The Influence of Chinese University Students' Learning Environment on Second Language Learning

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Abstract: There have been many studies on the influence of the learning environment on the learning effectiveness of English language learning, but few studies have been conducted on the influence of the learning environment on the second language learning of Chinese university students. Therefore, based on 53 undergraduates from thirteen provinces in China, mainly in the eastern coastal area, a questionnaire survey was conducted to investigate the relationship between the learning effectiveness of Chinese university students' second language learning and their learning environment. The results of the study show that the affective learning environment is the most influential factor, which has a positive impact on the second language learning effectiveness of Chinese university students, while the physical and academic environments have a less significant impact. The paper concludes with recommendations for higher education institutions to approach the improvement of second language learning environments through the findings of the study, with a view to providing teachers and students alike with new inspirations for the application of second language acquisition.

Keywords: learning environment, second language learning, Chinese university students

1. Introduction

As globalisation accelerates and international relations become closer, second languages are increasingly valued as a means of cultural exchange. Learning a second language is an increasingly important aspect of education in the 21st century. In China, a country with a large population, more and more people are taking an interest in learning a second language, especially Chinese university students. A second language, represented by English, is often seen as a gateway to global opportunities. By acquiring a second language, it can help people to better participate in international exchanges and cooperation. However, Chinese university students face many challenges in learning a second language, including the second language learning environment. It often has a direct impact on their learning outcomes and experiences and deserves closer examination. This paper will provide an insight into the role that the learning environment plays in second language learning to help educators and policy makers improve second language education in China.

2.   Literature Review

Second language acquisition, or SLA, is the process by which people learn languages in addition to their native tongue(s). Just as a second language is the standard term for any language whose acquisition starts after early childhood, including what is chronologically the third or subsequent language, SLA is the acquisition of any second language. The language to be learned is often referred to as the "target language" or "L2" (and SLA is often called L2A, for "L2 acquisition"). The educational elements that learners experience in the learning process are increasing, and language teaching is no longer simply a process of knowledge transfer. From knowledge transfer to environmental construction, the link between the learning environment and learners' learning outcomes is becoming more and more apparent. As learners' demands on the learning environment continue to rise, more and more scholars are focusing on the study of the construction of the learning environment in the educational process. Regarding the composition of the learning environment, Zhong Zhixian argues that the elements of learning environment are composed of seven elements such as activities, resources, context, learning community, tools, scaffolding and assessment, while Huang Ronghuai et al. argue that the learning environment consists of six elements: resources, tools, learning communities, teaching communities, learning styles and teaching styles [1,2].

There is research abroad that (Herrington et. al., 2006) propose guidelines for designing authentic learning environments for higher education that can be applied across a range of disciplines and in a variety of modes [3]. Another subject of Fraser's study is to review several lines of past learning environment research, including associations between student outcomes and the learning environment, evaluation of educational innovations, teachers' action-research attempts to improve their classroom environments, links between educational environments, and cross-national studies. Language learning cannot be achieved without a language learning environment, which is also multifaceted [4]. The research in Thailand has shown that the second language learning environment is also linked to three aspects: physical, academic and psychological, with the physical environment being the most important influence [5].

Therefore, it is important to study the impact of Chinese university students' learning environment on second language learning in order to better understand the learning situation and practical needs of Chinese university students, identify problems and address them, and improve the quality of Chinese university students' second language learning. In this context, it is particularly important to conduct research in this area, which can provide an important reference for improving students' learning experiences and outcomes. However, in general, there is relatively little empirical research on the effects of the learning environment on second language learning. In order to achieve this research goal, the author proposes the following research questions:

1) What are the factors in the learning environment that influence the effectiveness of second language learning among Chinese university students?

2) How are these factors related to students' effectiveness in learning a second language?

3.   Methods

3.1. Participants

The effective sample size of this survey was 53 people, of which about 21% were male and 79% were female. The survey covered several undergraduate students from several universities in thirteen provinces of China, mainly in the eastern coastal regions such as Shanghai, Zhejiang, Tianjin and Hubei, with an average age of 21 years old and a range of 18 to 24 years old. Among the students, all of them speak Chinese as their mother tongue, 75.47% of them speak English, 13.21% Japanese, 9.43% French, and the remaining 2% speak other languages. The respondents have basically completed at

least half a year's study of a second language at university, and the majority of them have two or more years of second language study and have taken one or more relevant second language level exams. Before completing these questionnaires, they had already understood the purpose of this questionnaire and the aim of this study.

