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Development



Second language

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Synthesis

How important it is?

Childhood bilingualism is a significant experience that has the power to influence the course and efficiency of children's development.

The potential impact of bilingualism on children's development has increasingly emerged as a crucial concern for modern societies, and for Canada in particular. In addition to the official commitment to a national policy of second-language acquisition and bilingualism, Canada's immigration program has transformed the country into a rich multilingual and multicultural nation. Public schools are home to large numbers of children for whom English or French is a second language. It is therefore imperative that we understand the impact of these language backgrounds on children's cognitive and educational futures.

What do we know?

Benefits

Research has shown that, contrary to what many people once believed, bilingualism does not trigger confusion, has no inherent negative impact on children's development and even has some socio-cognitive advantages. In particular, bilingual children show some advantages in understanding the beliefs of others and the communication needs of their conversational partners, picking out the important variables to solve a problem and entertaining two possible interpretations of the same stimulus at once. As well, they achieve higher scores than monolingual children on a number of cognitive ability tests, including mental flexibility, non-verbal problem-solving tasks, understanding the conventional origin of names, distinguishing between semantic similarity and phonetic similarity and the capacity to judge the grammaticality of sentences.

The context in which the bilingualism or second-language learning occurs is important, however. Variables that can affect the outcomes of bilingual development include parental attitudes toward bilingualism, the status of the language(s) in the community and the socio-cultural context in which the children grow up.

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Second-language learners take a long time to develop their second-language oral proficiency. Even after five to six years of attending school in the second-language environment, children may not speak as fluently in the language as their monolingual peers. Parents and educators should also be aware that in the early stages of the acquisition of a second language, children who learn two languages may show some developmental lags relative to children who speak only one. However, these lags are typically small and do not last for long periods of time. In terms of general language proficiency, bilingual children tend to have a smaller vocabulary in each language than monolingual children in their language. Nonetheless, their understanding of linguistic structure is at least as good and often better than that of comparable monolinguals.

Children learning to read in two languages that share a writing system (e.g. English and French) show accelerated progress in learning to read; children whose two languages are written in different systems (e.g. English and Chinese) show no special advantage, but neither do they demonstrate any deficit. However, the benefit of learning to read in two languages requires that children be bilingual and not second-language learners whose competence in one of the languages is weak (as a result of a lower degree of involvement in the second language).

Reading disability

Research shows that it is possible to diagnose reading disability in second-language children rather early. In fact, delaying diagnosis and treatment of potential reading disability in second-language children is costly and has long-term consequences for children who have difficulties in learning to read and write in the school language. The profiles of at-risk readers include persistent and extremely poor performance on word recognition, pseudo-word decoding (units of speech or text that look and sound like words in a particular language but that are not actually words) and spelling tasks and concomitant poor performance on phonological processing measures (such as phonological awareness and rapid naming).

Phonological awareness (the ability to break words into their components, synthesize their sounds and learn their features), rapid naming and to some extent verbal working memory are sources of individual differences that are associated with reading development and reading difficulties in monolingual children. These processing skills measured in monolingual and second-language children often correlate with each other, and can predict decoding and spelling skills in both languages. This has been found across different language groups. As well, regardless of the type of orthographies (regularity of correspondence between letters or letter

combinations and their associated sounds) involved, second-language learners who have decoding and spelling problems in their first language have difficulties in their second language as well. Finally, second-language learners who have serious problems with word-based reading skills and with the cognitive processes that are necessary to develop good word-based skills in the second language also have poor reading fluency, reading comprehension and writing skills.

What can be done?

Diagnosing reading disability

Some second-language children may read with difficulty not simply because they require more time to develop their second-language oral proficiency but because they have problems with the acquisition of basic reading skills. It is important to look beyond oral language proficiency and not to delay assessment and intervention. Both health care providers and classroom teachers need to be trained and empowered to identify the warning signs early and to adapt instruction accordingly.

Since there are positive and significant correlations between monolingual and second-language reading skills and predictors of successful reading developments, a lot can be learned about a second-language learner's reading ability by using the same assessment measures as one would use for a monolingual child. Gaps between listening comprehension and reading comprehension and data about the child's performance in the home language are also important information that should be assessed.

Other sources of information can contribute to the validity of the diagnosis, such as report cards from the home country, interview data on the achievement of developmental milestones (particularly the onset and development of language), previous assessments, and the language and academic achievement of siblings. It is also essential to consider the family cultural and linguistic background, acculturation and parental attributions about their children's academic difficulties.

Policy

Because there is no evidence that bilingualism has a negative impact on children's intellectual and socio-emotional development, parents can be encouraged to speak their native language at home and allow their children to learn the majority language in school. The evidence for the

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overwhelming positive benefit of bilingualism, together with evidence that bilingual children are not cognitively handicapped, indicates an important role for schools. They can provide a means for these children to build up their language skills in the school language, enabling them to become full participants in the classroom and reap the benefits of their educational experience.

Findings on bilingualism and its effects on socio-emotional development suggest this is another area that should be explored. As well, because language can function as a cure for retrieval of personal experiences that may play a key role in the diagnosis and treatment of various mental health conditions, policies encouraging bilingual health services should be promoted.

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Second-Language Acquisition and Bilingualism at an Early Age and the Impact on Early Cognitive Development

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Introduction

The possibility that early bilingualism affects children's language and cognitive development has long been a concern for parents and educators. In the first half of the 20th century, the prevailing view was that bilingualism and second-language acquisition early in life made children confused and interfered with their ability to develop normal cognitive functions[1] and succeed in educational environments.[2] These ideas were dramatically reversed in a landmark study by Peal and Lambert[3] that showed a general superiority of bilinguals over monolinguals in a wide range of intelligence tests and aspects of school achievement. Recent research has been more balanced, identifying areas in which bilingual children excel and others in which bilingualism has no effect on their development.[4]

Subject

The question regarding the potential impact of bilingualism on children's development has always been important, but has increasingly emerged as a crucial concern for modern societies and for Canada in particular. In addition to the official commitment to a national policy of second-language acquisition and bilingualism, immigration has transformed Canada into a rich multilingual and multicultural nation. Public schools, especially in major urban centres, are home to large numbers of children for whom English or French is a second language. These children represent an enormous variety of home languages and often constitute the majority of children in a single classroom. Therefore, it is imperative that we understand the impact of these language backgrounds on children's cognitive and educational futures.

