

Reading and writing difficulties in bilingual learners

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In the context of globalization and immigration, bilingualism and biliteracy are increasingly common around the world. Many children learn to read and write in a bilingual and multilingual setting. Despite the widely reported benefits of bilingualism and families' and school systems' perceptions of learning a second language as a strength, many challenges are faced in the education of bilingual children with reading and writing difficulties. This special issue aims to deepen our understanding of the sources of reading and writing difficulties in bilingual learners and to explore effective identification, classification, and instructional practices to address the issues across early childhood to adolescence. The reading and writing difficulties are broadly defined and may include difficulties in wordlevel decoding skills and/or meaning-based competencies such as vocabulary and text comprehension, spelling, and text-level writing.

Dyslexia is the most common form of reading/learning disabilities. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge (International Dyslexia Association, n.d.). Another group of children is called poor comprehenders, who consistently struggle with reading comprehension. Poor comprehenders are prevalent but often go unnoticed by teachers and clinical practitioners because of their adequate word decoding skills, but persistent difficulties in linguistic comprehension emerge in later school years (Hulme & Snowling, 2011; Nation et al., 2004). Some other children with reading comprehension difficulties struggle in both word decoding skills and linguistic comprehension.

Accurate and timely identification of learners with reading and writing difficulties is a long-term concern and challenge for educators and researchers worldwide. Given the increasing linguistic diversity across the globe, this issue is not unique to North America where most research has been published. Although considerable progress has been made for monolinguals, such research on bilingual learners is still lacking (e.g., Francis et al., 2019). Cultures, languages, and scripts are all important for understanding reading and learning difficulties (McBride, 2019).

Bilingualism itself is not a risk factor, but it is associated with reading difficulties in some learners. Identifying reading difficulties accurately and timely in children learning

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English as a second or an additional language is challenging because difficulties with acquiring a new language can mask signs indicating the risk of dyslexia (Hall, 2009). It is imperative in the education system to be able to distinguish second language acquisition from reading and writing difficulties among bilingual learners from early childhood to ado-lescent periods (Olsen, 2010; Parrish et al., 2006). So far, sources of reading difficulties in bilingual children reported in the literature include limited code-based skills and linguistic comprehension including vocabulary and oral comprehension (Kieffer & Vukovic, 2012), working memory (Swanson et al., 2020), inference-making skills and reading engagement (Barber et al., 2022), among many other factors.

Reading and writing are closely related skills; research shows substantial correlations between reading and writing achievement. Most poor readers also struggle with writing (MacArthur, n.d.). Bilingual learners may experience writing difficulties in one or both of their languages. For instance, a study examining the writing abilities of bilingual Korean and Spanish-speaking students in the United States found that the students had more difficulties with their writing in English than in their native languages (Cho & Brutt-Griffler, 2015). In another study with bilingual Spanish-English speaking students in a U.S. high school, Guzman-Orth et al. (2019) found that the students struggled with writing in both languages, but their difficulties were more pronounced in English. In a review of the literature on bilingual learners with writing difficulties, Miller et al. (2017) identified several factors that contribute to writing difficulties. These include a lack of proficiency in one or both languages, cultural differences in writing conventions, and differences in the writing process between languages.

Overall, research suggests that bilingual learners may experience reading difficulties, writing difficulties, or both of them. The extent of reading and/or writing difficulties in their first or second language may vary. The recent report showed an alarming and stable trend of co-occurrence of reading and writing disabilities in elementary students, ranging from 30% in first grade to 47% in fourth grade, with 50% of first-grade students with reading and writing disabilities continuing to manifest this co-occurrence through the fourth grade (Costa et al., 2016; Chua et al., 2016) found that, among five conventional tests (phonological awareness, vocabulary, spelling, letter identification, rapid digit naming), spelling was most predictive of word reading difficulties in Kindergarteners learning English as L1 or L2. The prevalence and causes of co-occurrence of reading and spelling/writing difficulties in bilingual students remain less understood. Further research is needed to better understand the underlying causes of these difficulties, which will inform the development of effective strategies for supporting bilingual learners with reading and/or writing difficulties.

Topics in this special issue include sources of reading and writing difficulties in schoolaged children from a variety of language and cultural backgrounds in an international setting. Sources of reading and writing difficulties include oral language, executive function, and other basic psycholinguistic skills such as phonological awareness and rapid naming (RAN). Specifically, the aspects of reading difficulties range from word reading to reading comprehension, and writing difficulties include spelling, written summary, and composition skills. Collectively, the set of eight papers provides insights into effective identification and evidence-based instructional practices to support this at-risk student population. Participants feature Spanish-English bilinguals in the U.S. and Spain, French-English bilinguals in French immersion schools in Canada, and Chinese-English bilinguals in Hong Kong and mainland China.

