The Virtual Linguistic Landscape of Chinese University Websites

JINZHEN LI

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR MASTER DEGREE OF ARTS
IN ENGLISH FOR COMMUNICATION
FACULTY OF HUMANITIES AND SOCIAL SCIENCES
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ภูมิทัศน์ภาษาศาสตร์เสมือนจริงของเว็บไซต์มหาวิทยาลัยจีน

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The Thesis of Jinzhen Li has been approved by the examining committee to be partial fulfillment of the requirements for the Master Degree of Arts in English for Communication of Burapha University

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This study explored the Virtual Linguistic Landscape (VLL) in Chinese higher education amidst the strong government focus on internationalization. It adopted a descriptive qualitative methodology to investigate the VLL of the top 100 Chinese university websites. The focus was on language code selection, language distribution, and the informational function of these websites. The data analysis involved the use of frequencies and percentages to explore both the quantity and types of language displayed on the universities' homepages. Additionally, content analysis was employed to scrutinize the informational function of the content found on the websites. The findings revealed that the majority (87%) of these websites were bilingual, using simplified/traditional Chinese and English. Additionally, 7% employed a multilingual approach, employing simplified Chinese, English, and other foreign languages. A minority (6%) adopted monolingualism. These websites disseminated various information categories, including general university details, admissions, academic units, research, campus life, international collaborations, academics, training, and talent recruitment. Notably, some websites featured information specific to the Chinese Communist Party and cultural aspects. The prevalence of English content demonstrates top Chinese universities' efforts to engage with the global community and enhance their international reputations. These findings added more understanding of multilingualism and the roles of English in cyberspace such as websites.

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CHAPTER 1
INTRODUCTION

1.1 Statements and significance of the problems

The notion of the linguistic landscape (LL) was first defined by Landry and Bourhis (1997) as 'the language of public road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings' (p. 25).' LL study originated from sociolinguistics -- the study of language and linguistic performance as influenced by social and cultural variables in daily life -- with the expansion of research fields, it gradually intersects with other disciplines, and pays particular attention to the language landscape in a multilingual society (Zhang & Shang, 2020). Through the study of the language phenomena on the language signs of public space, it can effectively reveal the power relations, identity and social space shaping behind the language (Xu, 2017).

With the development of the Internet, research on LL is no longer limited to signage in public areas, but gradually turns to the LL of virtual cyberspace. At present, people have better access to information and may communicate in a more comfortable manner with the aid of the internet as a result of the exponential rise of electronic communication and increasing globalization (Wang, 2020, p. 1). Especially, in recent years, multilingual research on language in cyberspace, including education, tourism, and shopping websites, have all increased dramatically as the development of cyberspace. This virtual phenomenon breaks the limitations of time and space. Virtual linguistic landscape (VLL) means 'non-physical' landscape, such as the Internet, are becoming ubiquitous in people's experience of language in societies in which they live (Atkinson & Moriarty, 2012, as cited in Wang, 2020, p. 1). The international evolution of higher education is profoundly influenced by the VLL.

Such advancement in higher education internationalization has become a global trend in today's world, with the rise of economic, political, and cultural globalization. The process is a critical component in establishing a world-class university. In recent years, there has been a noticeable increase in international study

abroad programs, which are now held in high regard by both domestic and international families. In China, with the improvement of the country's comprehensive national strength and the rapid development of higher education, China has become increasingly popular as an educational destination for international students (Hu, Diao & Li, 2022, p.1). According to the Ministry of Education of the People's Republic of China (2019), in total, China welcomed 492,185 international students in 2018 and 397,635 in 2019. Regarding the statistics, although the amount of international students declined in 2019 compared to 2018, it also can be assumed that each year, an abundance of international students would prefer and choose to study in China.

In China, the government has issued a series of related policies to encourage Chinese education to become global. For instance, the policies of 'Overall Plan for Promoting the Construction of World-Class Universities and First-Class Disciplines' and 'Educational Action for Promoting the Construction of the Belt and Road' ('Silk Road Economic Belt' and the '21st Century Maritime Silk Road'). The former pointed out that: 1) The state should adhere to take reform as a driving force, expand comprehensive college and university reform, speed up the construction of a contemporary university system with Chinese features; 2) The country encourages high-level colleges and disciplines with specific capabilities to strive for world-class status, acquire high-quality resources, foster first-class talents, produce first-class results, and speed up to their progress toward world-class; 3) The state encourages Chinese universities fair competition, as well as the development and improvement of the evaluation system of world-class universities and first-class disciplines with the following characteristics; and 4) The Chinese universities should highlight and innovate the key points of subject construction, drive schools to fully exploit their strengths and develop their own characteristics (State Council, 2015). The latter puts forward that China will continue to support the opening up of education to the outside world, strengthen education policy communication and mutual learning of advanced education experience, promote language exchange among countries along the route, share high-quality educational resources, support UNESCO in establishing a worldwide mechanism for mutual identification of academic qualifications, and comprehensively promote the accelerated development of education in various

countries to achieve shared prosperity. (Ministry of Education of the People's Republic of China, 2016).

The policies of 'Overall Plan for Promoting the Construction of World-Class Universities and First-Class Disciplines' and 'Educational Action for Promoting the Construction of the Belt and Road' are critical for raising China's educational development level of opening up, boosting the country's core competitiveness, and setting the groundwork for long-term development. According to these two policies, encouraging Chinese education to go to the center of the world stage, promoting international exchanges and cooperation, increasing the appeal of excellent foreign instructors and high-achieving international students, expanding the scale of foreign students, and enhancing the training of talents in institutions of higher learning have become the core tasks of the country's construction of a world-class university. These two policies will formally promote Chinese universities to enter the international education market.