Problems

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Information about the language, cognitive and educational development of children with varied language backgrounds is essential to interpret the performance of these children in school and assess their development. For example, children with limited proficiency in the language of schooling are certain to experience increased difficulty in coping both academically and socially, and it is important to identify these difficulties in order to understand what intervention or remedial approaches are needed.

Research Context

The research is typically conducted in classrooms, often settings containing both multilingual and monolingual children. The context in which the bilingualism or second language occurs is important, even though it is not always included as a formal aspect of research investigation. There is evidence that whether the child's home language is in a majority or minority situation, is valued in the community, and is used as a medium for literacy affects the child's linguistic and cognitive outcomes.[5] Therefore, the implications of the child's language experience should ideally be examined with careful attention to the social and linguistic factors that describe the child's educational environment.

Key Research Questions

The important issues that follow from linguistic diversity are the cognitive and educational outcomes for bilingual children. First, it is necessary to establish whether language acquisition proceeds at the same rate and in the same manner for children who are learning two languages simultaneously or are learning a second language after having begun to master one. Second, are children able to acquire literacy skills at school if they are either bilingual or learning a second language, especially if their home language is not the language of instruction? Finally, are there consequences for normal cognitive development in terms of the child's ability to acquire new concepts or perform various calculations (e.g., arithmetic), especially if school instruction is in the child's weaker language?

Recent Research Results

There are three main outcomes from this research. First, for general language proficiency, bilingual children tend to have a smaller vocabulary in each language than monolingual children in their language.[6] Nonetheless, their understanding of linguistic structure, called metalinguistic awareness, is at least as good[7] and often better[8] than that of comparable monolinguals. Second,

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the acquisition of literacy skills in these children depends on the relationship between the two languages[9] and the level of proficiency in the second language.[10] Specifically, children learning to read in two languages that share a writing system (e.g., English and French) show accelerated progress in learning to read; children whose two languages are written in different systems (e.g., English and Chinese) show no special advantage, but neither do they demonstrate any deficit relative to monolinguals. The benefit of learning to read in two languages, however, requires that children be bilingual and not second-language learners whose competence in one of the languages is weak. Third, bilingual children between four- and eight-years old demonstrate a large advantage over comparable monolinguals in solving problems that require controlling attention to specific aspects of a display and inhibiting attention to misleading aspects that are salient but associated with an incorrect response. This advantage is not confined to language processing, but includes a variety of non-verbal tasks that require controlled attention and selectivity in such problems as forming conceptual categories,[11] seeing alternative images in ambitious figures,[12] and understanding the difference between the appearance and functional reality of a misleading object.[13] These differences persist across the lifespan conferring cognitive benefits to bilinguals at all ages, and even providing cognitice reserve that allows bilinguals to function independently even through the early stages of dementia.[14]

Conclusion

The results of these studies demonstrate that childhood bilingualism is a significant experience that has the power to influence the course and efficiency of children's development. The most surprising outcome is that these influences are not confined to the linguistic domain, where such influence would be expected, but extend as well to non-verbal cognitive abilities. In most cases, the child's degree of involvement with a second language, defined as the difference between bilingualism and second-language acquisition, is an important variable that determines both the degree and type of influence that is found. Three patterns of influence were noted in these studies. One outcome is that bilingualism makes no difference, and monolingual and bilingual children develop in the same way and at the same rate. This was found for cognitive problems such as memory-span development and language problems such as phonological awareness. The second is that bilingualism disadvantages children in some way. The primary example of this is in the development of vocabulary in each language. The third pattern, and the most prevalent in our studies, is that bilingualism is a positive force that enhances children's cognitive and linguistic development, improving access to literacy if the two writing systems correspond and development of general executive processes for all bilingual children solving a wide range of non-verbal problems requiring attention and control. These executive control abilities are at the

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centre of intelligent thought.

Implications

Parents are often concerned that using a non-community language as the language of their home will disadvantage their children. This program of research provides solid evidence that the overwhelming effect of bilingualism in the home is positive. The disadvantages are relatively minor and easily overcome. The implications for schooling are more complex. Children's success in school is strongly dependent on their proficiency in the language of instruction, a relationship that holds for important linguistic activities (e.g., learning to read), non-verbal computational subjects (e.g., mathematics), and content-based curricula (e.g., social studies). In all these cases, children must be skilled in the forms and meanings of the school language and be competent readers of that language. Bilingual children may not be at the same level as their monolingual peers, and second-language learners for whom English or French is not their home language may have not built up adequate skills in the instructional language to succeed in schools, although the vocabulary gap between monolingual and bilingual children disappears if only school-based words are considered.[6] The evidence for the overwhelming positive benefit of bilingualism, together with evidence that bilingual children are not cognitively handicapped, indicates an important role for schools in providing a means for these children to build up their language skills in the school language so that they can be full participants in the classroom and reap the most positive benefit from their educational experience.

References

1. review in Hakuta K. *Mirror of language: the debate on bilingualism*. New York, NY: Basic Books; 1986.
2. Macnamara JT. *Bilingualism and primary education: a study of Irish experience*. Edinburgh, Scotland: Edinburgh University Press; 1966.
3. Peal E, Lambert WE. The relation of bilingualism to intelligence. *Psychological Monographs* 1962;76(27, Whole No. 546):1-23.
4. Barac R, Moreno S, Bialystok E. Behavioral and electrophysiological differences in executive control between monolingual and bilingual children. *Child Development* 2016;87:1277-1290.
5. Cummins J. Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research* 1979;49(2):222-251.
6. Bialystok E, Luk G. Receptive vocabulary differences in monolingual and bilingual adults. *Bilingualism: Language and Cognition* 2012;15:397-401.
7. Bialystok E, Majumder S, Martin MM. Developing phonological awareness: Is there a bilingual advantage? *Applied Psycholinguistics* 2003;24(1):27-44.
8. Bialystok E. Levels of bilingualism and levels of linguistic awareness. *Developmental Psychology* 1988;24(4):560-567.

