

Research on the Impact of Cross-Language Transfer on English Learning among Chinese K-12 Students

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Abstract. This paper reviewed 9 articles published in the last 3 years (from 2019 to 2022) studying the language transfer of Chinese K-12 students who studied English. The results showed that in areas such as phonetic learning and conceptual understanding, the mother tongue positively influences English language learning; in some aspects of English vocabulary and writing, students are vulnerable to the confinement of their mother tongue thinking. The research also aimed to provide some pedagogical recommendations for promoting positive transfer and inhibiting negative transfer for students in the context of K-12 education.

1 Introduction

In China, English is a compulsory subject for K-12 students, and the need for young people to acquire bilingual skills is growing in the context of globalisation and cross-cultural communication. Based on Critical Period Hypothesis, most of the K-12 are at the optimum time to master a foreign language [1]. And in the process of second language acquisition, the mother tongue has always played an essential role in the learning of English by students [2].

Language transfer is a study that examines this very issue. Transfer, according to Faerch and Kasper, refers to the process by which L2 learners' active L1 knowledge influences in the development of their interlanguage [3]. Thus, language transfer focuses on the impact that knowledge of one language may have on the learning of another, which is always a hot topic and central issue in language teaching in China.

According to Jarvis and Pavlenko (2008), the ultimate goal of transfer research is to explain how the languages a person knows interact with each other in the mind [4]. Understanding this cognitive processing of language will therefore help school teachers and language specialists to understand what positive or negative interactions two distant languages can have in the learning process. In turn, this will make it easier to construct appropriate educational and intervention programmes for K-12 students [5].

Based on the last three years of cutting-edge research on language transfer, this study attempted to summarise the different effects of the mother tongue in the process of English learning for Chinese K-12 students. It was hoped that it could give a reference for frontline educators on instructional methods to improve teaching strategies and enhance the effectiveness of teaching, and also provide researchers in related fields with some inspiration for current research gaps and future research directions.

2 Research Method

As an updated review essay, this study focused on 9 articles on the language transfer of Mandarin on English, selected from a total of 62 relevant articles published during the period of 2019 to 2022.

Specifically, the search strings [topics = "Chinese" AND "English" AND "Language transfer"] were adopted in the Chinese National Knowledge Infrastructure (CNKI) database and the Google Scholar, both with a time limit of 2019 to the present. Then, studies that were not empirical ones and whose subjects were not K-12 students were excluded. Exclusions were also made for those phonological studies focused on dialects rather than Mandarin, such as Cantonese, due to the large number and variation of Chinese dialects.

Finally, 9 studies were left for the final research synthesis. It involves 6 Chinese language articles identified in journals and dissertations from the CNKI and 3 English language articles from the Google Scholar database.

3 Results and Findings

3.1 Positive effects

Taking first-year senior students as the research subjects, Song (2021) investigated the correlation between students' Chinese language ability and English learning outcomes, mainly through questionnaires and interviews [6]. In line with the Universal Grammar and the Linguistic Interdependence Hypothesis, the findings showed that in the process of English learning, students borrowed Chinese language learning methods. Their Chinese language ability, such as reading comprehension, would have an impact on the corresponding ability in English.

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Moreover, through SPSS correlation tests, students' Chinese and English scores showed a significant positive correlation, indicating that there is some positive transfer between students' Chinese language ability and English learning. However, most students did not have a positive perception of this.

Based on positive transfer theory and contrastive analysis theory, Wen (2021) examined the effect of Hanyu pinyin on learning English phonetic symbols [7]. Secondary school students of essentially the same level were divided into two classes, with Class 1 taught using the normal phonetic approach and Class 2 taught using a contrastive model in which Hanyu pinyin and English phonetic symbols were compared and contrasted. After discussing and analysing the results of the two tests, the author found that the students in Class 2 were significantly better at mastering English pronunciation as a result of the positive influence of Hanyu Pinyin, thus demonstrating that Hanyu Pinyin does contribute to some extent to the teaching of English phonetic symbols, especially in the areas of stress recognition and syllable division in English phonetic symbols.

Lü et al. (2022) conducted a study on Mandarin Chinese dual language immersion (DLI) in the US. DLI offers students opportunities to accomplish their academic programs in two languages, in which a cross-language transfer is essential in bilingual development as linguistic or cognitive resources in one language can support that of another. Firstly, the transfer of definition skills is observable in English learners [8]. That is, if students are skilful in definition with one language, they might produce similar results in English. For example, the ability to produce superordinate vocabulary in Chinese can be a predictor of the same skills in English. Secondly, the transfer effectiveness of linguistic skills can be enhanced by a DLI education. In this bilingual education context, the DLI program can serve as a facilitator. Then, a higher home language proficiency could boost the transfer process.