According to Gu and Yi (2019, p. 46), in order to guide teachers and students in shaping the international education institution's image, enhancing Chinese higher education's overseas communication strength, and better participation in international competitiveness. Building a multilingual foreign language website has become a key strategy for China's higher education to 'go global'. In this context, Chinese universities have paid great attention to the critical role of websites in the dissemination of information, establishing an international image and attracting international students. Chinese universities have formed a unique LL in cyberspace by providing different language choices and multilingual pages. Furthermore, in recent years, VLL studies have been developed as a new trend. For instance, there are studies on landscapes, linguascapes, and linguistic mediation in cyberspace (Ivkovic, 2013); VLL on Facebook (Biro, 2018); and language policy in VLL (Gomaa, 2020). Compared with foreign LL research, in recent years, studies on LL have emerged, but few studies have explored the VLL of Chinese university websites. Hence, the researcher regards that the VLL in educational websites is worth investigating, especially the modality of language display, and the informational functions embodied in the educational websites. The results of this study may reveal how Chinese universities have constructed their images to attract outstanding international

students according to the globalization trend and Chinese policies.

1.2 Objectives

The objectives of this study are to investigate:

1. the language code selection and distribution on the top 100 Chinese university's websites.

2. the informational functions of the VLL of the studied Chinese university's websites.

1.3 Research questions

1.What are the language code selection and distribution on the top 100 Chinese university's websites?

1.1 What is the language distribution in each type of Chinese university?

2.What are the informational functions embodied in the VLL of the websites?

2.1 What are the types of information presented on the websites?

2.2 What are the language emphasis patterns of the navigation menus on Chinese and English web pages?

1.4 Contribution to Knowledge

The current study provides linguistic scholars a better understanding of the VLL in educational websites. The findings indicate the status of the language distributions in Chinese university websites and will be useful to understand multilingualism in Chinese higher education.

Furthermore, understanding the informational functions in the VLL of Chinese university websites may enable universities to tailor content to specific audiences to ensure that information is relevant, accessible, and engaging for different language groups.

1.5 Scope of the Study

(1) The study will focus on analyzing the language display mode on the top 100 Chinese university's websites according to their ranking status in Network of Science and Education Evaluation in China.

(2) The research focuses on the top 100 Chinese university's websites in 2021-2022.

(3) The study aims to investigate the functions of linguistic landscape in Chinese University Websites.

1.6 Definition of Terms

1.VLL in this study refers to the LL phenomenon of cyberspace in the top 100 Chinese university websites.

2. Cyberspace in this study refers to virtual cyberspace for Chinese university education websites.

3. LL Functions including the informational function and symbolic function. This study only focuses on the informational function of Chinese university websites in the virtual linguistic landscape field.

4. Multilingualism is regarded as the usage of more than two languages by a person or organization (Cambridge dictionary, n.d.).

5. Chinese universities in this study refer to the top 100 Chinese universities that were selected from the Network of Science and Education Evaluation in China websites according to the ranking status of the universities.

CHAPTER 2
LITERATURE REVIEW

This chapter reviews the literature related to the present study which aimed to explore the VLL of Chinese university websites. This chapter includes four sections. The first section covers the definitions of linguistic landscape (LL), the functions of LL, and the virtual linguistic landscape (VLL). The second section includes the discussion of multilingualism in LL. The third section covers English as a global language in relation to LL. The fourth section is a review of previous studies on VLL.

2.1 Linguistic Landscape (LL)

2.1.1 Linguistic Landscape (LL)

The number of scholars interested in the existence of language surrounding them in public space has increased since the landmark work of Landry and Bourhis (1997) published 'Linguistic Landscape and Ethnolinguistic Vitality: An Empirical Study'. According to Landry and Bourhis (1997, p. 23), the phrase 'linguistic landscape', as well as other expressions related to 'the visibility and salience of languages on public and commercial signs in a certain territory or region', has become more popular among linguistic academics.

Landry and Bourhis (1997) define to LL as the language of public road signs, advertising billboards, street names, place names, commercial store signs, and public signs on government buildings combines to produce the linguistic landscape of a certain territory, region, or urban agglomeration (p. 25).

LL encompasses a wide range of disciplines, including linguistics, geography, education, sociology, semiotics, architecture, urban planning and so on. On numerous levels, it provides rich and exciting texts (single words with deep meanings and shared knowledge, bright graphics, and so on). These LL texts shape the ecology in local, global, international contexts, and in multiple languages (Shohamy & Gorter, 2009). In LL research, language signs are the main research object of LL, which aims to reveal the way of discourse construction among language users, language planning agencies and signage readers (Zhang, 2020). In addition, according to Gorter (2006),

when there are multiple languages on signs, the LL can reveal the area's social background as well as its multilingualism.

2.1.2 Functions of LL

The LL of a territory has two primary roles, according to Landry and Bourhis (1997): informational and symbolic functions (p. 25). The informational function and symbolic function of LL are the basis of language landscape research (Zeng & Luo, 2019). The informational and symbolic functions, according to Landry and Bourhis (1997), are indicators of the relative power and status of the language communities that inhabit the territory (p. 23). The scholars took a social psychology approach to informational function and symbolic function, concentrating on the relationships between the in-group and the out-group. They pointed out that signs in public are bilingual, and the dominant group's language more prominently displayed on each sign than the disadvantaged group (p. 26).