3.2. Measures

This study was launched in July 2023, and the survey was conducted by means of a questionnaire. The content of the questionnaire is divided into three parts: 1) the basic information of the students, such as gender, academic year, location of the university, etc.; 2) the basic information of the students' learning, such as the second language they have learnt and the length of time they have learnt it, the average GPA of the second language-related courses they have learnt, and the related language level exams they have participated in and their highest scores (grades), etc.; 3) the basic information of the second language learning environment, which is mainly It involves the evaluation of the hardware facilities and network environment of the school classrooms (physical environment) and its impact on the learning effect, the commonly used second language learning resources and their richness and the degree of advancement of the learning mechanism (academic environment), the personal psychological factors such as the motivation of language learning, the factors of interpersonal interactions between teachers and students inside and outside the classroom, and the students' own metacognitive strategies (affective learning environment).

The questionnaire used in this study was adapted from a related article [6]. In order to better study the influence of the learning environment on Chinese university students' second language learning, the questionnaire was adopted in Chinese and delivered online through a Chinese questionnaire platform called "Questionnaire Star". The questionnaire was based on a five-point Likert scale, with five options under each item, ranging from "very satisfied" to "very dissatisfied".

After collecting all the questionnaires, a total of 60 questionnaires were obtained, of which 53 were valid.

3.3. Data Analysis

The survey data were mainly chosen to be analysed using SPSS. In this study, descriptive statistics and descriptive analysis were used to investigate the current situation of the second language learning environment of Chinese university students, and through chi-square analyses, the link between the learning environment on the learning effect and learning experience of second language learning was investigated.

In this paper, the author uses the "highest" score on the L2 learning test as a proxy for the main L2 learning effect, and refers to the "physical environment" and "academic environment" mentioned in the previous section as the "technological learning environment", which refers to the respondents' scores on the evaluation of the hardware facilities of the school classrooms and the Internet environment, as well as on the level of difficulty of the commonly-used L2 learning textbooks and the evaluation of the teachers of the L2 courses, and the affective learning environment using the scores on the motivation to learn the language, the interaction between teachers and students inside and outside of the classroom, and their own meta-cognitive and pedagogical strategies towards the teachers. Among them, in the item of "the highest score in the second language learning test", this study chooses to assign 1 point to the advanced language level (i.e., 600+ points in Level 4 or 6/IELTS 8/TOEFL 115+/CEFR C1~2), and then chooses it to 2 points to the intermediate language level (Level 4 or 6, 550~599 points/IELTS 7/TOEFL 100~114/CEFR B1~2), 3 points to the low level (Level 4 or 6, 425~549 points/IELTS 6/TOEFL 80~99/CEFR A1~2), 4 points to failing to pass the relevant level exam, and 5 points to the special situation of the results not being announced or not having the

relevant scores; in the item of "average grade in second language related courses taken", this study also chooses to assign a score of 1 to 90 and above, then decreases to 2 for GPA 80-89, 3 for GPA 70-79, 4 for 60-69, and 5 for failing to pass. The above three factors will be divided into five dimensions for assigning scores, and then the weighted average of them will be taken as the final score. The frequency of learning a second language outside the classroom and the average grade in the student's second language programme are used as another variable to assist in referencing the second language learning effect and experience.

4. Result

Table 1: Descriptive statistics of the sample.

	Minimum	Maximum	Average	Standard deviation
Highest score in second language level exams	1	5	2.604	0.840
Technical learning environment	1	5	3.359	0.969
Affective learning environment	1	5	3.306	1.018
Frequency of out-of-class learning	1	5	2.943	1.134
GPA of the second language-related courses	1	4	2.208	0.863

As shown in Table 1, the respondents' evaluation scores for the technical and emotional environments are generally around 3.3, indicating that their satisfaction level with these two indicators is in the medium range; the students' average grades and the highest language level test scores are in the medium-low range and fluctuate a lot; and the frequency of extracurricular learning of a second language is in the medium-low range, with fluctuations being the most significant one, which shows that the students do not spend much time on learning a second language and that there are big individual differences.

Table 2: Chi-square analysis between the highest score and learning environment factors.

	p
Physical environment	0.517
Academic environment	0.275
Affective learning environment	0.022
Frequency of out-of-class learning	0.069

As shown in Table 2, the relationship between several learning environment factors and second language achievement is, in descending order, affective learning environment, frequency of extracurricular learning, academic environment and physical environment. Compared with the significant difference criterion ($p < 0.05$), only the affective learning environment has a more significant difference on second language performance, which indicates that the learning environment factors have a direct but not significant impact on the effectiveness of second language learning.