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9. Bialystok E, Luk G, Kwan E. Bilingualism, biliteracy, and learning to read: Interactions among languages and writing systems. *Scientific Studies of Reading* 2005;9(1):43-61.

10. Bialystok E, McBride-Chang C, Luk G. Bilingualism, language proficiency, and learning to read in two writing systems. *Journal of Educational Psychology* 2005:97(4):580-590.

11. Bialystok E, Martin MM. Attention and inhibition in bilingual children: Evidence from the dimensional change card sort task. *Developmental Science* 2004;7(3):325-339.

12. Bialystok E, Shapero D. Ambiguous benefits: the effect of bilingualism on reversing ambiguous figures. *Developmental Science* 2005;8(6):595-604.

13. Bialystok E, Senman L. Executive processes in appearance-reality tasks: The role of inhibition of attention and symbolic representation. *Child Development* 2004;75(2):562-579.

14. Bialystok E. The bilingual adaptation: How minds accommodate experience. *Psychological Bulletin* 2017;143:233-262.

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Second Language/Bilingualism at An Early Age with Emphasis on Its Impact on Early Socio-Cognitive and Socio-Emotional Development

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Introduction

Many children grow up hearing and using more than one language. Some researchers have estimated that the majority of the world's population use more than one language on a regular basis.[1] Parents, educators and legislators alike take an interest in research findings on child bilingualism in a concerted effort to ensure that bilingualism does not put children at any intellectual or emotional risk.

One of the earliest concerns that researchers tackled was the idea that bilingualism confused children.[2] However, research has shown that bilingualism does not trigger confusion, has no inherent negative impact on development and, more importantly, has some significant socio-cognitive advantages.[3]

Subject

Here, we focus on the impact of bilingualism on socio-cognitive and socio-emotional development. Socio-cognitive development refers to how children change with age in terms of their abilities to think about social and communicative issues. Socio-emotional development refers to how children change with age in terms of their processing of emotions in a social and communicative setting.

We review recent research and its importance for children who hear and/or use two languages at some point in childhood. In our review, we do not distinguish between children who learn two languages sequentially versus simultaneously, although there is some evidence that the later a person starts learning a second language, the lower the ultimate achievement level in at least some domains of language.[4] Most of our review focuses on children's development in the preschool or early school years. This age range is below the range most often considered critical

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in learning a second language.

Problems

Bilingual children form a heterogeneous group.[5] They may speak any combination of languages (or dialects), and community support for the languages may differ by geographical location and/or socio-political context.6 Developmental outcomes of French-English bilinguals in Canada may not predict those of Hindi-Swahili bilinguals in India. Similarly, developmental outcomes for bilingual children learning two languages in school might not be the same as those for bilingual children learning one language in school and another at home.7 Also, the degree of proficiency in either language can change over time, usually with greater or lesser exposure to a language.[8]

Research Context

While bilingualism does not have inherent negative effects on development, there are a number of variables that can affect the outcome of bilingual development, including the context in which the languages are learned, parental attitudes toward bilingualism, the status of the language(s) in the community, and the socio-cultural context in which children grow up.6 The general respect and encouragement for the languages a bilingual child is learning play an important role in the child's development, fostering positive outcomes.

Key Research Questions

1. Are there differences between monolinguals and bilinguals in their understanding of the communicative needs of their conversational partners?
2. Are there differences between monolinguals and bilinguals in cognitive development?
3. When there are differences between monolinguals and bilinguals in socio-cognitive development, why do these differences exist?
4. Are there differences between monolinguals and bilinguals in emotional language development?

Recent Research Results

Research has examined socio-cognitive development rather than socio-emotional development. Socio-cognitive development is of interest to researchers because the knowledge of two languages can affect how words and thoughts are processed and represented. Researchers have

been less interested in how knowledge of two languages might affect socio-emotional development because there is no clear reason why it should. However, there is some intriguing research with bilingual adults' use of language and understanding of emotions. This research suggests that a greater focus on bilingual socio-emotional development is necessary.

Studies have shown that bilingual children have advantages in terms of understanding the communication needs of their conversational partners.[8,9,10] Young bilingual children are sensitive to the fact that they cannot understand someone who speaks a foreign language earlier than monolingual children.[11] Also, bilingual children show an earlier understanding that other people can have false beliefs than monolingual children.[12]

Studies have also shown that bilingual children achieve higher scores than monolinguals on a number of tests of cognitive ability, including mental flexibility,[13] non-verbal problem-solving tasks,[14] understanding the conventional origin of names,[15,16] distinguishing between semantic similarity and phonetic similarity[17] and capacity to judge the grammaticality of sentences.[18]

One possible reason for the bilingual advantage is that bilingual children must learn to reduce the interferences between their two languages in order to speak only one.[16,19] Another possibility is that bilingualism trains children to focus their attention on the relevant variables in the context, particularly information that is ambiguous or contradictory.[14] Increased cognitive abilities may help children to develop the representational abilities that are thought to be involved in effective communication. For example, knowing two words that name the same concept could help children develop the understanding that an object or event can be represented in more than one way, which could bolster children's understanding of other people's perspectives.

Research investigating how bilinguals use their languages to express emotions has been conducted mostly in adults (mostly autobiographical memory studies)[20] and has shown that a particular language is an effective retrieval cue if it matches the language in which an event or experience was originally encoded.[21] Memories encoded in the mother tongue are typically richer in terms of emotional significance than memories encoded in the second language.[22] Bond and Lai[23] argue that this is because the second language is typically acquired in a more emotionally neutral setting than the first language.

Conclusion

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In conclusion, research has shown that bilingualism does not lead to confusion, nor does it have any inherent negative impact on development. In the early stages of the acquisition of a second language, children hearing two languages can show some developmental lags relative to children who speak only one.[24] However, bilinguals are not globally behind monolingual children in all areas of language acquisition, and the observed lags are typically small and do not last for long periods of time.

Bilingual children show some advantages in socio-cognitive development when compared to monolinguals, particularly in understanding the beliefs of others, picking out the important variables to solve a problem, and entertaining two possible interpretations of the same stimulus at once.

