most Saudis speak both Arabic and English, though English has no official status. The nature of individual bilingualism is quite different in different communities, there are those where bilingualism is the norm for all educated citizens (as it is, for example, in relatively small language communities like Nigeria, those where bilingualism is the norm for the minority language speakers but not those with the greatest political or economic power in the society (e.g., for Quechua speakers in Peru, for Turkish speakers in the Netherlands, for Spanish speakers in the United States); and those where bilingualism is the norm for the upper classes and better educated but not the relatively powerless (e.g., Colombia). Indefrey (2006). It must be noted that in Nigeria, United State and other traditionally English-speaking countries observe a norm of monolinguals (low expectations for second/foreign language proficiency, low value placed on immigrant languages, universal emphasis on the need to speak English) that is possible only for speakers of a 'language of wider communication' living in an economy that is globally highly influential. Hashimoto, McGregor & Graham (2007) Bilingualism is often the product of second language (L2) hearing after the first language (L1) has been acquired either through no tutored exposure or through instruction. Individuals can become bilingual at any age, depending on when the need to learn the L2 emerges or when instruction becomes available. In some cases, though, bilingualism is a characteristic of a students' earliest language system. For example, students growing up in bilingual households, where both parents speak two languages regularly, or where each parent speaks a different language are typically bilingual from the very beginning of language acquisition. Students growing up with parents who speak a minority language (within the larger societal context) may also be natively bilingual, if visitors, neighbors, television, regular caretakers, and other sources make the majority language available.

Influence of Second Language on the Academic Performance of hearing Impaired Students

Cook (1997). English as a second language (ESL) refers to the process of producing bilinguals by teaching English as an L2 to learners in an English-speaking context. ESL is distinguished from English as a foreign language (EFL), which is instruction delivered in a context where English is not used regularly outside the classroom, using the instructional techniques and the intensity of instruction required to achieve success. The term English for speakers of other languages (ESOL) is meant to encompass both English as a second language (ESL) and English as a first language (EFL). Given the importance of English in the modern, globalized economy, English for speakers of other languages (ESOL) is a large field of practice buttressed by considerable bodies of research and many curricular resources. Bilingual programs range from those that use the native language briefly (and primarily for emotional support), to programs that seek to develop L1 literacy as a source of transfer to English literacy, to those that continue to teach L1 oral and literacy skills at least through the elementary schools. Some districts also offer two-way bilingual, or double immersion programs, in which half the students are L1 speakers of English and half are L1 speakers of another language, and instruction is given to all students in both languages, with the goal of producing high-level bilinguals from both English-and other-language backgrounds. Blumenfeld and Marian (2009) Bilingual education programs, which were first supported by federal funding as a result of the Federal Bilingual Education Act of 1968, are offered in districts where sufficient numbers of students from a single L1 background exist; such programs came under attack as ineffective in 1998 in California, where they were severely curtailed as a result of ballot proposition 227. Since then, political

action to eliminate the bilingual schooling option has spread to other states. The difficulty of carrying out well-designed evaluations of bilingual education has frustrated its supporters because there is, as a result, no unambiguous demonstration that bilingual education generates achievement advantages. Nonetheless, both theory and meta-analyses suggest that bilingual education is the best approach to ensuring educational achievement and reducing the risk of reading failure for many language-minority students.

The Bilingual Learner and their hearing impaired

As students learn language they also learn through language about relationships and social structures. They begin to learn about the culture into which they are born. It is through language, in the everyday interactions with the family, peers and school, that culture is transmitted to the students. In this context the learner's sense of identity develops and language is central to this process. However, what happens when that culture is overlaid with other cultural influences, as happens in larger urban areas where diverse populations mix and change? From the historical perspective, a bilingual learner could be defined in terms of the cultures in which he or she functions, with the home language and culture playing a significant role in his or her life.

