

## Study on Foreign Medical Students' Negative Transfer of Mother Tongue in Studying Medical Chinese

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**Abstract:** In recent years, the number of foreign medical students in China has grown rapidly. When these students come to China, they have undergone tremendous changes ranging from their living habits to study or working environments. To adapt to China smoothly, learning Chinese is the first thing to integrate into the environment. However, there is always a problem with foreign medical students studying Chinese. According to the theory of mother tongue transfer, in the process of learning a second language, the learner's first language, that is, the use of the mother tongue, will directly affect the second language learning, which will have a positive or negative interference effect. When there is a positive impact, it is a positive migration, and a negative impact is a negative migration. In this study, the pronunciation, vocabulary and syntax are used to study the negative transfer of mother tongue in the medical Chinese learning of foreign medical students in medical colleges and universities. The reasons for these negative migration phenomena are summarized and the corresponding strategies are proposed. Studies have shown that the negative transfer of mother tongue in speech is the most serious, followed by vocabulary, and the negative transfer of the mother tongue in syntax is relatively small compared to speech and vocabulary.

### 1. Introduction

With the in-depth development of China's socialist modernization and the "One Belt, One Road" strategy showing amazing results, the number and quality of foreign students in China have significantly improved, which puts new and higher requirements on Chinese international education. According to the latest statistics from the Ministry of Education, the number of foreign students coming to China in 2016 has exceeded 440,000. Among them, the number of foreign medical students has increased year by year, and the number is only lower than that of liberal arts. It has become a large group which cannot be ignored. According to the statistics of the Ministry of Education in 2012, there are 49 colleges and universities that have enrolled foreign medical students in China. In 2007, the Ministry of Education announced the "Interim provisions on quality control standards for undergraduate medical education (taught in English) for foreign students in China". According to the provision, foreign students must learn Chinese and should have the basic skills of "Mastering basic Chinese knowledge and understanding the general condition of China", so that they can meet the needs of living and contacting patients in China. Accurate understanding of medical terminology Chinese expression has a deeper impact on the future career development and academic research of foreign medical students. At present, most of the foreign medical students are from South Asian countries, Nepal, Pakistan, India and so on. These students lived in a non-Chinese environment before coming to China, and they did not have a Chinese foundation at all. However, in the process of studying and living in China, Chinese is an inevitable demand. Medical Chinese is especially important for foreign medical students, especially during clinical internships. In the clinical internship in the last year of study, foreign students need to communicate with patients, contact with medical records, prescriptions, etc. All of these need Chinese. One of the more famous theories about language learning is the theory of language transfer.

The concept of "migration" originally came from psychology. Behaviorist psychology believes that the learning of new knowledge is based on old knowledge, and the completion of the previous learning task will affect the subsequent learning task. The migration that promotes the learning of

new knowledge is called "positive transfer", and the migration that hinders the learning of new knowledge is called "negative transfer." The issue of language transfer has always been the focus of second language acquisition. The concept of "native language influence" was introduced into the field of second language acquisition in the 1950s, and since then language migration has occupied an important position in the theory of second language acquisition. Studying language transfer theory has become an important means of assisting language learning and teaching.

Over the years, research and exploration of language transfer have never stopped at home and abroad, and the results are rich. Foreign studies on the negative transfer of mother tongue began in the 1950s. Liu Xun pointed out in the "Introduction to the Teaching of Chinese as a Foreign Language" that the "mother tongue transfer" is derived from the comparative analysis hypothesis proposed by the American linguist Dr. Lado in the mid-1950s<sup>[1]</sup>. In his 1957 book *Cross-Cultural Linguistics*, Lado proposed the theoretical basis of the so-called "contrast analysis hypothesis." He was the first to provide a more comprehensive theory and proposed a systematic approach to language comparison. By analyzing and comparing the mother tongue with the target language, predicting the difficulties caused by the differences, and taking preventive measures in teaching, establish an effective second language teaching method<sup>[2]</sup>. Odlin (1989) systematically summarized the migration studies before 1989, summed up the nature of migration, and explored the role of migration in L2 learning from multiple levels of the language system, which made a significant impact on future migration studies<sup>[3]</sup>. Domestic research on negative transfer of mother tongue started late, which mainly focused on the study of negative transfer of mother tongue in translation and writing. Wang Wenyu and Wen Qiufang (2002) studied the characteristics of the second language writing process by means of audio thinking, review and interviews, pointed out the problems to be solved in the field of language transfer research and pointed out the direction for future research<sup>[4]</sup>. Liu Yuanyuan and Li Ning (2009) analyzed the influence of negative mother tongue transfer on English writing from three aspects: vocabulary, grammar and discourse<sup>[5]</sup>. Wang Ting (2012) analyzes the interference of Chinese native language thinking and idioms on second language English from the perspective of cross-cultural background, especially the influence of negative transfer of mother tongue on writing, and proposes corresponding countermeasures and solutions<sup>[6]</sup>. These studies have further promoted the study of negative transfer of mother tongue in China.