The informational function and symbolic function are two distinct functions of the linguistic landscape that serve different purposes. The informational function of language on public signs provides information for communication and service. Such as, languages that are visible in public and private spaces in streets, schools, shopping mall, etc (Lu et al., 2020). Language can reflect social position and the relationship between authorities and local inhabitants, therefore the symbolic function is generally complementary (Shang & Zhao, 2014, as cited in Lu et al., 2020, p. 2). For instance, official signs established by the government, such as the signs of government buildings, represent the positions and actions established by the government to present the language policy of the local government and the ideology of the country. On the other hand, private signs, such as billboards, made by individuals or businesses reflect the personal preferences and needs of the sign makers (Shang & Zhao, 2014, as cited in Lu et al., 2020, p. 2).

Landry and Bourhis (1997) stated that the informational function is the most basic one that indicates the boundaries of the territory where language groups live and the availability of a particular language for communication within that territory. Such as, consistent use of a single language within the LL of the same territory can help to establish clear linguistic boundaries between adjacent language groups within a given geographic area (p. 25). Furthermore, by the language mainly used on a local

language sign, people can conclude that the language is the main language of the area; and the establishment of multilingual signs in a certain place shows the social phenomenon of multilingual coexistence in the region. The LL here is equivalent to a tool that provides information about the language condition (Shang &Zhao, 2014). In other words, LL can also provide information about the sociolinguistic composition of the language groups that inhabit the territory. Public signs can be monolingual, bilingual or multilingual, therefore, reflecting the diversity of language groups in a particular region (Landry & Bourhis, 1997, p. 26). According to Landry and Bourhis (1997, p. 26), LL can also provide information on the sociolinguistic composition of language groups living in the relevant territory. The superiority of one language over other languages in public signs can reflect the relative power and status of competing language groups (Bourhis, 1992, as cited in Landry & Bourhis, 1997, p. 26). In addition, the linguistic diversity existing in the LL can be regarded as the specific expression of the linguistic and cultural diversity of the ethnic linguistic groups living in a particular administrative territory or region (Landry & Bourhis, 1997, p. 27).

According to Zeng and Luo (2019, p. 115), informational function also refers to the text or icon of LL can convey relevant information to the public, that is, communicate with the public, inform, direct, guide or warn the public. It is a direct function of the LL. Most scholars believe that the information function of language landscape is the basic function that effect the linguistic landscape to exist. According to Lotherington and Ivković (2009, p. 30), informational function can be judged by the success of the information transmission, the efficiency and relevance of content presentation.

The symbolic function refers to the views of members of a language group on the worth and status of their language compared to other languages (Landry & Bourhis, 1997, p. 27-29). In other words, the existence of in-group language in the LL can directly contribute to ethnolinguistic groups' positive social identity (Landry & Bourhis, p. 27). Mao and Zhu (2018) pointed out that the symbolic function of LL can reflect language power and social identity and status, and also reflect certain cultural landscape. The power of language can be reflected from the code orientation of LL. For example, language power is mainly to analyze the order and placement of each language on the language signs. Besides that, Shang and Zhao (2014) pointed out that

the symbolic function of LL can reflect language power and social identity and status. In other words, LL contains the understanding of language value and status of language group members. For example, in a society where there is language competition, the choice of a certain language on the language signs used as road names, place names, etc., indicates the official recognition of the dominant position of the language, so that any ethnic group that speaks the language has an advantage over other ethnic groups identity.

Due to the rapid development of the Internet, the studies of the LL have gradually expanded to a virtual linguistic landscape. the VLL takes the network platform as the carrier of information transmission. The network platform is an expansion and extension of the reality space, and its multilingual phenomenon also has informational and symbolic functions. At the level of informational function, the co-occurrence of multilingualism in cyberspace provides convenient information services for readers of different languages. At the level of symbolic function, the language display in the LL of the network interface can reflect the language power and status of the public field, the language values of social groups, and the hidden motivations behind code selection (Zhou, 2022, p. 39).

2.1.3 Virtual linguistic landscape (VLL)

VLL, also known as non-physical landscape, refers to the LL of cyberspace -- computer-mediated communication which takes place on the Web-- which is a new dimension of language practice (Shohamy & Gorter, 2009; Ivkovic & Lotherington, 2009; Carr, 2019).

Ivkovic and Lotherington (2009) states that multilingual choices and options are becoming increasingly frequent in the virtual environment due to the increasing spectrum of multilingual capabilities in digital interactions (p. 17). Cyberspace is an extension of physical space (Wang, 2020, p. 3). Similar to the physical LL, VLL are used to describe language communities and mark language states in expressive power relations between language choices that coexist in cyberspace communities. But VLL is also different from physical linguistic landscape. The language in cyberspace has become an important force to promote the change of global language ecology. Virtual environments have the ability to repackage and reposition language in innovative

ways in a world of ever-evolving interactive possibilities, resulting in a language ecosystem that is not representational of the physical world (Ivkovic & Lotherington, 2009, p. 19).

In the VLL, the linguistic diversity of university websites, as an integral part of language policy, is one of the indicators for evaluating whether universities have multilingual education capabilities. It is also an important carrier for China's universities to serve the 'double first-class' construction and should become a key strategy for China's higher education to 'go global' (Gu & Yi, 2019).