Baker and Jones (1998) a large numbers of ethnic minority pupils in Nigeria schools have spent a significant proportion of their lives in Britain and use everyday colloquial English with ease. Many of these pupils may have reached a stage where they do not seem able to make further progress in English. Current systems in education continue to identify such pupils as one-dimensional bilinguals speaking a minority language at home whilst hearing English at school. These concepts may be little help for teachers in developing adequate teaching approaches and strategies. Diaz (1985) argues that we should rethink the 'romantic' notion of bilingualism and take a more realistic look at what we call 'bilingual learners' in face of the multilingual and multiethnic youth who inhabit a world where language, culture and ethnicity are fluid and change from generation to generation. His interviews with pupils about their language use reveal a complex linguistic and cultural picture of these bilingual and plurilingual pupils:

Bilingual Language Acquisition and their hearing impaired

Blumenfeld and Marian (2009). In the same way as students learn their first language, sequential bilingual learners must also learn how to use their newly acquired language accurately and appropriately. Although the process of language hearing may be similar, there are also differences. For example, bilingual learners address the process of hearing another language already possessing knowledge of a linguistic system, its structures and rules. In addition, sequential bilingual learners start hearing their second language at different ages, rather than from birth, and will be able to use different hearing strategies.

Comalli, Wapner and Werner (1962) second language development would appear to proceed in an orderly fashion. Researchers have discovered that there is a fairly common sequence of acquisition for second language learners across a range of languages and contexts. What is not known is exactly what aspects of the second language are learned in what sequence. However it is known that some aspects are learned when there is a perceived need by the learner and some items can be learned in no particular sequence. Other research has suggested that there is a developmental sequence which precludes the early hearing of certain items. Second language learners will demonstrate some of the stages of first language development. For example, they

may go through a period when a rule is generalized to all instances. However, the rate of acquisition and the level of proficiency achieved in second language hearing will depend upon the individual learner.

Diaz (1983) the popular belief that younger students have an advantage over adults in developing bilingually is not necessarily true. Early acquisition of the speech sound system of a language may result in a native-like pronunciation and the impression of fluency, but older learners may have an advantage in terms of increased metalinguistic awareness that enables them to learn the new language more quickly. For the young students, bilingual development is taking place alongside conceptual development and hearing about the world. For older learners who have greater knowledge and understanding, it is the hearing of new labels for objects, ideas and concepts already known.

As they learn the new language, second language learners incorporate the new linguistic input into their existing model of the language. There are many aspects of language that are common. For example all languages have ways of denoting time, of indicating actions and actors. Languages do this with different vocabularies and often with different grammars, but all languages are rule-governed. Diaz (1985) part of the process of language acquisition involves the discovery and application of these rules. 'Interlanguage' is the term used to describe the language that learners produce as they learn the second language. It is also used to describe the evolving development of the learner's knowledge and use of the second language as they become increasingly proficient. It will change as the learner learns more and incorporates new linguistic knowledge into existing knowledge. Error analysis appears to suggest that the majority of interlingual errors are developmental and a sign of progress.

Blumenfeld, Schroeder, Ali and Marian (2009) learners and their hearing strategies will change over time. A five year old will have a different language hearing profile and language hearing strategies than a fifteen year old. For bilingual learners, their first language knowledge will be helpful in the acquisition of the second language. The extent of this help will be dependent upon their proficiency in their first language, their age and other factors.

METHODOLOGY

Research design

The research design adopted for this study was an experimental research design. The aim was to determine the extent to which a number of variables influenced the dependent hearing impaired students.

Area of study

The research area was Calabar Municipality according (Akpan 1998). Calabar Municipality is the Capital of Cross River State in Nigeria, and one of the Local Government Area in the state. The surface area of the Municipality is about 1700 square kilometers.

Calabar municipality is located on latitude $40^{\circ} 55^{\circ}$ north and longitude $80^{\circ} 21^{\circ}$ east along the costal plan of Nigeria bordering the gulf guinea which makes a concave curvation (inland) to the immediate south of the Municipality. Furthermore, in the north of the municipality there exist a myriad of inter-turning streams and rivers which account for Calabar environs being referred to as "Island" (Akpan 1998). The peninsular of Calabar is moderately undulating with land

descending rather abruptly to Calabar River at the Western boundary while the slope is gradually towards the Kwa (Qua) River to the east.