The first four articles included in this special issue investigated the interconnections of oral language, executive functioning, and reading among Kindergarten to first-grade Spanish-English bilinguals in the U.S. (Goodrich et al., 2023; Relyea et al., 2023) and the stability of reading difficulty classification of first to third grade French-English bilinguals in French immersion schools in Canada (Shakory et al., 2023; MacKay et al., 2023). The next three articles (Cheah et al., 2023; Li et al., 2023; Álvarez-Cañizo et al., 2023) explored spelling and writing difficulties in Chinese-English bilingual children in Hong Kong and mainland China, and in Spanish-English dyslexic children in Spain. The last article (Zhang et al., 2023) investigated the effect of orthographic presence on learning spellings and meanings of morphologically complex words in a sample of linguistically diverse students in the U.S. Below is a summary of each article.

Goodrich and colleagues' study reported that oral language skills, mainly vocabulary knowledge, and morphosyntactic ability, in Spanish and English were associated with English reading achievement among Spanish-speaking bilingual kindergarten and first-grade children in the U.S., which underscores the importance of children's oral proficiency in Spanish in identifying bilingual students at risk for reading difficulties.

Relyea's study explored the U.S. first-grade multilingual children's profiles of executive function and how the profile membership was associated with their English reading achievement. The results highlight the importance of children's executive function for the early identification of and tailored intervention for multilingual children at risk for reading difficulties.

Shakory and colleagues investigated the overlap of word reading difficulties in English and French, and the stability of English and French word reading profiles in French immersion children from grades 1 to 3. The findings suggest that English-French bilingual children with reading impairments have significant and persistent deficits in both languages. The presence of co-occurring word reading difficulties in both L1 and L2 has implications for accurately identifying reading difficulties with common underlying reading deficits.

MacKay et al.'s study investigated the early predictors of word reading difficulties in English-French grades 1–3 bilingual readers. The results indicated that kindergarten English phonological awareness and RAN distinguished between good and poor French word readers longitudinally.

Cheah and colleagues examined the cognitive correlates of Chinese and English spelling skills in second and third-grade Chinese- English Hong Kong bilingual children. The findings highlight the critical role of delayed copying in differentiating spelling difficulties in both Chinese and English, the importance of phonological awareness for spelling in English but not in Chinese, and the role of automaticity in bilingual spelling difficulties. The dissociation of spelling in Chinese and English reported in this study is explained by the typological distance between the two writing systems.

Li et al.'s study examined the quality of summary writing of bilingual adolescents enrolled in an English immersion program in China and the relation of summary quality to their reading comprehension and language learning in L1 (Chinese) and L2 (English). For English language learning, typical readers outperformed poor decoders and poor comprehenders on summaries of themes, main ideas, and important details. For Chinese language learning, typical readers performed better than poor comprehenders on main ideas and important details, and poor decoders outperformed poor comprehenders on main ideas.

Alvarez-Cañizo and colleagues examined similarities and differences in written composition in English L2 and Spanish L1 in Spanish children with dyslexia. Results showed similar writing performance (writing speed, lexical diversity, productivity, and spelling accuracy) in L1 and L2; basic language skills (reading and spelling accuracy, and oral vocabulary) were associated with writing performance in English and Spanish. The findings are explained by cross-language transfer and suggest that basic reading skills and transcription skills influence written composition skills in Spanish-English bilingual children.

Zhang et al.'s study explored the orthographic facilitation effect in learning morphologically complex English words among upper elementary Spanish-speaking and Englishspeaking students attending schools in the US. Results show that students can retrieve meanings or spellings of complex words better with the presence of spelling compared to no spelling.

In summary, each of the papers in this special issue offers unique insights into the cognitive and linguistic profiles of reading and writing difficulties in school-aged bilingual learners. Collectively, these articles have theoretical and practical implications for integrating effective identification and targeted instructional support for this at-risk student population (Lesaux, 2019). Specifically, these findings shed light on the importance of the constellations of oral language skills (e.g., phonological awareness, vocabulary knowledge, and morphosyntactic ability) in both L1 and L2 and cognitive skills (e.g., executive function, RAN) in early identification of reading difficulties in bilingual learners. The findings reveal the longitudinal stability of reading disability classification among bilingual learners. Finally, this special issue deepens our understanding of the development of code-based writing skills (e.g. spelling) and discourse-level skills of written transcription (e.g., summary and cohesion) in bilingual children with varying linguistic skills in L1 and L2, which has clinical implications for early assessment and intervention of reading and/or writing difficulties in bilingual students.

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