In China, the research on negative transfer of mother tongue has been widely applied in foreign language teaching, especially in English teaching. However, there are few studies on the negative transfer of mother tongue in the field of Chinese teaching for foreign students. The research on the negative transfer of foreign students' mother tongue is mainly focused on the study of Korean, Japanese and Thai students. There are very few on native English speakers. Some of the more representative ones are: Du Dan, Wu Chunxiang, "*Research on Negative Transfer of Mother Tongue in Chinese Study of Foreign Students*", which mainly studies the differences between the mother tongue and Chinese in the pronunciation, vocabulary and syntax of foreign students, and analyzes these differences to study Chinese learning. Different negative transfer phenomena in the mother tongue<sup>[7]</sup>. Zhang Jie's "*Discussion on the Voice Errors of Foreign Students*", the author discusses the phonetic errors of foreign students' in learning Chinese and with some responsive thoughts<sup>[8]</sup>. Meng Dan's *Study on Negative Transfer of Mother Tongue in English-speaking Foreign Students' Compositions* extracts 12 English-speaking foreign students' compositions from HSK's Dynamic Composition Corpus, and the negative transfer of mother tongue has studied under the law of qualitative and quantitative research through Deviation Description and Data Analysis, and it is concluded through research that the mother tongue negative transfer of English-speaking students is not only in the primary stage, but with the increase of language level, the laws of negative-migration language projects are different<sup>[9]</sup>.

Based on the learning and analysis of the above materials, the research on the negative transfer of foreign students' mother tongue at home and abroad mainly focuses on empirical research<sup>[10]</sup>, Chinese and foreign students' mother tongue pronunciation, essay negative transfer research, etc. The study of negative transfer of mother tongue of foreign medical students is still blank. Therefore,

this study will do research in the negative transfer of mother tongue in medical Chinese learning of foreign medical students, summarize the causes of these phenomena, and propose solutions to improve the medical Chinese learning ability of foreign medical students and eliminate second language acquisition and some misunderstandings.

## **2. Methods**

This paper conducts empirical research based on the actual corpus of foreign medical students. By collecting the corpus of the students' voices, vocabulary and sentences separately, and conducting scientific analysis, the paper will summarize the phenomenon of negative transfer of mother tongue in the process of learning Chinese, find out the bias of its existence, analyze the reasons for the bias, and propose the corresponding ending strategy.

### **2.1 Main Research Methods**

#### **(1) Literature review method**

The literature review research method refers to a research method that discovers the problem by comprehensively and correctly understanding the problem to be studied, finding the essential attribute of the thing, and finding the problem according to the purpose of the research or the needs of the subject. This study will use school libraries, networks, magazines, etc. to collect materials related to this topic. In the case of fully possessing first-hand information, analyze and synthesize materials, and find sufficient arguments and theoretical basis to demonstrate opinions.

#### **(2) System analysis**

Systematic analysis refers to the way of thinking that reflects objective integrity. It requires the dialectical unity of the whole world and the elements, the whole and the hierarchy, the whole and the structure, the whole and the environment, to reveal the overall relationship and overall of the things and their feature. The system analysis method is applied to the research of this subject, which is to analyze the text as a whole, clarify the internal level of the text, find the connection between the levels, and play its supporting role in the theme argumentation.

#### **(3) Deduction and Induction**

On the basis of perusing the text, the content in the text is separately demonstrated, and then the internal connection is found on the basis of this, and the role of each part on the subject of the argument is found out, and finally the conclusion is drawn.