Tong et al. (2022) assessed the direct and indirect contributions of syntactic awareness to reading comprehension in Chinese as a first language and English as a second language among 227 Hong Kong Chinese-English bilingual Grade 4 students [9]. The authors designed language-shared and language-unique syntactic awareness tasks to assess reading comprehension in Chinese and English and adopted other reading-related cognitive and meta-linguistic measures. They found a significant direct effect of syntactic awareness on reading comprehension in first language Chinese and second language English, as well as an indirect effect through word reading. Hong Kong Chinese-English bilingual students make use of the syntactic awareness shared between their two languages when building their comprehension of Chinese and English texts. These findings may prompt the field to consider the linguistic similarities between Chinese and English when exploring how students learn to understand the two languages.

3.2 Negative effects

When teaching English, many English teachers in China struggle at how students can improve their reading comprehension, some of whom resort to morphological instruction. Morphological instruction aims to use words' morphemic structure to make students easily manipulate the structure, thus inferring the meanings when English proficiency is relatively low. Shen and Crosson (2022) discovered that although compound awareness is a prominent feature in Chinese, English vocabulary knowledge can only be predicted by English compound awareness [10]. Furthermore, according to Shen and Crosson, only English derivational awareness may be the essential indicator of English reading comprehension for Chinese learners. Although these findings discourage those researchers who want to find a relationship between Chinese proficiency and English learning outcomes, they still offer guidances for English teachers on how they can use English compound and derivational awareness to enhance students' vocabulary knowledge and reading comprehension capability.

Guo and Lin (2020) illustrated the effects of language transfer, especially about the influences on oral English learning [11]. The effects are further specified in different types of English learning, such as vocabulary, nouns, verbs, prepositions, tenses, word order, etc. Learners need to be aware of the difference between two languages before excelling at learning English. For example, verbs are categorized as transitive or intransitive, which decides if they can carry objects directly. A verb that is transitive in Chinese might be intransitive in English. Secondly, language transfer influence is affected by language ego, which refers to a second individual identity related closely to emotional thinking, feeling, and acting. If the language ego is prominent, it might be possible that students are reluctant to speak English for fear of being ridiculed and embarrassed, causing a negative language transfer.

Fan (2021) focuses on the issue of transfer at the discourse level of English writing for high school students [12]. Through a comprehensive corpus analysis, as well as an analysis of student questionnaires and teacher interviews, the author draws the following conclusions. Firstly, in terms of discourse articulation, students have problems with lexical cohesion, textual cohesion, omission, substitution and conjunctions, which are mainly due to the fact that students do not understand and grasp the characteristics and differences in the use of English-Chinese articulation devices, i.e. there is a significant negative transfer effect in students' English writing. Secondly, in terms of structure, paragraphs usually lacked a topic sentence at the beginning, and the essays did not conform to the linear development of the English text. Essays were poorly organised, lacked overall logic and even finished with an absence of endings. In short, although students were aware of the use of articulation devices, they were singular, and the error rate was high. Students paid deliberate attention to the organisation of paragraphs in their essays, instead resulting in all monotonous and boring three-paragraph essays that remained illogical in content. However, on the other hand, the English spoken by Chinese people, as a variant of a

language localised in China, is inevitably characterised by the Chinese language and Chinese thinking, and there is no need to be overly critical of it.

Pan (2019) used questionnaires, proposition essays and interviews to collect students' errors in English vocabulary learning from Year 8 students in a secondary school [13]. Based on the theories of error analysis and comparative analysis, the collected vocabulary error samples were categorised and analysed in detail and concluded that the errors caused by the negative transfer of mother tongue in vocabulary learning are mainly in the four areas of lexical meaning, collocation, especially in lexicality and lexical syntax.

Taking 90 Year 9 students as the research subjects, Li (2022) combined acquisition error analysis, language comparative analysis and language transfer theory. The author chose the error analysis method and questionnaire survey to analyse the errors in English learning of middle school students and their causes [14]. The questionnaire survey focused on the learners' awareness of the phenomenon of negative transfer of their mother tongue and their English learning habits. The survey results showed that most of the students unconsciously learn English through their mother tongue, for example, in vocabulary, they would learn English words in isolation or in one-to-one correspondence with the meaning of Chinese words, without looking deeper into the cultural meaning of the words. In terms of syntax, learners are also accustomed to using simple sentences with one-to-one correspondence between English and Chinese. The analysis of the errors collected from the answer cards of two question types, i.e., short essay filling and written expression in the mock secondary school examinations, showed that the errors in English learning at the junior secondary level are influenced by a number of factors. The most important of these factors is the negative transfer of the mother tongue due to the differences between English and Chinese, mainly at the level of phonetics, vocabulary and syntax.

4 Analysis and Discussion

4.1 Implications and Suggestions for Pedagogical Approaches

Firstly, teachers should take an objective view of the relationship between mother tongue and English language teaching, actively identify the commonalities between the two and apply them in their teaching practice. Students should be guided to pay attention to the common and shared characteristics between the two languages and to give full play to the positive effect of the mother tongue on the positive transfer of foreign language learning.