There has been no research on bilingual children’s use of emotion language. However, research with bilingual adults suggests that the language in which events occur could be strongly linked to the emotional overtone of the memory of those events. It is possible, then, that the context in which a language is learned can have an impact on bilingual children’s ability to express themselves and their accuracy in expression.

In sum, there are no overall disadvantages to bilingualism. On the contrary, there can be significant disadvantages regarding children’s loss of a home/heritage language, which is often deeply intertwined with family, emotions and identity.6

Implications for the Policy and Services Perspective

For policy-makers and service-providers, concern gravitates around two issues: (1) the language of school instruction; and (2) the language of public service. Because there is no evidence for bilingualism having a negative impact on children's intellectual and socio-emotional development, parents can be encouraged to speak their native language at home, and allow their children to learn the majority language in school. To the extent that bilingualism can be encouraged over the loss of a home/heritage language, children are more likely to retain strong ties with their culture and develop strong ties with the majority culture.

Because language can function as a cue for retrieval of personal experiences that may play a key role in the diagnosis and/or treatment of various mental health conditions, service-providers should be making efforts to promote policies that encourage bilingual health services.

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Finally, it is important to note that it can be difficult to identify bilingual children who are at risk of learning disabilities and speech-language pathology. In some cases, typically developing bilingual children produce the same kind of language as children with language impairment.[25] While researchers hope eventually to identify differences between typically developing bilinguals and language-impaired children, the lack of known differences at the moment poses a challenge for service-providers. Is it better to wait and hope children will outgrow apparent difficulties or intervene at the earliest possible moment? One piece of information that can help in reaching a decision is information about how the child behaves in his or her other language. Language impairment typically affects both languages.

References

1. Edwards J. Foundations of bilingualism. In: Bhatia TK, Ritchie WC, eds. *The handbook of bilingualism*. Malden, Mass: Blackwell Publishing; 2004:7-31.
2. Genesee F. Early bilingual development: One language or two? *Journal of Child Language* 1989;16(1):161-179.
3. Genesee F. Bilingual first language acquisition: Exploring the limits of the language faculty. *Annual Review of Applied Linguistics* 2001;21:153-168.
4. Montrul S. Age of onset of bilingualism effects and availability of input in first language acquisition. In Bilingualism across the lifespan. Washington, DC: De Gruyter Mouton & APA; 2016: 141-161.
5. Genesee F. Shifting perspectives on bilingualism. In bilingualism across the lifespan. Washington, DC: De Gruyter Mouton & APA; 2016:9-19.
6. Hamers JF, Blanc MHA. *Bilinguality and bilingualism*. 2nd ed. Cambridge, England: Cambridge University Press; 2000.
7. Cummins J. The role of primary language development in promoting educational success for language minority students. In: California Department of Education. *Schooling and language minority students: A theoretical framework*. Los Angeles, Calif: Evaluation, Dissemination and Assessment Center, California State University; 1981:3-49.
8. Nicoladis E, Genesee F. A longitudinal study of pragmatic differentiation in young bilingual children. *Language Learning* 1996;46(3):439-464.
9. Yow WQ, Markman EM. Young bilingual children's heightened sensitivity to referencial cues. Journal of Cognition and Development 2011; 12(1), 12-31.
10. Lanza E. Can bilingual two-year-olds code-switch? *Journal of Child Language* 1992;19(3):633-658.
11. Nicoladis E, Kwong See S, Rhemtulla M. Are mutual exclusivity violations guided by children's assumptions about people's word knowledge? Paper presented at: 35th Annual Meeting of the Jean Piaget Society; 2005; Vancouver, British Columbia.
12. Goetz PJ. The effects of bilingualism on theory of mind development. *Bilingualism: Language and Cognition* 2003;6(1):1-15.
13. Marinova-Todd SH. "Corplum is a core from a plum": The advantage of bilingual children in the analysis of word meaning. Bilingualism: Language and Cognition 2012; 15: 117-127.
14. Bialystok E, Majumder S. The relationship between bilingualism and the development of cognitive processes in problem solving. *Applied Psycholinguistics* 1998;19(1):69-85.

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15. Benelli B, Gandolfi M. Bilinguismo e convenzionalita' del linguaggio. *Quaderni per la promozione del bilinguismo* 1979;25/26:1-24.

16. Ben-Zeev S. The influence of bilingualism on cognitive strategy and cognitive development. *Child Development* 1977;48(3):1009-1018.

17. Bialystok E. Children's concept of word. *Journal of Psycholinguistic Research* 1986;15(1):13-32.

18. Galambos SJ, Goldin-Meadows S. The effects of learning two languages on levels of metalinguistic awareness. *Cognition* 1990;34(1):1-56.

19. Ben-Zeev S. Mechanisms by which childhood bilingualism affect understanding of language and cognitive structures. In: Hornby PA, ed. *Bilingualism: psychological, social, and educational implications*. New York, NY: Academic Press; 1977:29-55.

20. Javier RA, Barroso F, Muñoz MA. Autobiographical memory in bilinguals. *Journal of Psycholinguistic Research* 1993;22(3):319-338.

21. Marian V, Neisser U. Language-dependent recall of autobiographical memories. *Journal of Experimental Psychology: General* 2000;129(3):361-368.

22. Schrauf RW. Bilingual autobiographical memory: Experimental studies and clinical cases. *Culture and Psychology* 2000;6(4):387-417.

23. Bond MH, Lai TM. Embarrassment and code-switching into a second language. *Journal of Social Psychology* 1986;126(2):179-186.

24. Nicoladis E. Why does bilingualism affect language and cognitive development? In: Altarriba C, Heredia R, eds. *An introduction to bilingualism: Principles and practices*. Mahwah, NJ: Lawrence Erlbaum Associates. Forthcoming.

25. Genesee F, Paradis J, Crago MB. Dual language development and disorders: a handbook on bilingualism and second language learning. Baltimore, Md: Paul H. Brookes Publishing; 2004.

