

A System Review on the Influence of Children's Second Language Skills on Their First Language Reading Level

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ABSTRACT

In the context of globalization, research on the effects of bilingualism on cognitive functioning is one of the hot topics in psychology and linguistics. Previous studies on bilingual processing have shown that native language skills can influence second language acquisition, but studies on the effects of the second language on the native language have been relatively few and scattered. The purpose of this study was to examine whether bilingual children's second language skills can transfer to first language skills and thus impact children's native language reading level. Previous literature has indicated that bilingual children's reading levels in either language are related to the children's own literacy and reading skills. Therefore, this paper searches the literature related to the study of bilingual children's reading levels from 1990 to the present through the keywords "bilingual, cross-linguistic transfer, reading strategies, and acquisition of literacy". This paper integrates the methodological approaches of this literature, examines their results, and explores whether children's second language skills affect first language reading levels and whether these effects are positive or inhibitory.

Keywords: *Second language skills, First language reading level, Bilingual processing, Children.*

1. INTRODUCTION

The need for communication skills is multifaceted in the general trend of globalization in all walks of life. The number of bilinguals is on the rise in search of better opportunities and lifestyle needs. Bilingualism is defined as the phenomenon of a bilingual group speaking two languages under the influence of their native language while mastering a foreign language [1]. The tremendous growth and large proportion of bilingual children have aroused scientists' interest in analyzing and comparing the differences between monolingual and bilingual children. At the same time, as the bilingual population has increased, their language is no longer seen as a communication tool. Instead, it is gradually recognized for a role in higher levels of rational understanding. In this review, many linguists and psychologists such as Bialystok [2] and Talebi [1] have made the effects of bilingualism on cognitive functioning a focus of interdisciplinary research, especially in studying and testing the cognitive abilities of bilingual children. Most of the researches on the cognitive abilities of bilingual children has systematically examined the positive or

negative effects of the first language on the second language [3, 4, 5]. However, studies on whether the second language affects the first language have been relatively few and mostly scattered.

Therefore, this paper categorizes these scattered studies according to their subjects and methods and systematically summarizes the findings to investigate the possible effects of different language skills and reading skills factors on bilingual children's native language reading levels.

2. METHODOLOGY

This article focuses on an extensive literature search using Google Scholar through the keywords: bilingual, cross-linguistic transfer, reading strategies, and literacy acquisition. First, this review established an article describing a model of eye-level research on bilingual children's reading ability as the basis and classifies the included articles by the two models mentioned in this article. Second, among the searched literature, articles were included in this review if they included experimental data related to bilingual reading levels,

included both variables of bilingual skills and native language reading levels, and explored their effects. A total of four empirical studies were found from the literature that showed the relationship between bilinguals' second language skills and their native language reading level. This paper's multiple child language proficiency experiments used a within-group experimental design. In studying the interaction of independent components between two languages, the participating students or child subjects in all language groups were given different experimental treatments, such as simulated reading tests, phonological awareness tests, and reading level tests, reading strategy assessment, etc. The number of participants was limited to between 20 and 100. The participants' native and second languages are not explicitly restricted; the language categories included in this paper are English, French, Chinese (Mandarin, Cantonese), Indonesian, etc.

3. CLASSIFICATION OF DUAL LANGUAGE RESEARCH MODELS

A study of Cohen found that transfer between languages takes place in the minds of bilinguals [5]. This led to the concept of "bidirectional transfer" in language, where the two languages interact from different perspectives [1]. Also, Talebi [1] summarized the experiments in the literature and categorize them in two research models to understand the effects of bilingual children's second language skills on their first language reading levels. In examining the results of the experiments across the literature, Talebi [1] found positive correlations in some studies and negative correlations in others. In addition to this, the variables that were broadly similar across studies led to different results [1]. Therefore, the findings of each experiment are also discussed and analyzed in this paper. Finally, the article reviews the different effects of second language skill factors on bilingual children's first language reading level. Previous research has shown that the relationship between the two languages acquired by bilingual children may be interconnected [6]. This relationship has been divided into two models, one being the "linked-languages model". According to this model, the independent components interact, such as influences on literacy that affect children's reading levels, such as conceptual development and meta-linguistic insight. The second is the "partial integration model". The two languages mastered by bilinguals may share common linguistic knowledge, such as overlapping syntactic knowledge, vocabulary, reading strategies. Both models help researchers to explore the cognitive abilities of bilinguals. The articles retrieved in this paper are based on these two models, although they differ slightly in their research methods.