Calabar Municipality is located in the north by Akamkpa on the south by the estuary of the Cross River that flows into the bright of Biafra on the east by Akpabuyo Local Government and in the west by Odukpani (Geography Department University of Calabar 1988) due to its unique/coastal location. Calabar municipality is affected by weather system and within the tropical rain forest climatic conditions.

Population of study

The population of the study comprised of all Junior Secondary Three (JSS 3) students in the 15 fifteen Secondary Schools in Cross River State A total of 4000 JSS 3 students made up the targeted population for the study.

Sample and sampling technique

The 400 subjects of this study were drawn from the targeted population of 4000 JSS 3 students. The breakdown of the figure on students sampled from the 7 selected secondary schools in Calabar Municipality was as presented in table 1.

From the targeted population of 4000 Junior Secondary three students. 10 (10%) percent of the total population, which is 400 subjects, was randomly sampled. Simple random and systematic sampling technique was adopted for the study.

The simple random and systematic sampling technique was used to draw the 400 students from the population where the systematic sampling technique was used to draw the number of schools selected for the study; the simple random sampling was used to select a total of 400 students from the different schools.

Data analysis procedure

The data collected were subjected to descriptive statistics using mean (\bar{x}) standard deviation (SD) in order to answer the research question while the independent t- test (t) was used to answer the null hypothesis at 0.05 level of significance sequence for easy analysis.

DISCUSSIONS OF FINDINGS

Under this chapter the following sub headings shall be exhaustively discussed; data analysis and results, discussions of the findings and summary of the findings.

Data Analysis and Results

Table 1.1

**Summary of t-test analysis of first language on the academic performance
of the hearing impaired students**

Variables	N	DF	X̄	SD	t- cal
First Language	230	398	23.04	3.12	1.90
Academic Performance	170		23.78	1.70	
TOATAL	400		46.82	4.82	

Significant at .05 df 398 critical t value =1.96

From the table above, it can be discerned that the total number of cases for first language was 230 and for academic performance was 170 respectively. Their mean score of 23.04 and 23.78 with a standard deviation of 3.12 and 1.70. A calculated t value of 1.90 under 398 degrees of freedom at 0.05 with a table t- value of 1.96. Since the calculated value of (1.90) is less than the critical value of (1.96) the null hypothesis that states There is no significant influence in the proficiency of first language on academic performance of hearing impaired students is accepted.

Table 1.2

Summary of t-test analysis of second language on the academic performance of the hearing impaired students

Variables	N	DF	X̄	SD	t- cal
Second Language	230	398	18.26	5.24	1.94
Academic Performance	170		15.74	3.91	
TOTAL	400		34.00	9.15	

Significant at .05 df 398 critical t value =1.94

From the table above, it can be discerned that the total number of cases for second language was 230 and for academic performance was 170 respectively. Their mean score of 18.26 and 15.74 with a standard deviation of 5.24 and 3.91. A calculated t value of 1.94 under 398 degrees of freedom at 0.05 with a table t- value of 1.96. Since the calculated value of (1.94) is less than the critical value of (1.96) the null hypothesis that states “There is no significant influence in the proficiency of second language on academic performance of hearing impaired students is accepted.

Table 1.3

Summary of t-test analysis of First and Second language on the Academic Performance of the hearing impaired students

Variables	N	DF	X̄	SD	t- cal
First & Second Language	230	398	16.22	5.22	1.99
Academic Performance	170		23.30	1.56	
TOTAL	400		39.52	6.78	

*Significant at .05 df 398 critical t value =1.96

From the table above, it can be discerned that the total number of cases for second language was 230 and for academic performance was 170 respectively. Their mean score of 16.22 and 23.30 with a standard deviation of 5.22 and 1.56 a calculated t value of 1.99 under 398 degrees of freedom at 0.05 with a table t- value of 1.96. Since the calculated value of (1.99) is greater than the critical value of (1.96) the null hypothesis that states "There is no significant influence of first and second language on academic performance of hearing impaired students is rejected in favour of the alternate hypothesis. It therefore means that first and second language significantly influences academic performance of hearing impaired students.