2.2 Multilingualism in LL

China is one of the most multilingual countries in the world. The government of the People's Republic of China has built the country into a harmonious and unified country with 56 different ethnic groups and more than 400 languages spoken. The government not only legally recognizes multilingualism, but also openly encourages and promotes an atmosphere in which multilingual teaching flourishes (Tsung, 2015). Among them, Chinese, as China's official language, occupies a dominant position in an atmosphere where multilingualism flourishes. It is a symbol of China's sovereignty and national dignity, and an important link between national identity and ethnic identity (Zhou, 2022). In general, language is the carrier of culture, and each local dialect and minority language has the important function of carrying its regional culture and national culture. While maintaining the culture of ethnic minorities and enhancing the national identity of people of all ethnic groups, the use of Chinese as China's official lingua franca cannot be ignored (Li & Zhang, 2022). In addition, due to the acceleration of globalization and socio-economic development, language usage in modern China has become increasingly complex. According to the research of Li and Zhang (2022), the language use situation in modern China can also be divided into mainland China, Hong Kong, Macao, and Taiwan. Different regions have their characteristics of language use and language policies. There are many ethnic groups and dialects in the mainland, many official languages in Taiwan, and Mandarin is learned as a second language in Hong Kong. Because of historical factors, language usage in Hong Kong, Macao, and Taiwan is relatively complex. The parallel use of multiple languages causes cultural shock, while the use of Chinese as a lingua franca

can provide a sense of identity for both parties to the discourse.

Driven by the political and social development of China, the current popularity of English in China is unprecedented (Bolton & Grandol, 2012). Since China implemented the reform and opening-up policy in the late 1970s, China has increasingly attached importance to using English as a universal language for contact with the outside world. According to statistics, about 400 million people learning English in China, accounting for about one-third of the total population of contemporary China (China Daily, 2010). Especially with the importance of examination in China's education system, the official status of English in China has also been enhanced. For example, English is listed as one of the main examination subjects for the national college entrance examination by the Chinese education department, and the Chinese Ministry of Education stipulates that Chinese college students will not be able to graduate from their universities without obtaining a College English CET-4 test (Bolton & Grandol, 2012; Zhang, 2017). With the advancement of China's economic globalization, English is more and more playing an important role as a medium of external communication, covering the fields of business, education and media. Economic development has become the main force in promoting English in China (Zhang, 2017). According to Zhang (2017), in the past two decades, more and more students have chosen to pursue further studies in English-speaking countries, such as the United States and the United Kingdom. English has become the learning medium for Chinese students who want to study abroad. With the rising trend of educational immigration, China's demand for passing English proficiency exams such as TOEFL or IELTS is also growing. At the same time, in the field of education in China, especially in higher education, English has begun to be used as a learning medium for multiple subjects.

Despite the belief of many monolinguals that speaking only one language is the norm, multilingualism is ubiquitous in communities around the world (Wardhaugh & Fuller, 2015, p. 82). Multilingualism can be defined as 'the ability of societies, institutions, groups and individuals to engage, on a regular basis, with more than one language in their day-to-day lives' (European Commission, 2007, p. 6).

LL can disclose the social background or the multilingual situation of a region (Ngampramuan, 2010). According to Gorter (2006), LL refers to the social

environment in which more than one language exists (p. 1). LL represents the phenomenon that different languages interact in a shared physical space to converge, change and reflect existing power relations, and influence views, opinions and perceptions in this process (Shohamy, 2006, as cited in Ivkovic, 2009, pp. 18-19).

Multilingualism is a feature of practically every LL on the globe (Gorter & Cenoz, 2009). Lu, Li, and Xu (2020) pointed out that the LL has attracted great academic interest, and there have been some interesting results on this topic. In order to better play the role of LL and promote communication, the exploration of language of LL is increasingly focusing on bilingualism or multilingualism.

Numerous studies on these bilingual and multilingual LL have been published in recent years. Johnson (2017) explored the multilingual tendencies in the linguistic environment of five London boroughs. The researcher collected the data by using qualitative research with documentation of written language in London's public areas. The results showed that the majority of London's multilingualism is made up of British colonial languages, followed by European Union languages. Lay (2015) studied the LL of Main Streets in Bosnia and Herzegovina by using a quantitative research method to explore the language proportions of public signage on the main streets of Sarajevo and Banja Luka. Backhaus (2006) investigated the LL of multilingualism in Tokyo and found that both official and nonofficial multilingual signs have contributed to the linguistic transformation of Tokyo. Huebner (2006) studied the LLs of 15 Bangkok neighborhoods and found that Thailand's official language policy with Thai as the official language and English as the language for wider international language communication. These studies suggest that examining LL is valuable for the study of multilingualism because linguistic signs serve as indicators of the languages used in specific contexts. Hence, the study of LLs is useful for the multilingualism study due to linguistic signs are indicators of the language employed in a particular context.

2.3 English as a global language and LL

English is widely recognized as a global language, in that it is used as the modern era's lingua franca, for international relations, world media, international travel and tourism, science and technology, and education. However, English is not

solely employed as a ‘default’ language merely due to being the lone shared language with another interlocutor. Instead, it is often used because it is culturally regarded as the appropriate language for a particular communicative context (Graddol, 1997, pp. 12-44). Furthermore, as the development of the era, English has obtained the status of a global language as it is the only language that ‘plays a special role that is acknowledged in every country’ (Crystal, 2003, pp. 3-4). Since people from different geographical areas speak different languages, there is a need for a common language. English has become the global language as it has been used by people from all over the world (Rao, 2019). English has been used to communicate in business, diplomacy and other global activities (Zhang, 2013). In many circumstances, the growth in English use can be attributed to educational economic or cultural globalization (Rao, 2019).