3.1. Model I: The Effect of the Interaction of the Independent Components of Two Languages on Bilingual Children's Reading Levels in the First Language

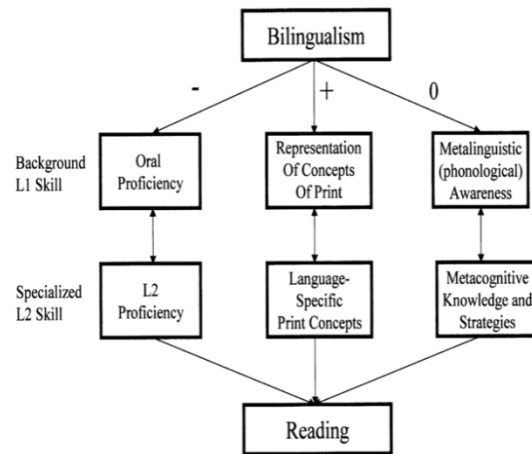


Figure 1. The Interaction of the Independent Components of Two Languages on Bilingual Children [1]

The independent components of interlanguage are vocabulary, syntax, or linguistic knowledge. Most of the experiments with Research Model 1 explored whether the vocabulary, syntax, and linguistic knowledge of each of the two languages were similar or whether they influenced each other in a way that affected children's monolingual development. According to previous research, the independent components of language can, to some extent, affect bilingual children's monolingual abilities. Bilingual children's second language proficiency may or may not affect their first language reading level. This difference arises from differences in independent components and differences in the age and timing of language development of bilingual children [2]. In Experiment 1, it examined spoken proficiency in one of the language-independent components. Herman had 94 French-English bilingual kindergarten children perform a simulated reading test in which they created a story from a silent picture book [2]. In addition, the researchers administered a measure of oral proficiency. All tests were administered in both languages. The purpose of the experiment was to study the effect of oral proficiency on the simulated reading scores [2]. The language-independent component of Herman's experiment was the oral proficiency of bilingual children. He attempted to assess children's reading proficiency by measuring their oral proficiency in both languages [2]. The results of the study showed that children performed differently in stories in each language. Reading suffers if the spoken language proficiency is inadequate. Oral proficiency as a text-based language component is acquired separately based on experience with each language. So, children must build individual proficiency

for their different languages. Therefore, oral language proficiency does not include privileged literacy for bilingual children, so bilingual children do not improve their reading by acquiring more spoken language skills in one language than monolingual children. However, in experiment 2 examines phonological awareness, one of the independent components of language. Phonological awareness is the meta-linguistic concept most closely associated with reading [2]. Numerous empirical studies have shown that phonological awareness plays an essential role in initiating and promoting literacy in children. Liow [7] studied children's English phonological awareness as a function of children's knowledge of another specific language. The study was conducted in Singapore, and the subjects were all attending school in English. The children's native language was English, Chinese, or Indonesian, a language written in alphabetical order. The children in the last group scored highest on an English spelling test designed to measure phonological awareness. This success was attributed, at least in part, to the transfer of phonological insights derived from a phonologically simple language, Indonesian, to English. The results of this experiment and the theory of bidirectional transfer could demonstrate that the interaction of phonological awareness in both languages in bilingual children can improve reading in the first language of bilingual children.

3.2. Model II: Effects of shared linguistic competence between two languages on bilingual children's first language reading levels

Model two views the language system of bilingual children as a whole in terms of standard linguistic competence between the two languages rather than as an interaction between different language components. It is a model that is the opposite of Model one. According to previous research findings, bilingual children use similar language skills when learning two languages. These similar language skills allow bilinguals to effectively transfer skills from the second language to the language skills of the first language [3]. For example, experiment 1 examines Chinese ESL students' reading strategies in Chinese and English [8]. Tang [8] found that readers used the same comprehension strategies in both languages. This suggests that reading strategies are transferable across languages, regardless of language distance. The possibility of bidirectional transferability is because these participants were bilingual readers. They had reading experience in L1 and L2, and for bilingual readers, the reading experience is two channels for improving and refining knowledge of reading cognitive processes. Therefore, they could apply procedural knowledge to reading in any language. Hence, this study concludes that bilingual children who effectively apply L2 reading strategies to L1 can observe progress in their first

language reading level, both in the process and the reading outcome. In addition, Experiment 2 examines bilingual children's rapid naming skills and rhyme awareness in Chinese and English [6]. In this experiment, Keung enrolled 53 Hong Kong second-grade elementary school students (including 27 boys and 26 girls) and administered rapid naming skills tests in Chinese and English and rhyme awareness tests in English and Chinese. The test results found that Chinese rapid naming, English rapid naming, and English rhyme tests all predicted significantly unique amounts of variance in Chinese (L1) vocabulary reading. However, the most ponderable aspect of this experiment is that English rhyme awareness predicted Chinese word reading. Keung [6] argues that memory for unfamiliar syllables improves students' learning of new Chinese characters as more and more of them are learned. Therefore, English language learning exercises bilingual children's memory for unfamiliar syllables to learn new Chinese characters more effectively and thus improve their Chinese reading skills.