Secondly, teachers in K-12 schools must try to evoke students' interest in learning English, which is a decisive factor in whether they can successfully master this language. Regarding the learning materials, teachers can always supplement some additional knowledge. There are a number of compound words in English which, when linked, can help to expand vocabulary. Many phonetic words are pronounced similarly to their Chinese

counterparts, which also helps students to pick up words quickly and can help them become more enthusiastic about learning the language. As for the methods, for example, teachers can use the pithy formula or mnemonics to help students remember difficult and confusing knowledge. A sense of achievement also affects students' interest in learning. As they are enterprising and have a sense of honour, teachers can hold regular learning competitions or tests to motivate and stimulate them. Games and activities are ideal for active primary school children and can attract their attention, thus enhancing their learning. Teachers can also use English songs, poems and so on to incorporate classroom texts and make students interested in the culture of English-speaking countries.

Thirdly, in addition to imparting in-class knowledge, teachers should compare and contrast English and Chinese cultures to develop students' awareness of cross-cultural communication. By comparing the differences between their language origins, histories, values, approaches and identities, which have an effect on the thinking, their impact on language can be understood. Teachers should lead students to appreciate more English originals that are appropriate to their abilities and constantly improve their understanding of the similarities and differences between English and Chinese during the transition from their mother tongue to a foreign language.

Fourthly, teachers should seize the opportunity to increase students' English language input by making use of the wealth of resources available to them. Teachers should try to create a more authentic language environment for their students and mobilise their interest by incorporating a wide variety of multimedia teaching methods and tools as far as possible. Students should also be encouraged to actively imitate, master and practise some more authentic English expressions. For instance, when working on vocabulary, teachers can introduce the English explanations of words in the classroom with senior students as appropriate. In this way, students can gain a better understanding of the context in which each word is used and acquire authentic English. Also, guiding students to use an English-English dictionary to check the meanings of vocabulary will help them develop an English mindset.

Fifthly, the development of a sense of language must be based on a great deal of language practice. Reading is an important means of input for English learning. Through training of reading, students can not only accumulate more vocabulary and grammar but also learn more authentic English expressions. Extensive training of reading allows students to see more repeatedly the fixed collocations, articulatory transitional devices and chapter structures, etc., in the English language, so that when students do their own English writing, they will be aware of reminders to use more accurate and authentic English to express their thoughts.

Sixthly, to address the issue of writing, teachers should firstly strengthen their own English writing skills to ensure that they write in line with the logical thinking of English texts. Only in this way, they are able to give students the correct guidance and comments. Secondly, they should encourage students to practice more, and they

can organise mutual corrections among students. The teacher's teaching of writing should not stop at the use of advanced vocabulary but should be rigorous in terms of chapter structure and paragraph articulation.

Lastly, in recent years, with the popularity and development of the Internet, online teaching and distance learning have become increasingly popular. This allows teachers to make use of multimedia tools and resources to improve the content, for example, they can insert online word tests directly into their teaching and instantly see how well students have mastered the course. At the same time, teachers can use a combination of video and live streaming to make it easier for students of all levels to watch and understand the lessons repeatedly. For disadvantaged areas, online teaching allows students who may not otherwise have access to English classes to be taught by teachers with a high level of English proficiency, which can improve educational equity to some extent.

5 Conclusion

Including nine recent papers examining the Cross-Language Transfer on English Learning among Chinese K-12 Students, this literature review summarises its positive and negative implications. Firstly, native language skills and cognition are closely related to second language learning, but some scholars have found that compound awareness of Chinese is not transferable to English vocabulary learning. Secondly, to some extent, with the help of Hanyu Pinyin, students can better master the learning of English phonetic symbols. Thirdly, some Chinese thinking can have a negative impact on English vocabulary and writing. Finally, students' psychological factors, such as language ego, may also affect their interest and success in learning a foreign language.

This paper offers some suggestions for English teachers at the K-12 level. Firstly, teachers themselves should correctly understand the effect of language transfer between Mandarin and English and continue to improve their own standards. Secondly, teachers should use teaching tools to provide English language input to students and create an immersive English classroom for both offline and online teaching.

In addition to this, what can be found is that there have been fewer relevant empirical studies in the last three years, with many studies focusing on English learning among university students. K-12 students, especially primary school students, are at a critical stage of language development, and proper guidance from teachers is vital for them. There is, therefore, a call for more research to be conducted on the subject of language transfer in the younger age groups.

This article also has some limitations. Firstly, the literature selection and review process were done by the author and may be somewhat subjective. Secondly, there are fewer relevant studies and the review may not be comprehensive. Future studies could expand the age limit of the study participants or the time of year of the reviewed literature.

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