English is increasingly employed as an internationally preferred medium of communication in the era of globalization (Lewis & Deterding, 2019). ‘English is the medium of a great deal of knowledge in the world’, according to Crystal (2003), not only in the field of science and technology but also in the field of business and education. Since the 1960s, English has become the regular language of instruction in higher education in many countries (pp.110-112), including China. NetEase (2023) stated that according to US media statistics, English is spoken in 110 countries around the world as a mother tongue, official language or a common second language. No other language is as widely spoken in any country in the world. This is due to colonization in the 19th century and the growth of technology in this century, during which English has been employed as the language of science worldwide for over a century (Al-Dosari, 2011). According to British Council (2023), English is currently the most spoken language in the world. In addition to being a method of communication, it also can serve as a trade tool. English can assist countries in gaining economic power by making their trade markets more appealing to global investors (Crystal, 2003).

In addition, English is becoming increasingly vital in international communication as a result of globalization. London became the center of world trade due to the expansion of British colonies, other countries needed to communicate with Britain in order to improve their economies and science (Zhang, 2013). English has

been lauded as the most ‘successful’ language ever that numerous people speak English all over the world (Crystal, 2003). With the help of English, the world’s language and culture become more unified. In other words, English becomes a way for people to be part of the globalization (Zhang, 2013).

English is also the language that is considered to be ‘a window on the world of science and technology’ (Strevens, 1992, as cited in Ngampramuan, 2010, p. 10). In the Chinese curriculum, English is the most commonly taught foreign language. And since 1982, English has been the most widely taught foreign language in Chinese schools and universities (Sue & Lin, 2016). The distinguishing feature of global language is that it is the most widely spoken language in communication in most parts of the world (Rohmah, 2005). According to Rao (2019), with the advancement of technology and globalization, English has become the language of choice between an agent and an international company, also is the most extensively used language in international trade, diplomacy, mass entertainment, scientific publications, and other fields. Even, in some countries, English has been the first language for the majority of the population, according to Rao (2019), such as UK, USA, Australia, Canada and so on, as well as English is spoken as a first language by approximately 375 million people and as a second language by over 750 million people.

In accordance with Crystal (2003), in transnational communication, English is used by 85% of international organizations around the world. Around 85% of the world’s major cinema productions and markets use English, as do 90% of published academic studies in subjects like linguistics are written in English. Hence, the majority of students and scholars all around the world need to study the English language (Rao, 2019). English is a widely utilized language in many fields, including science and technology, education, employment, international commerce, and the internet (Rao, 2019). In many various contexts around the world, English is the most widely used language. As a result, English is an international language as well as a global language (Rohmah, 2005). In a word, proficiency in English became the gateway to all social and material benefits (Misra, 1982, as cited in Zhang, 2013, p. 14).

English fulfills the role of global language. Kachru (1997) formulated a concentric circle model as a means to categorize countries into three groups as is seen

in Figure 1. The inner circle (e.g., Australia, New Zealand) refers to the countries where English is the native language. The outer circle (e.g., India, Singapore) refers to the countries where English is used as a second language or one of the official languages. The expanding circle (e.g., China, Japan) refers to the countries where English is regarded as a foreign language (p. 93). Based on global perspective, it is apparent that English has been adopted around the world, and the native speakers are outnumbered by people whose mother tongues are not English.

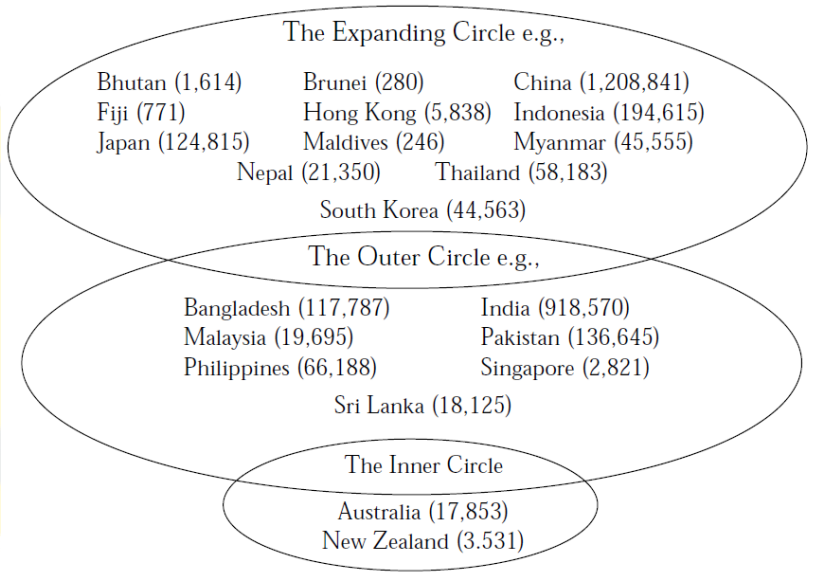

Figure 1 Kachru's (1997) three concentric circles of Asian Englishes

In the course of globalization, English is regarded as a global language, due to the geographical-historical and socio-cultural (Crystal, 2003). Such as, in the other countries of South Asia, English is considered to be widely used as the medium of international communication (Crystal, 2003, p. 49). Therefore, Young South Asians are increasingly seeing English as the language of cultural modernity (Crystal, 2003).