In the questionnaire survey, which asked the respondents what aspects of the learning environment they considered to be influential on second language learning, most of the respondents thought that

student-student and teacher-student interactions, as well as the learning atmosphere, were the most significant influences, followed by learning resources, and motivation for independent learning, which can be explained by the Chinese social aspect. With the development of economic globalisation, learning a second language has become more and more common in contemporary education, and because of the impact of the Covid-19 epidemic, the pressure on Chinese university students to find jobs at home has increased, and the number of students who wish to study in graduate schools and abroad has increased, the amount of time students spend on learning a second language has also increased significantly. There are 75.47% of the respondents said that their motivation to learn a second language was only for the examination of the second language, and 67.92% of the respondents learned a second language only through school and textbooks. Students lacked the motivation to learn a second language, and relied more on the external environment, such as a good learning atmosphere to drive their own learning, as well as a variety of extracurricular learning of a second language, such as online courses and learning resources such as language learning apps. They rely more on the external environment, such as a good learning atmosphere to drive their own learning, and a variety of extracurricular second language learning resources, such as online courses and language learning apps [7,8,9].

The results of the survey show that the affective learning environment positively influences students' learning outcomes and experiences in learning a second language. The positive and smooth communication between students and students and between students and teachers helps students persevere in the process of language learning; good motivation and learning attitudes help students develop correct learning habits to improve their learning efficiency, form effective learning strategies, and improve their learning strategies through their own metacognition; and teachers' teaching strategies are as important as teacher-student communication to students' language learning as it affects the quality of teaching and learning [10]. Teachers' teaching strategies are just as important to students' language learning as their communication, which affects the quality of teaching and learning, so the affective learning environment can positively influence the learning effect of the second language.

On the other hand, in the actual survey results, the two technological environments of physical and academic environments did not statistically significantly affect L2 learning outcomes as expected by the respondents, although they may have brought about some differences in the students' learning experiences to a certain extent [11]. This paper suggests that this may be due to the fact that in China's rapidly developing economy, the material conditions of students have improved, and they have access to more equal physical and academic learning environments, and that the Ministry of Education of China has issued a number of policies and documents that focus on improving the quality and effectiveness of second language learning, which has led to an increasingly positive attitude towards language learning in colleges and universities, and therefore the technological environments provided have met the needs of most of them. The technical environments provided have met the basic needs of most students, and the impact of technical aspects and physical conditions on learning outcomes has become less and less significant.

5.   Conclusion

This study used a questionnaire survey to further investigate the connection and influence between learning effectiveness and the learning environment of Chinese university students' second language learning, and it is broader and more optimizing than Zhou Ying's study. The study involves colleges and universities in several provinces and cities in China and second language categories, which improves the limitations of the original study. The results suggest that the learning environment influences the effectiveness and experience of second language learning to a certain extent. Therefore, universities and educators should also pay attention to optimizing the relevant language learning

environments. This paper gives some specific measures:

Improve the campus hardware facilities and network environment. A good learning environment cannot be achieved without complete hardware facilities and network conditions. It not only greatly improves teachers' teaching efficiency, but also enhances students' motivation by bringing them a good learning experience during the learning process, which is more conducive to second language acquisition.

Teachers are urged to change their traditional teaching strategies and concepts. Due to the impact of the covid-19 epidemic on the world, global education has been forced to enter a blended mode of teaching. Although the combination of information technology and artificial intelligence technology has made China's education change in the traditional mode of teaching, teachers should also be in line with the development of the times and endeavor to improve their own use of information technology. They should change the traditional teaching mindset, learn how to teach and promote students to use higher-order thinking to develop learning, and improve teaching efficiency and quality.

Pay attention to the development of campus language and cultural activities, create a smart teaching platform, encourage collaborative learning among students, and create a strong language learning atmosphere. Through various kinds of second-language speech contests, dubbing contests, second-language theatre plays and other campus cultural activities. These approaches can make students experience the second language application scenarios in an immersive way, and naturally develop good language habits and strengthen their language application skills. At the same time, a smart teaching platform can be created to promote student-student and student-teacher interactions and enhance students' team spirit and collaborative learning awareness. It can greatly motivate students in second language learning and enhance their independent learning abilities and strategies.

As the employment pressure in China continues to increase and the country's international status continues to rise, more and more employers are asking for multilingual talents, and the multilingual competence of university graduates is becoming more and more demanding, so it is urgent to improve the quality of second language teaching and learning in China. Recent research on the effects of the learning environment on second language learning can help educators and policy makers to improve second language education in China, as well as help students to better understand their own language learning processes and strategies in second language learning, so that they can learn more about their own learning strategies through metacognition in order to adapt to a variety of learning phases and the ever-changing employment situation.

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