Task	1	2	3	4	5	6	7	8
1. Chinese word reading	-							
2. Chinese rhyme detection	.17	-						
3. Chinese lexical decision	-.26	-.09	-					
4. Chinese rapid naming	-.44*	-.08	.13	-				
5. English word reading	.58***	.52***	-.27	-.28*	-			
6. English rhyme detection	.34*	.31*	.26	-.14	.34*	-		
7. English phoneme deletion	.32*	.48***	-.04	-.29*	.78***	.34*	-	
8. English lexical decision	.26	.24	.00	-.02	.29*	.27	.22	-
9. English rapid naming	-.46**	.04	.08	.67***	-.26	.04	-.24	-.08

Figure 2. Correlation coefficients for Chinese and English literacy sand cognitive tasks after controlling for the effects of participants' age and IQ [6].

4. DISCUSSION

According to the previous experiments, it can be found that some studies proved that bilinguals' L2 proficiency is positively correlated with improving their reading level in their first language [2, 3, 8, 9, 10]. However, some studies prove that bilinguals' L2 proficiency is negatively correlated with improving their reading level in their first language. In particular, in the first study model, the linked-languages model, spoken language and language awareness, as separate parts of language, are related as similar variables but show different effects on children's first language reading levels. The reviewer speculates that the different results may be due to the different ages of the test subjects. The preschoolers tested for oral language skills may lack cross-language skill transfer because they are young testers. Even though they acquired skills in both languages but could not make them interact with each other, their reading levels were not influenced by oral proficiency.

In contrast, in Experiment 2 of Model 2, because the subjects are second-grade students, who are expected to have achieved some basic reading level in both

languages, their rhyme awareness skills are transferred in bilingualism [1, 4, 6]. Thus, the result of this experiment is that bilingual children's rhyme awareness skills in their second language can positively affect bilingual children's reading level in their native language [1, 4, 6]. In addition, the reason why similar variables have different experimental results may be that the two languages mastered by the bilingual children are not in the same language family. Experiment 2 showed that the Indonesian-English children, who were also bilingual, had higher English reading levels than the Chinese-English children. This result may be because Indonesian is an alphabetical language like English, while Chinese and English come from two different language families, making it more difficult for Chinese-English children to transfer skills from L2 to L1.

There is a sense in which learning another language facilitates children's use of their native language. Children who use L2 have earlier maturing metalinguistic skills than their monolingual peers. Thus, learning a second language is an advantage as far as the general use of the first language is concerned. However, many of the effects of L2 on L1 are variable. Second-language thinking necessarily differs in terms of first-language elements. Language organization is complex, both through the links in Mode 1 and the integration in Mode 2. Thus, the impact of bilingual children's second language proficiency on first language reading levels is likely to be positive, negative, or absent.

5. CONCLUSION

According to the experimental results of different studies, bilingual children's second language skills can, in some ways, improve their native language reading levels to some extent. What's more, Research has demonstrated that the transfer of second language skills to the first language is possible. However, bilingual children' second language skills need to be classified. Different abilities can lead to different effects, such as positive, null, and negative. For example, bilingual children's second language speaking skills did not improve their second language reading; however, their proficient second language's language-specific Print Concepts could help them improve their reading skills. Second, the language family to which bilingual children belong in both languages also affects their language proficiency transfer. When their first and second languages were from a similar language family, their second language proficiency significantly influenced their first language reading level. The limitation of this review is that the content of past papers and experiments is not sufficient, and the language of bilingual children mastered are not controlled. In future reviews, a more detailed division will be made according to the different kinds of languages that bilingual children have mastered. The results of this study can be helpful in the education of future bilingual children by providing a more detailed delineation of the areas in which bilingual

children may benefit from second language pairs. Therefore, in the future, educators can help bilingual children improve skills related to both languages based on the different languages concepts the competencies they acquired in each language.

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