Discussions of the Findings

From the findings of this study, it is known, however, that bilingual speaking students show wide variation in both their first and second language hearing. Since students abilities in both of these areas have been shown to independently predict English reading performance in middle school, both must be considered critical to Students future academic success. (Sheng, 2006). The influence of bilingualism on the academic performance of hearing impaired students in Calabar municipality has a positive impact on language development and which is associated with delays in lexical acquisition. Hearing impaired students academic performance of bilingual can be attributed to a somewhat different language development pattern. Hearing impaired learners who are bilingual learn earlier than their monolingual counterparts especially those that understand how to demonstrate with signs and language can have more than one name in representing an object or events. Understanding the language of hearing impaired is a symbolic reference system which is advantageous this is in consonance with Edem (2011). Comparisons of students' academic performance in the first and second language indicate that performance in one language, even the dominant language, is not an accurate reflection of the students' level of development. Instead, assessment is most accurate with "best performance" measures that assess the highest level of development attained by a bilingual students across both languages. Therefore, whenever possible, "best performance" measures across the two languages should be the technique of choice during bilingual assessments. Zied, Phillipe and Karine (2004) Most school districts and speech-language pathology clinics lack the bilingual staff and financial resources required to train and equipped bilingual students on the course of their choice. McGregor (2004) Monolingual English-speaking students with language impairment exhibit a significant deficit in the use of both taxonomic and thematic relations in comparison to typically developing peers. He also noted that Investigations of bilingual students with hearing impairment will provide insights regarding the interactions among bilingualism this findings indicate that knowledge of two languages may shield bilinguals students from native-language interference during novel word-hearing. It appears that word-hearing performance in bilingual students may be less contingent on latent vocabulary knowledge than in monolingual students (Kan & Kohnert, 2008; Wilkinson & Mazzitelli, 2003). However, studies that contrast word hearing in simultaneous bilingual students (exposed to two languages from birth), sequential bilingual students, and monolingual students are necessary to identify the timeline and the mechanisms that underlie the development of the bilingual advantage for word hearing. The finding that bilingualism facilitates word-hearing performance has implications for the use of word-hearing tasks to index language function in bilingual clients.

Summary of the finding

Monolinguals' ability to learn new words depends on whether they learn new words silently or out loud. Conversely, bilinguals' performance does not depend on any particular hearing strategy, and they can acquire new words efficiently under any hearing conditions. Bilingualism facilitates word-hearing performance in students, although the precise mechanisms of this advantage remain unknown. Whether similar word-hearing advantages can be observed in students with hearing impairment is still under investigation. Bilinguals with hearing impaired perform at higher rates than typically developing monolinguals. Investigations into the neural manifestations of bilingualism have included functional comparisons of a variety of linguistic and non-linguistic domains.

Conclusion

An individual's second language hearing cannot be understood without simultaneous attention to the larger socio cultural framework within which hearing a second language is occurring. Certainly there are cognitive challenges associated with L2 acquisition hearing new phonological, grammatical, semantic, and interactional rules are hard. But the cognitive challenge associated with. Bilingual is often the product of second language hearing after the first language has been acquired either through no tutored exposure or through instruction becomes available. In some cases, though bilingualism is a characteristic of a student's earliest languages regularly, or where each parent speaks a different language are typically bilingual from the very beginning of language acquisition.

Based on the findings the following conclusions were drawn:

- Bilingual students are often wrongly assessed as having hearing difficulties, because basic mistakes are made in assessment and categorizations as bilingual students learn earlier than their monolingual counterparts.
- The process of producing bilinguals by teaching English as an L2 to learners in an English-speaking context. ESL is distinguished from English as a foreign language (EFL), which is instruction delivered in a context where English is not used regularly outside the classroom, using the instructional techniques and the intensity of instruction required to achieve success. It was concluded that the major positive consequence of bilingualism is knowing two languages and thus being able to converse with a larger array of individuals, as well as having access to two cultures, two bodies of literature. This study also concludes that bilinguals perform at higher rates than typically developing monolinguals.