Language is the carrier of culture, that is say, learning a language involves learning its culture (Zhang, 2013). Language education has emerged as a new means of establishing English status in the structural and cultural spheres of English-speaking countries. In other words, language education, particularly English as a second language and English as a foreign language program, makes the greatest contribution to the language's global impact (Zhang, 2013).

People believe that in today's world of globalization, English is a more commercial and useful language, as well as, English was thought to be the main way to modernization (Zhang, 2013). According to (Zhang, 2013), the goal of English language instruction is to achieve modernity, where capitalism is the core value. English is the medium of world knowledge, and it commands a lot of attention in many countries. For example, in many countries, English has become the primary medium of instruction in higher education since the 1960s.

Among the many languages used on signage, storefronts, billboards, etc., English enjoys a privileged position as the de facto lingua franca in addressing a multilingual (Bruyel-Olmedo & Juan-Garau, 2009). In addition, due to the development of LL, English as an international lingual franca for communication has been used on signs around the globe, and LL research studies have documented the inclusion of English in signs. For instance, there are studies on the booming wave of English in the LL in Algeria (Maraf & Osam, 2022); English in the LL of Thailand (Vivas Peraza, 2020); the visibility of the English language in two teacher training colleges in Israel (Yoel, 2020).

2.4 A review of previous studies on VLL

In the context of higher education, the study of VLL has gained prominence as a crucial research domain, providing a comprehensive perspective for investigating how language, technology, and the changing academic environment interact. Greenall (2012) studied how the Norwegian University of Science and Technology attracts international students by utilizing bilingual information on its website. The researcher contrasted the introductory web pages directed at Norwegian students with their English-language counterparts targeted at international, non-Scandinavian-speaking students. The researcher found that the English homepage builds the international image of the university, but at the same time the cultural information -- i.e., culture-specific items as relevant to the Norwegian university, such as recruitment, international master's programs --was downplayed in the English version, which results in the suppression of local culture in the cyberspace.

Another study that explored the bilingual website of a university was done by

Keles, Yazan, and Giles (2019) who applied comparative content analysis to investigate bilingual (Turkish and English) content in the VLL of a university in Turkey for scrutinizing exclusionary de facto language policies. They found three main issues on the website, namely; unavailability and inaccessibility of information, inconsistency in content, and difficulty in comprehending English content on the English homepage. Hence, the researchers pointed out that as higher education institutions increasingly become part of international student and faculty exchange programs, universities should build a more linguistically inclusive VLL in their website construction to improve the outcomes of international exchange programs.

In a more extensive study, Callahan and Herring (2012) analyzed the websites of 1,140 universities in 57 countries by using content analysis method. They studied the extent to which universities in different countries provide foreign language websites, and which languages are used as primary and secondary languages on foreign websites. They found that the websites of universities do not implement multilingualism, but take the official language as the center, English as the first additional language, and other trilingual modes of second additional language targeted at special groups. At the same time, their findings also showed that English continues to spread as the global language of higher education in university websites. But it also found that the use of national language remained stable, inclusion in other languages grew faster than English, resulting in an overall net increase in multilingualism. In this case, it could make universities look welcoming to speakers of these languages and have extensive experience in educating international students.

In the context of China, VLL research has been conducted in various industries, particularly in the commercial industry, where entrepreneurs are now upgrading their websites and content to attract customers and shape their international image. Mao and Ren (2018) investigated the VLL of the Yiwu shopping website (Yiwu is an international commercial city of China, and the Yiwu shopping website is an important platform for its business development in the Internet age). The study was conducted through corpus analysis, interviews, and descriptive analysis. The researchers found that the Yiwu shopping website has the characteristics of internationalization and commercialization. Through the distribution of language usage, the researchers found that the proportion of Chinese and English on the website

is significantly higher than that of other languages. Since the Yiwu shopping website mainly focuses on domestic trade, the language setting is mainly Chinese, but because the website with its international and commercial features, English is also set up as an auxiliary language for Chinese on the website. In other words, the Yiwu shopping website tries to use English to attract attention and gain benefits.

In addition, research on the VLL of tourism websites has also attracted the attention of many scholars in recent years. Zhao (2021) investigated the VLL by the Xi'an tourist attraction portal websites. The researcher used quantitative and qualitative methods to study the characters and functions of the VLL. The researcher found that some websites use bilingual codes, and designers have taken into account the needs of overseas tourists for services such as understanding scenic spots and purchasing tickets. However, in the case of certain scenic area websites, the multilingual design is still incomplete, with a lack of foreign language official websites. In terms of presentation method, the website uses multi-modal forms such as pictures, colors, animations, and videos to present in the interface. Multi-modal forms better provide information service functions, and visitors' visual senses are fully mobilized. Besides that, as a media form of public virtual space, the official website provides certain information services to users on the website, conducts interactive communication, and forms a multi-functional service platform, which is conducive to the development of publicity. At the same time, the network virtual space has unique dynamic display functions and hidden functions. Through columns and drop-down navigation menus, viewers can find the information they need, so that the functions of information services can be optimized.