### **2.2 Technical Route**

(1) It is proposed to collect corpus from 10 foreign students of 2018 in medical school, and use Praat software to conduct speech analysis on corpus, and summarize the law of negative transfer of mother tongue in foreign students' speech.

(2) It is proposed to use the Questionnaire Star to conduct medical Chinese test on 10 foreign students of 2018 level in medical school, and analyze the test results to discover the law of negative transfer of mother tongue in the syntax of foreign students.

## **3. Experiments**

### **3.1 Corpus Collection**

Ten experimental subjects from the medical school from Nepal, Pakistan, and India were collected separately and the collected raw data were collated.

### **3.2 Data Analysis**

The collected data is based on mathematical methods such as mean, variance, and mode. The data is arranged and calculated in a data table, and similar comparisons and trend analysis are performed in the form of graphs.

## 4. Results

### 4.1 Negative Transfer Phenomenon on Speech

The study of speech is the most difficult in language learning. Due to the different cultures and habits of different places, the emotions of each person are different when they speak. Therefore, the rhythm type—the rhythm, the accent, and the tone—is the most difficult to control in language learning, and the number of tones is the most difficult. It can be seen from the table that people in different regions have different degrees of negative transfer of their mother tongue when they learn Chinese. As shown in Table 1, in the negative transfer of mother tongue in the voice, in the rhythm category, the deviation rate of C is 57%, that of Pakistan is 63%, that of India is 60%, and the average rhythm deviation rate is 60%. In terms of stress, Nepal has a deviation rate of 69%, Pakistan 64%, India 66%, and an average stress deviation rate of 66.3%. In terms of tone, Nepal's deviation rate is 73%, Pakistan is 70%, India is 78%, and the average tone deviation rate is 73.7%. The overall average deviation rate in terms of speech is 66.7%.

**Table 1** Speech bias rate table

Speech	Area	Correct number	Errors number	Error rate
Rhythm	Nepal	43	57	57%
	Pakistan	37	63	63%
	India	40	60	60%
	Total	120	180	60%
Accent	Nepal	31	69	69%
	Pakistan	36	64	64%
	India	34	66	66%
	Total	101	199	66.3%
Tone	Nepal	27	73	73%
	Pakistan	30	70	70%
	India	22	78	78%
	Total	79	221	73.7%
Total		300	600	66.7%

### 4.2 Negative Migration on Vocabulary

Negative migration in modern Chinese vocabulary has a shift in word class and form. In the word class, there are nouns, verbs, adjectives, quantifiers, etc., and the form of the words is divided into actual words and function words. Although Chinese is not the most special existence in the form of words and words, the negative transfer of vocabulary still exists. As shown in Table 2, in terms of words, Nepal's bias rate is 41%, Pakistan is 46%, India is 50%, and the average rhythm bias rate is 45.7%. In terms of morphology, Nepal's bias rate is 44%, Pakistan is 49%, India is 43%, and the average rhythm bias rate is 45.3%. The total average deviation rate in terms of speech is 49.8%.

**Table 2** Vocabulary bias rate table

Vocabulary	Area	Correct number	Errors number	Error rate
Words	Nepal	59	41	41%
	Pakistan	54	46	46%
	India	50	50	50%
	Total	163	137	45.7%
Morphology	Nepal	56	44	44%
	Pakistan	51	49	49%
	India	57	43	43%
	Total	164	136	45.3%
Total		301	299	49.8%