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Learning to Read in a Second Language: Research, Implications, and Recommendations for Services

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May 2006

Introduction and Subject

It is important for educators, mental health practitioners, and policy-makers in immigration countries like Canada that promote multiculturalism and bilingualism to consider normal and problematic language and literacy development of young children who develop their reading skills in a second language (L2) context. The studies of L2 literacy development that informed this overview were conducted in various contexts such as (a) learning to speak and read in the societal language, which is often different from the language spoken at home, as is the case with English as a Second Language (ESL) children; (b) children who attend heritage programs in addition to attending schools in the societal language (English or French in the case of Canada); or (c) programs that promote biliteracy, as is the case with French immersion or various bilingual day-schools. This chapter offers a distilled overview of key findings and the practical and policy implications drawn from this research for the provision of services to young L2 children who may have a reading disability.

Research Context

Two primary frameworks need to be considered in the assessment and treatment of L2 literacy development. At one extreme there are questions that relate to what is known as the “universal” or “central processing” framework. According to this framework, the same underlying cognitive and linguistic component skills that are crucial for learning to read and spell in monolingual or L1 children (for example, phonemic awareness, speed of processing, visual processes) contribute across diverse languages and writing systems. This also means that these skills influence the development of literacy skills in L2 and bilingual contexts.

The ubiquitous concept of “transfer” can be seen as a version of the universal framework. The logic here goes something like this: If the same processing factors are found to be important

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when children are learning to read in their L1 and L2, then we can expect that these skills will "transfer" from the L1 to the L2 (and from the L2 to the L1). That is, one can expect positive transfer if the same underlying processing factors facilitate the acquisition of literacy skills in the L2, just the way they do in the L1. This also means that performance on these processing factors in one language would be related to reading skills in the other language. Research that supports the universal or central processing framework has important implications for assessment of minority or bilingual children who are at-risk for having a reading disability (RD).[a]

The contribution of language proficiency to reading and writing skills can be seen as located in this central processor. Developing L2 proficiency can be thought of as a gradual increase in skills related to the ability to comprehend and express oneself in the L2, both orally and in writing, in everyday contexts and in academic contexts. A variety of receptive and expressive skills need to develop. They include familiarity with the phonology of the L2, its vocabulary (both everyday vocabulary and more academic vocabulary), its morphology, and grammar. Some educators and practitioners believe that the main reason that L2 learners lack accuracy and fluency with regard to L2 literacy skills is due to lack of L2 oral language proficiency.[1,2] A related problem is the belief that as long as students have not developed adequate L2 proficiency, it is not feasible or advisable to assess reading disabilities.[3] The problem is twofold: On the one hand, one would want to avoid interpreting poor language and literacy skills development among L2 learners as indicative of RD, a process that may lead to *over-diagnosis* of L2 children as having RD. On the other hand, avoiding assessments of L2 learners who are actually at-risk of having RD, because of lack of training and sensitivity or because of a strong belief that what thwarts children's adequate development of language and literacy skills reflects poor language proficiency, may result in *under-diagnosis* of L2 learners who may actually be *RD,* and a different kind of bias.

The other major framework focuses on *typological* differences. Languages vary along a number of dimensions, relating to oral and written aspects. Some of these differences have significant implications for the processes involved in learning to read and spell in different languages. In terms of writing systems, languages differ in orthographic "depth," or the regularity of correspondence between letters or letter combinations and their associated sounds. English is considered to have a "deep" orthography in comparison to languages such as Spanish or German, which are considered to have a "shallow" orthography. Languages might differ from each other in the contents of their phonemic and syllabic repertoires, their morphemic and syntactic complexity, and so on.

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Research within the typological framework is concerned with finding out whether developmental and processing factors vary across languages due to typological differences in features of the spoken or written language. Some studies within this framework compare the role that processing requirements play in different languages. According to this analysis, underlying cognitive resources are tapped differentially, to the degree demanded by the typological characteristics of the spoken and written system under consideration. For example, visual processes may be more crucial when learning to read a character-based language such as Chinese than when learning to read an alphabetic language like English or French. Beliefs associated with this framework include the argument that a child is experiencing difficulties in learning to read in an L2 because of typological differences between his/her L1 and L2. For example, educators and parents may argue that a child whose L1 is Hebrew is having difficulty in developing adequate reading skills in English or French because Hebrew is read from right to left. Another belief associated with this framework is that the prevalence of reading disabilities may vary as a function of the writing system and differences in the challenges that various orthographies present to young learners.

Recent Research Results

This section lists key findings concerning the development of reading skills in young L2 learners. The final section discusses practical and policy implications that can be drawn from this research.

Research findings supporting the "universal" framework:

- The development of word-based skills such as decoding and spelling points to parallels in numerous comparisons of typologically different languages.[4-10]
- There are positive and significant correlations between parallel L1 and L2 word-based skills such as word recognition, decoding pseudowords (units of speech or text that look and sound like words in a particular language but that are not actually words), and spelling.[11,12]
- When text-based aspects of reading such as reading comprehension are developed in one language, they correlate with reading comprehension in the other language.[9,13-17]
- Regardless of the type of orthographies involved, L2 learners who have decoding and spelling problems in their L1 have difficulties in their L2 as well.[18-21]

- Phonological awareness (the ability to break words into their components, synthesize their sounds, and learn their features) and rapid naming (the act of quickly naming objects, colours, numbers or letters from long-term memory) and to some extent verbal working memory (which temporarily stores and manipulates information) are sources of individual differences that are associated with reading development and reading difficulties in L1. Regardless of whether these skills are measured in children's L1 or L2, these processes are also sources of individual differences in the development of L2 word-based skills in alphabetic and non-alphabetic languages.[11,12,22-27]
- These processing skills measured in the L1 and L2 often correlate with each other, and can predict decoding and spelling skills in both L1 and L2. This has been found across different language groups.[7,8,10,28,29]
- L2 learners who have serious problems with word-based reading skills and with the cognitive processes that are necessary to develop well developed word-based skills in the L2, also have poor reading fluency, reading comprehension, and writing skills.[9,26,27,30-33]
- When RD is determined on the basis of performance on word-based skills such as word recognition and pseudoword decoding, and phonological processing measures such as phonological awareness and rapid naming the prevalence of RD is similar in ESL children and children who are L1.[2,30,34]

Research on the role of L2 oral proficiency:

- L2 children take a long time to develop their L2 oral proficiency. Even after five to six years of attending school in the L2 environment, aspects of L2 oral proficiency skills, and especially those required for academic learning, continue to lag behind the skills of L1 peers.[35-37]
- In the early school years, when the L2 oral proficiency skills are in their infancy, L2 vocabulary explains very little unique variance in L2 word recognition and spelling skills.[38]
- By the beginning of grade 2 (following one year of instruction in English), performance on phonological awareness and rapid naming can predict subsequent performance on word-based reading skills of ESL children.[39]
- Even when L2 children's second language proficiency is still developing, they can learn to read and spell words and achieve similar accuracy to that of L1 children.[11,20,22,26,38,39,40-42]

- Aspects of L2 language proficiency such as vocabulary and grammatical skills *are* related to text-based aspects of literacy such as reading fluency, reading comprehension, and the ability to write.[15,16,30,33,38,43-45]
- In spite of differences in their command of the oral language, cognitive processing profiles of L2 students who are RD are similar to those of L1 students who are RD. Regardless of children's home language background, the profiles of the at-risk readers include persistent and extremely poor performance on word recognition, pseudoword decoding, and spelling tasks, and concomitant poor performance on phonological processing measures.[7,10,18,19,40,46,47]

Research findings documenting typological differences:

- Because specific orthographic features present different demands, the developmental pathways associated with the development of reading and spelling tasks in different languages is not identical. Normally achieving children will attain word reading accuracy faster in their L2 than their L1 if the L2 is associated with a shallow orthography.[41,43,45,48-50]
- The weight of cognitive processes such as phonological awareness, rapid naming, and visual processes that underlie word reading, are influenced by typological differences between the L1 and L2 orthography.[11,19,51-53] For example, in shallow orthographies such as German and Dutch, speed of naming, rather than phonemic awareness is a stronger predictor of reading success and of reading failure.[54]
- In early stages of L2 spelling development, there is an effect both of the L1 phonology and its graphophonic rules on how students spell in their L2; additionally, the *type* of reading and spelling errors observed in the L2 reflect typological influences.[29,38,41,43,55-58]
- Reading-disabled children reading in different orthographies share some characteristics such as difficulty in decoding pseudowords and similar cognitive profiles, but they also have unique characteristics associated with the language and writing system typologies.[47,59]

Conclusions

Complex processes are involved in the acquisition of language and literacy skills in L2 contexts. On the basis of research conducted in the last decade, it is possible to conclude that neither of these frameworks, on its own, can account for when L2 children develop their language and literacy skills, or for the incidence and nature of reading disabilities. It is useful to consider the

universal and script-dependent perspectives on L2 reading development as complementary.[60] L2 language proficiency takes a long time to develop, and while it is related to text-based aspects of literacy such as reading fluency, reading comprehension, and writing, L2 language proficiency explains little unique variance in word-based reading skills of young L2 learners. On the other hand, similar cognitive processes explain individual differences in word recognition and spelling skills in different languages and in L1[32] and L2 learners. In addition, the cognitive and reading profiles of L2 RD children resemble those of their L1 RD peers. However, typological differences may affect the ease or difficulty with which L2 children acquire specific elements of the spoken and written language, and the kind of errors that they commit in early stages of literacy development. Teachers in multi-ethnic classrooms tend to withhold judgment about ESL children who may show similar warning signs to those noted in at-risk L1 children, because they tend to attribute these difficulties to lack of sufficient oral language skills.[2] The available research has taught us that it is possible to diagnose RD in L2 children rather early. The practice of delaying diagnosis of potential RD in L2 children may be motivated by concerns to avoid bias or by attributing persistent difficulties to other causes such as lack of L2 oral proficiency and typological influences. However the results of such practices are costly and have long-lasting consequences for undiagnosed and under-treated L2 children who have difficulties in learning to read and write in the school language. Recent research advances in this area should enable educators and other professionals to minimize over-diagnosis and under-diagnosis.

Implications

Policy: training professionals

- It is important to continue to provide L2 children with sustained and systematic opportunities to develop their L2 oral proficiency. To enhance academic achievement, it is important to be mindful of this point and not be complacent when acceptable levels of everyday oral language fluency have been reached. This point has implications for the content of in-service and pre-service curricula.[61]
- Some L2 children may read with difficulty not simply because they require more time to develop their L2 oral proficiency but because they have problems with the acquisition of basic reading skills. Therefore, it is important to look beyond oral language proficiency and not to delay assessment and intervention.

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- It is not necessary or ethically defensible to withhold assessment and intervention from L2 learners who show warning signs of RD. Not only health care providers, but also classroom teachers need to be trained and empowered to identify the warning signs early, and to adapt instruction accordingly.

Assessment in the L2

- Since there are positive and significant correlations between parallel L1 and L2 component reading skills and predictors of successful reading development in the L1 and the L2, administering to L2 learners the same processing measures (e.g., phonological awareness, rapid naming) used for assessing RD in L1 children is highly informative. This can be done when a rudimentary level of L2 oral language proficiency has been achieved.
- Given that L2 oral proficiency does not play a major role in understanding reading difficulties of L2 children, word-based skills, including word recognition, pseudoword decoding, and spelling can and should be assessed, using standardized measures.
- Since individual differences in L2 word-based basic reading skills correlate with performance on text-based aspects of reading and writing, it is important to assess young L2 learners who may be at-risk for having a reading disability on as many of the areas known to be related to RD as possible.
- Examining the gap between listening comprehension and reading comprehension is highly informative, especially if L2 listening comprehension is superior to reading comprehension.

Putting the puzzle pieces together

- Gathering data about the child's performance in the home language is useful as it helps to validate observations made within the L2 context. However, this may not be feasible for a variety of reasons such as L1 language attrition, lack of appropriate measures in the L1, and disruptions to the child's education, to name a few.[60]
- Other sources of information are important pieces of the L2 assessment puzzle that contribute to the validity of the diagnosis. These include report cards from the home country; interview data on the achievement of developmental milestones, and in particular, the onset and development of language; previous assessments; and the language and academic achievement of siblings.