Another study of VLL on tourism websites was done by Chai and Jia (2018). They studied the Hangzhou tourism Bureau official website. They found that the language selection on the official tourism website of Hangzhou city is as follows, in order of preference: simplified Chinese, traditional Chinese, English, German, and Japanese. Placing Simplified Chinese at the forefront indicates its primary status, with other languages following, emphasizing the local government's commitment to implementing national language policies, standardizing the Chinese language, and highlighting the dominant position of the Chinese language and the centrality of the Chinese ethnic group. The second position, Traditional Chinese, is considered due to

China's unique historical reasons, primarily targeting compatriots from Hong Kong, Macau, Taiwan, and overseas Chinese. Secondly, as a recognized global lingua franca, English is widely spread and used all over the world with its strong posture, especially in the LL of non-English speaking countries and regions. Hangzhou's official tourism website ranks English first among other foreign languages and uses English as the main communication medium to provide information services to most overseas tourists. Finally, the Hangzhou tourism official website combines multi-modal content presentation methods such as images, audio, and video, etc., to form a rich and colorful LL, allowing tourists to easily experience a vivid, intuitive, optimized, and fast comfort.

Government websites are also considered to be a major focus of VLL research. For example, the government website of Yiwu is the official website of the Yiwu Municipal Government. The website integrates information promotion, consulting services, interactive exchanges, and online affairs, and is an important window to display the overall image of the city.). This website is a website that has attracted the interest of VLL researchers, and it is a website of great commercial value. Mao (2018) who had studied Yiwu commercial website (Yiwu shopping website) before was interested in the websites of Yiwu City. So, on this basis, Mao and Zhu (2018) investigated the VLL of the government website of the international business city of Yiwu and analyzed the basic characteristics of the VLL of the government website of the international business city. They found that the LL of government websites has both informational and symbolic functions. From the perspective of informational function, Yiwu's VLL reflects its commercial features more. From the perspective of symbolic function, the government website of Yiwu provided services in both simplified and traditional Chinese characters. Simplified Chinese, as the official lingua franca of mainland China, has the highest language status. Traditional characters are used in ancient books, containing historical and cultural information and still have a certain degree of circulation. So, their importance cannot be ignored. Besides that, the government website of Yiwu also provided Chinese and English language services. English, as one of the international lingual franca, can provide language services for foreigners of different nationalities and native language backgrounds. In addition, Chen (2022) employed quantitative and

qualitative methods to investigate the VLL phenomenon of seven government websites in Qinghai Province. The researcher found that among the seven government websites, one is bilingual; one is trilingual; and five were in the monolingual mode. It can be seen that the language categories are relatively homogeneous and cannot meet the needs of native speakers of ethnic minorities.

In China, where educational globalization has become a trend, universities urgently need to establish their own international image and attract more outstanding foreign students and talents. Gu and Yi (2019) discussed the current situation and problems of the construction of multilingual websites of Shanghai International Studies University by using content analysis. They pointed out that universities should formulate a website construction approach and translation scheme that meets the needs of the audience and the language service industry standards. In particular, universities should gradually carry out the construction of multilingual websites on the basis of strengthening the construction of English websites (Pei, 2013, as cited in Gu & Yi, 2019, p.48), guiding teachers and students to jointly shape the image of an international university, and enhance the overseas dissemination of Chinese higher education. Furthermore, Zhou (2022) extended the discourse by taking 10 famous Minzu universities. A Minzu university or ethnic university is a broad term that usually refers to higher education institutions in China, which are characterized by focusing on research, education, and promotion of the culture, language, history, traditions, and national characteristics of various ethnic groups in China. These universities are committed to promoting cultural exchanges, understanding, and unity among various ethnic groups, while also cultivating talents with relevant professional knowledge and cultural backgrounds for each ethnic group. There researcher adopted a mixed research method combining quantitative and qualitative research approaches to examine language code selection and topic distribution. The findings indicated a multilingual pattern where Chinese predominates over English, non-lingua franca languages, and minority languages on the website, which reflected the characteristics of uneven language power. In terms of the distribution of themes, it highlighted ideological discourses such as ‘party and government construction, epidemic prevention and control, and construction of a national community.’ The researcher

remarked that the findings had implications for broadening the scope of LL investigation and enriching the content of LL research.

Dai and Zou (2021) studied the analysis and construction of university official websites, by investigating the official websites of 30 universities in the Beijing, Tianjin, and Hebei regions. They used quantitative method to analysis the data. They found that the overall LL of the official websites of these universities was relatively standardized, and the homepage interface of the universities official websites was simple and elegant. However, affected by factors such as school strength, degree of emphasis, and media technology, the current official websites of some universities in the Beijing, Tianjin, and Hebei regions were still relatively lagging in construction and lacked foreign language websites. In addition, these university official websites also face issues such as incorrect content construction, incomplete informational function and symbolic function, etc. They pointed out that the construction of the LL of university official websites should conform to the new development trend of the information age and explore new paths for constructing and developing the LL of university official websites. Firstly, the construction of official websites of universities must establish a service awareness centered on the website audience, establish a complete demand mechanism, fully mobilize and utilize the rich information resources of various departments of universities, carry out effective information integration, and achieve data connectivity. Secondly, universities should adapt to the requirements of the development of the information age, change their development concepts, provide personalized public virtual space for the development of college teachers and students, and enable college teachers and students to participate in the construction of the LL of the official websites of universities. Thirdly, from a technical perspective, the construction of university websites requires a multidisciplinary team involving news media, language services, and information technology services. It is essential to make full use of modern information technology to establish a bilingual or multilingual parallel corpus for university websites, thus enhancing the level of language translation. Fourthly, universities should strengthen policy support for official website construction, increase financial investment, optimize networks, and make full use of new media resources.