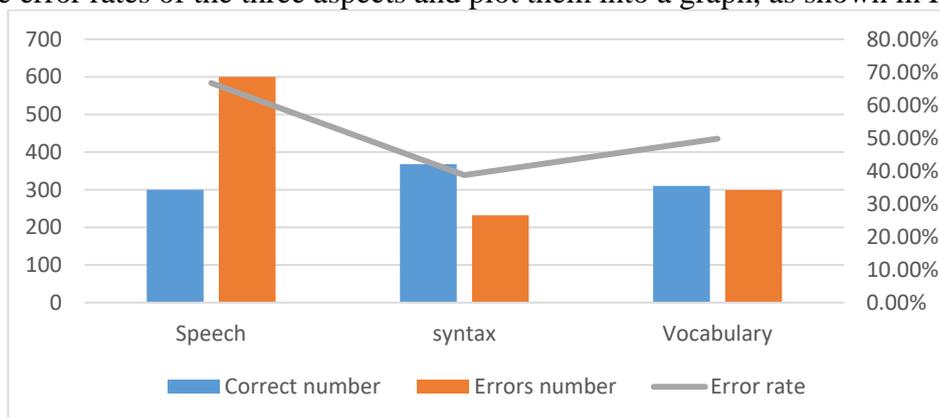
### 4.3 Syntactic Negative Migration

The syntactic negative transfer is divided into linguistic order and syntactic configuration. From the following table (Table 3), Nepal's bias rate is 47% in terms of linguistic order, 43% in Pakistan, 51% in India, and the average linguistic deviation rate is 47. %. In terms of statement configuration, Nepal's deviation is 23%, Pakistan is 36%, India is 32%, and the average syntax allocation deviation rate is 30.3%. The total average deviation rate in terms of syntax is 38.7%.

**Table 3** Syntactic bias rate table

syntax	Area	Correct number	Errors number	Error rate
linguistic order	Nepal	53	47	47%
	Pakistan	57	43	43%
	India	49	51	51%
	Total	159	141	47%
Statement configuration	Nepal	77	23	23%
	Pakistan	64	36	36%
	India	68	32	32%
	Total	209	91	30.3%
Total		368	232	38.7%

Compare the error rates of the three aspects and plot them into a graph, as shown in Figure 1:



**Figure 1** Error comparison chart

## 5. Conclusion

Migration is the cognitive experience of learners in the process of language learning, reflecting the cognitive psychological process of learning capital. In the pronunciation learning of language, it is to be distinguished from theoretical learning. The key to the study of speech is to form new foreign language habits, and it is necessary to rely on intensive training for daily consolidation. In vocabulary teaching, strengthening the comparison and summary between vocabularies can effectively help foreign students understand and master Chinese vocabulary and get rid of the blunt contrast between words and words. Although the syntactic bias rate is under the other two, the syntax of a sentence is wrong; it is easy to make people misunderstand. In order to reduce the negative transfer effect of the syntax, foreign students can read more works such as Chinese novels or listen more. Listen to Chinese radio and so on.

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## References

- [1] Liu Wei. Introduction to Teaching Chinese as a Foreign Language [M]. Beijing: Beijing Language and Culture University Press, 2000.
- [2] Lado, R. Linguistics Across Cultures: Applied Linguistics for Language Teachers [M]. University of Michigan Press, 1957.
- [3] (US) Odlin (T.) Language Transfer - Cross-linguistic influence in language learning Language transfer - interlingual influence of language learning [M] Shanghai: Shanghai Foreign Language Education Press, 2001.
- [4] Wang Wenyu, Wen Qiufang. Native Language Thinking and Second Language Writing——A Study of College Students' English Writing Process[J]. Journal of PLA University of Foreign Languages, 2002(4).
- [5] Liu Yuanyuan, Li Ning. The Influence of Negative Transfer of Mother Tongue on English Writing[J]. Linguistics Journal (Foreign Language Education and Teaching), 2009(5).
- [6] Wang Ting. The Influence of Negative Transfer of Mother Tongue on English Writing in Cross-cultural Background[J]. Examination Weekly, 2013(12)
- [7] Du Dan, Wu Chunxiang. Study on Negative Transfer of Mother Tongue in Chinese Study of International Students[J]. Journal of Mudanjiang University, 2018(4): 47-50.
- [8] Zhang Jie. Discussion on the Pronunciation Errors of Foreign Students[J]. Studies in Language and Literature, 2018(3): 30-31.
- [9] Meng Dan. Study on the negative transfer of mother tongue in English-speaking foreign students' compositions [J]. Science and Technology Information, 2010 (25): 650-651.
- [10] Dong Yufang, Cheng Fengping. An Empirical Study of Mother Tongue Strategies and Negative Transfer of Mother Tongue in Chinese-English Translation[J]. Journal of Inner Mongolia University of Finance and Economics, 2019(2): 134-136.