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- A highly informative source of information comes from monitoring progress and learning over time. Persistent language and reading difficulties in spite of adequate instruction should not be ignored. Approaches such as dynamic assessment and curriculum-based assessment are especially conducive for this purpose.
- Measures of general ability are not that useful in identifying RD in L2 children. Practitioners also have to be mindful of the fact that in the case of L2 learners it is more difficult to establish a “discrepancy” between ability and indices of reading in order to justify an RD diagnosis.
- Error analysis is a useful source of information but should be done with typological influences in mind. It is important to consider the transfer of specific skills from the L1. One should consider whether errors occur across the board or are limited to typological differences. Errors across the board are more suggestive of a disability than errors that are typical of learners from a given linguistic background and that disappear over time.[20]
- Considering the family cultural and linguistic background, acculturation, and parental attributions about their children’s academic difficulties is essential. To be sensitive, relevant, and effective, it behooves practitioners to try to use cultural informants and seek information about the history, language, and culture of the family.[46]

References

1. Geva E. Issues in the assessment of reading disabilities in L2 children: Beliefs and research evidence. *Dyslexia* 2000;6(1):13-28.
2. Limbos M, Geva E. Accuracy of teacher assessments of second-language students at risk for reading disability. *Journal of Learning Disabilities* 2001;34(2):136-151.
3. Cummins J. *Bilingualism and special education*: *issues in assessment and pedagogy* . San Diego, Calif: College-Hill Press; 1985.
4. Lesaux N, Koda K, Siegel L, Shanahan T. Development of literacy. In: August D, Shanahan T, eds. *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth* . Mahwah, NJ: Lawrence Erlbaum; 2006:75-122.
5. Lesaux N, Geva E. Synthesis: Development of literacy in language-minority students. In: August D, Shanahan T, eds. *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth* . Mahwah, NJ: Lawrence Erlbaum; 2006:53-74.
6. Bruck M, Genesee F. Phonological awareness in young second language learners. *Journal of Child Language* 1995;22(2):307-324.
7. Chiappe P, Siegel LS. Phonological awareness and reading acquisition in English- and Punjabi-speaking Canadian children. *Journal of Educational Psychology* 1999;91(1):20-28.

©2006-2026 ABILIO | SECOND LANGUAGE

8. Gottardo A, Yan B, Siegel LS, Wade-Woolley L. Factors related to English reading performance in children with Chinese as a first language: More evidence of cross-language transfer of phonological processing. *Journal of Educational Psychology* 2001;93(3):530-542.
9. Verhoeven LT. Transfer in bilingual development: The linguistic interdependence hypothesis revisited. *Language Learning* 1994;44(3):381-415.
10. Wade-Woolley L, Siegel LS. The spelling performance of ESL and native speakers of English as a function of reading skill. *Reading and Writing: An Interdisciplinary Journal* 1997;9(5-6):387-406.
11. Gholamain M, Geva E. Orthographic and cognitive factors in the concurrent development of basic reading skills in English and Persian. *Language Learning* 1999;49(2):183-217.
12. Comeau L, Cormier P, Grandmaison E, Lacroix D. A longitudinal study of phonological processing skills in children learning to read in a second language. *Journal of Educational Psychology* 1999;91(1):29-43.
13. Dressler C, Kamil M. First- and second-language literacy. In: August D, Shanahan T, eds. *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth* . Mahwah, NJ: Lawrence Erlbaum; 2006:197-238.
14. Geva E, Clifton S. The development of first and second language reading skills in early french immersion. *The Canadian Modern Language Review* 1994;50(4):646–667.
15. Geva E, Ryan EB. Linguistic and cognitive correlates of academic skills in 1 st and 2nd languages. *Language Learning* 1993;43(1):5-42.
16. Royer JM, Carlo MS. Transfer of comprehension skills from native to 2 nd language. *Journal of Reading* 1991;34(6):450-455.
17. Reese L, Garnier H, Gallimore R, Goldenberg C. Longitudinal analysis of the antecedents of emergent Spanish literacy and middle-school English reading achievement of Spanish-speaking students. *American Educational Research Journal* 2000;37(3):633-662.
18. Everatt J, Smythe I, Adams E, Ocampo D. Dyslexia screening measures and bilingualism. *Dyslexia* 2000;6(1):42-56.
19. DaFontoura HA, Siegel LS. Reading, syntactic, and working memory skills of bilingual, Portuguese-English Canadian children. *Reading and Writing: An Interdisciplinary Journal* 1995;7(1):139-153.
20. Geva E, Wade-Woolley L, Shany M. The concurrent development of spelling and decoding in 2 different orthographies. *Journal of Reading Behavior* 1993;25(4):383-406.
21. Ho CSH, Fong KM. Do Chinese dyslexic children have difficulties learning English as a second language? *Journal of Psycholinguistic Research* 2005;34(6):603-618.
22. Durgunoglu AY, Nagy WE, Hancin-Bhatt BJ. Cross-language transfer of phonological awareness. *Journal of Educational Psychology* 1993;85(3):453-465.
23. Hu C-F, Catts HW. The role of phonological processing in early reading ability: What we can learn from Chinese. *Scientific Studies of Reading* 1998;2(1):55-79.
24. Genesee F, Geva E. Cross-linguistic relationships in working memory, phonological processes, and oral language. In: August D, Shanahan T, eds. *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth* . Mahwah, NJ: Lawrence Erlbaum; 2006:175-184.
25. Genesee F, Geva E, Dressler D, Kamil M. Synthesis: Cross-linguistic relationships. In: August D, Shanahan T, eds. *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth* . Mahwah, NJ: Lawrence Erlbaum; 2006:153-174.

©2006-2026 ABILIO | SECOND LANGUAGE

26. Lesaux NK, Siegel LS. The development of reading in children who speak English as a second language. *Developmental Psychology* 2003;39(6):1005-1019.

27. Dufva M, Voeten MJM. Native language literacy and phonological memory as prerequisites for learning English as a foreign language. *Applied Psycholinguistics* 1999;20(3):329-348.

28. Gottardo A, Chiappe P, Yan B, Siegel L, Gu Y. Relationships between first and second language phonological processing skills and reading in Chinese-English speakers living in English-speaking contexts. *Educational Psychology* 2006;26(3):367-393.

29. Wade-Woolley L, Geva E. Processing novel phonemic contrasts in the acquisition of L2 word reading. *Scientific Studies of Reading* 2000;4(4):295-311.