Recommendation

Based on the findings the following recommendations were drawn:

1. Schools should encourage early acquisition of the speech sound system of a language which may result in a native-like pronunciation and the impression of fluency.
2. Teachers should develop adequate teaching approaches and strategies this is because the with adequate strategy the students will be able to comprehend and understand the role of bilingualism and its influence on academic performance of hearing impaired students.
3. Curriculum planners should consider the effect of students hearing first and second language together on the academic performance of hearing impaired students.

REFERENCES

- Akpan, (1998). Non-availability of instructional research. University of Calabar, Unpublished Thesis.
- Baker, C., and Jones, S. (1998). *Encyclopedia of Bilingualism and Bilingual Education*. Clevedon, UK: Multilingual Matters Ltd.
- Bialistok, E. (2001). *Bilingualism in Development: Language, Literacy, and Cognition*. New York: Cambridge University Press.
- Blumenfeld, H.K., and Marian, V. (2007). Constraints on parallel activation in bilingual spoken language processing: Examining proficiency and lexical status using eye-tracking. *Language and Cognitive Processes*, 22(5), 633–660.
- Blumenfeld, H.K., and Marian, V. (2009). Language-cognition interactions during bilingual language development in children. In B. Kuzmanovic & A. Cuevas (Eds.), *Recent Trends in Education*. Hauppauge, NY: Nova Science Publishers, Inc.
- Comalli, P.E., Wapner, S., and Werner, H. (1962). Interference effects of Stroop color-word test in childhood, adulthood, and aging. *The Journal of Genetic Psychology*, 100, 47–53.
- Cook, V. (1997). The consequences of bilingualism for cognitive processing. In A.M.B. de Groot & J. F. Kroll. (Eds.), *Tutorials in Bilingualism: Psycholinguistic Perspectives* (pp. 279–299). Mahwah, NJ: Lawrence Erlbaum.
- Diaz, R.M. (1985). Bilingual cognitive development: Addressing three gaps in current research. *Child Development*, 56, 1376–1388.
- Hashimoto, N., McGregor, K.K. and Graham, A. (2007). Conceptual organization at six and eight: Evidence from the semantic priming of object decisions. *Journal of Speech, Language, and Hearing Research*, 50, 161–176.
- Hull, R. and Vaid, J. (2007). Bilingual language lateralization: A meta-analytic tale of two hemispheres. *Neuropsychologia*, 45, 1987–2008.
- Indefrey, P. (2006). A meta-analysis of hemodynamic studies on first and second language processing: Which suggested differences can we trust and what do they mean? *Language Learning*, 56, 279–297.
- Kan, P. & Kohnert, K. (2008). Fast mapping by developing bilinguals in L1 and L2. *Journal of Child Language*, 35, 495–514.

- Cohen-Mansfield, J. (2008). Multilingualism and cognitive state in the oldest old. *Psychology and Aging, 23*(1), 70–78.
- Saur, D., Baumgaertner, A., Moehring, A., Büchel, C., Bonnesen, M. and Rose, M. (2009). Word order processing in the bilingual brain. *Neuropsychologia, 47*(1), 158–168.
- Schrauf, R.W. (2008). Bilingualism and aging. In J. Altarriba & R.R. Heredia (Eds.), *An Introduction to Bilingualism: Principles and Processes*, pp. 105–123. New York, NY: Lawrence Erlbaum Associates.
- Sheng, L., McGregor, K.K., and Marian, V. (2006). Lexical-semantic organization in bilingual children: Evidence from a repeated word association task. *Journal of Speech, Language, and Hearing Research, 49*, 572–587.
- Sommers, M.S. and Danielson, S.M. (1999). Inhibitory processes and spoken word recognition in young and older adults: The interaction of lexical competition and semantic context. *Psychology and Aging, 14*(3), 458–472.
- Wilkinson, K.M. and Mazzitelli, K. (2003). The effect of 'missing' information on children's retention of fast mapped labels. *Journal of Child Language, 30*, 47–73.
- Zied, M.K., Phillipe, A. and Karine, P. (2004). Bilingualism and adult differences in inhibitory mechanisms: Evidence from a bilingual stroop task. *Brain and Cognition, 54*(3), 254–256.