30. Geva E, Zadeh ZY. Reading efficiency in native English-speaking and English-as-a-second-language children: The role of oral proficiency and underlying cognitive-linguistic processes. *Scientific Studies of Reading* 2006;10(1):31-57.

31. Lanauze M, Snow CE. The relation between first- and second-language writing skills: Evidence from Puerto Rican elementary school children in bilingual programs. *Linguistics and Education* 1989;1(4):323-339.

32. Ndlovu K, Geva E. Writing ability in children who speak English as a second language and have a reading disability. Poster presentation presented at: Conference “Language acquisition and bilingualism: Consequences for a multilingual society”; May 2006; Toronto, Ontario.

33. Verhoeven LT. Components in early second language reading and spelling. *Scientific Studies of Reading* 2000;4(4):313-330.

34. Lipka O, Siegel LS, Vukovic R. The literacy skills of English language learners in Canada. *Learning Disabilities Research and Practice* 2005;20(1):39-49.

35. Geva E, Farnia F. Understanding vocabulary growth in ELLs – Trajectories and predictors. Paper presented at: UC LMRI Biliteracy Development Research Forum; January 20-22, 2005; Santa Barbara, Calif.

36. Biemiller A, Slonim N. Estimating root word vocabulary growth in normative and advantaged populations: Evidence for a common sequence of vocabulary acquisition. *Journal of Educational Psychology* 2001;93(3):498-520.

37. Jean M, Geva E. Do older English-as-a-second language (ESL) children have the same knowledge of words as English-as-a-first language (EL1) children? Poster presentation presented at: Conference “Language acquisition and bilingualism: Consequences for a multilingual society”; May 2006; Toronto, Ontario.

38. Geva E. Second-language oral proficiency and second-language literacy. In: August D, Shanahan T, eds. *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth*. Mahwah, NJ: Lawrence Erlbaum; 2006:123-139.

39. Geva E, Yaghoub-Zadeh Z, Schuster B. Understanding individual differences in word recognition skills of ESL children. *Annals of Dyslexia* 2000;50:123-154.

40. Chiappe P, Siegel LS, Wade-Woolley L. Linguistic diversity and the development of reading skills: A longitudinal study. *Scientific Studies of Reading* 2002;6(4):369-400.

41. Geva E, Siegel LS. Orthographic and cognitive factors in the concurrent development of basic reading skills in two languages. *Reading and Writing: An Interdisciplinary Journal* 2000;12(1-2):1-30.

42. Arab-Moghaddam N, Sénéchal M. Orthographic and phonological processing skills in reading and spelling in Persian/English bilinguals. *International Journal of Behavioral Development* 2001;25(2):140-147.

43. Geva E, Wade-Woolley L, Shany M. Development of reading efficiency in first and second language. *Scientific Studies of Reading* 1997;1(2):119-144.

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44. Lindsey KA, Manis FR, Bailey CE. Prediction of first-grade reading in Spanish-speaking English-language learners. *Journal of Educational Psychology* 2003;95(3):482-494.

45. Verhoeven LT. Acquisition of reading in a second language. *Reading Research Quarterly* 1990;25(2):90-114.

46. Geva E, Barsky A, Westernoff F, eds. *Interprofessional practice with diverse populations: cases in point* . Westport, Conn: Auburn House; 2000.

47. Katzir T, Shaul S, Breznitz Z, Wolf M. The universal and the unique in dyslexia: A cross-linguistic investigation of reading and reading fluency in Hebrew- and English-speaking children with reading disorders. *Reading and Writing* 2004;17(7-8):739-768.

48. Durgunoglu AY, Oney B. A cross-linguistic comparison of phonological awareness and word recognition. *Reading and Writing* 1999;11(4):281-299.

49. Frith U, Wimmer H, Landerl K. Differences in phonological recoding in German- and English-speaking children. *Scientific Studies of Reading*1998;2(1):31-54.

50. Wimmer H, Goswami U. The influence of orthographic consistency on reading development: Word recognition in English and German children. *Cognition* 1994;51(1):91-103.

51. Abu-Rabia S. Verbal and working-memory skills of bilingual Hebrew-English speaking children. *International Journal of Psycholinguistics* 1997;13(1):25-40.

52. Bialystok E, Luk G, Kwan E. Bilingualism, biliteracy, and learning to read: Interactions among languages and writing systems. *Scientific Studies of Reading* 2005;9(1):43-61.

53. Liow SJR, Poon KKL. Phonological awareness in multilingual Chinese children. *Applied Psycholinguistics* 1998;19(3):339-362.

54. Wimmer H, Mayringer H, Landerl K. The double deficit hypothesis and difficulties in learning to read a regular orthography. *Journal of Educational Psychology* 2000;92(4):668-680.

55. Fashola OS, Drum PA, Mayer RE, Kang S-J. A cognitive theory of orthographic transitioning: Predictable errors in how Spanish-speaking children spell English words. *American Educational Research Journal* 1996;33(4):825-843.

56. Geva E, Wang M. The development of basic reading skills in children: A cross-language perspective [Invited review article]. *Annual Review of Applied Linguistics* 2001;21:182-204.

57. Mumtaz S, Humphreys GW. The effects of bilingualism on learning to read English: Evidence from the contrast between Urdu-English bilingual and English monolingual children. *Journal of Research in Reading* 2001;24(2):113-134.

58. Wang M, Geva E. Spelling acquisition of novel English phonemes in Chinese children. *Reading and Writing: An Interdisciplinary Journal* 2003;16(4):325-348.

59. Cohen A, Schiff R, Gillis-Carlebach M. Complexity of morphological, syntactic, and narrative characteristics: A comparison of children with reading difficulties and children who can read [Hebrew]. *Megamot* 1996;37(3):273-291.

60. Geva E, Wade-Woolley L. Issues in the assessment of reading disability in second language children. In: Smythe I, Everatt J, Salter R, eds. *International book of dyslexia: a cross-language comparison and practice guide*. West Sussex, England: John Wiley and Sons; 2004:195-206.

61. Gersten R, Geva E. Teaching reading to early language learners. *Educational Leadership* 2003;60(7):44-49.

Note:

[a] This review does not deal with social-emotional, cultural, or demographic factors.

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