Shen and Li (2022) further studied the analysis and construction of LL of public virtual space, by taking the websites of 30 universities in Dalian as an example. The researchers utilized quantitative and qualitative methods to analyze the VLL of these university websites. They found that university websites are mainly bilingual websites in Chinese and English. Their language interfaces and code selections are both Chinese and English. The code types are bilingual. There are fewer multilingual websites and monolingual websites. According to the language placement on the website, it can be seen that Chinese has the absolute language power, followed by English, and finally other languages. They pointed out that universities should pay attention to the training of website talents, improve the technical level of website managers through training, and provide technical support for the sustainable development of the website. Additionally, in website design, increase the number of languages and employ precise translation strategies to convey data and information to audiences both domestically and internationally, so as to complete cross-cultural communication in the virtual space while enhancing the interactivity and voice of university websites in the global arena.

In a recent study, Wen (2023) examined nine official websites of language universities in China to explore the characteristics of the VLL in the official university websites in terms of language code selection and distribution, and the characteristics of its presentation. Wen used a combination of qualitative and quantitative research methods and concluded that Chinese language universities took Chinese as the preferred language on their official websites, and Chinese characters as the preferred symbols constitute the entire content of their VLL. As the official language of China, Chinese has the dominant language power in the public space. Secondly, the official websites of language universities, without exception, use English as the second language in addition to Chinese. This suggests that in terms of linguistic vitality and language information dissemination, English holds distinct advantages. Thirdly, compared with the status of Chinese and English, the language status of non-common languages (e.g., French, Russian, Arabic, Spanish, German, Japanese, Indonesian, etc.) is relatively marginal. This is because non-common languages had a wide distribution area. They had some representativeness and symbolism, and their role is mainly to disseminate language information to overseas

audiences. Finally, the virtual cultural landscape (the cultural and social environment formed in the virtual world) displayed on the university's official website mainly focused on 'Party and government construction, league education construction and cultural community construction', which is an ideological and political task that the Chinese government has always attached importance to.

Wang (2020) studied the VLL of Chinese university websites from another perspective. The researcher explored the language display mode, ideology and power in Chinese university websites of cyberspace. The researcher utilized multimodal analysis, quantitative analysis, and qualitative analysis to investigate the VLL of six first-class universities in China, Japan, and England as cases. From the perspective of language display mode, the researcher found that on the websites of universities in English-speaking countries, there was only English was provided. However, the websites of universities in non-English speaking countries generally used the model of 'official language and English' or 'official language, English and other languages'. For the language ideology behind the VLL, the researcher discovered that universities in English-speaking countries pursued a monolingual language ideology and made full use of the hypercentral language status of English to achieve international communication, thus marginalizing other language resources. Universities in non-English-speaking countries emphasize super-lingualism, making full use of language resources and building an international image, while other universities adopt linguistic pragmatism, mainly relying on English for international communication. The researcher explains that official languages hold the highest power in informational functions but English has a limited role in virtual spaces.

In summary, in the context of Chinese university websites, there exists a noticeable research gap concerning the comprehensive exploration of VLL. Although a few studies have touched upon this topic by examining a limited number of universities, a significant absence of extensive research examining a broader spectrum of Chinese higher education institution websites is readily apparent. The study's primary focus lies in unearthing insights within the context of the virtual linguistic landscape (VLL) of Chinese university websites. By delving into this landscape, the research illuminates how universities strategically communicate information, forge meaningful connections with their audiences, and elevate the overall user experience

within the digital realm. As a result, this study explored the VLL of educational websites of the top 100 Chinese university's websites.

CHAPTER 3
METHODOLOGY

The chapter is organized into four key sections. Firstly, it outlines the research design. Secondly, it introduces the data sources used for the study. Following this, the data collection procedure is explained, detailing the methods employed to gather the data. Finally, the chapter delves into the data analysis phase, where collected data is examined and interpreted to enhance the understanding of linguistic dynamics and informational aspects in the VLL of Chinese university websites.

3.1 Research design

The current research was conducted in the form of a descriptive qualitative study. Descriptive research is defined as describing the characteristics of something. Usually, descriptive qualitative research questions are more open-ended and tend to address ‘what’ and ‘how’ questions and require a descriptive answer (Blaikie, 2007, pp. 6-7; Onwuegbuzie & Leech, 2006, pp. 488). Qualitative descriptive study is the method of choice when straight descriptions of phenomena are desired (Sandelowski, 2000). Therefore, it is suitable for the nature of this study which sought to investigate the multilingual phenomenon of VLL. Before collecting the data, this research obtained ethical approval from the Research and Innovation Administration Division, Burapha University (IRB4-176/2565) (See Appendix 1). The research setting and the research details will be illustrated respectively in the data collection section.

3.2 Data

The data for this study was extracted from the textual content exhibited on specific Chinese university websites. These websites were sourced from the top 100 universities in China, as ranked by the Network of Science and Education Evaluation in China website (http://www.nseac.com/eva/CUcompallE.php). The data collection process took place during the period of 2021-2022.

3.3 Data collection procedure

Firstly, the researcher divided the top 100 universities in China into seven categories: agriculture and forestry, grammar, finance and economics, medical, normal, science and technology, and comprehensive universities (Zhihu, 2023). A grammar university usually refers to a higher education institution that focuses on grammar disciplines such as linguistics, literature, translation, and journalism. This type of university strives to develop students' professional knowledge and skills in the fields of languages and literature so that they can pursue successful careers in related fields. A normal university is an institution created to train teachers by educating them in the norms of pedagogy and curriculum. A comprehensive university is a type of university that covers all academic disciplines and offers a large variety of majors.

Next, the researcher visited the web pages, downloaded them as full web pages, and captured the screenshots for the analysis process. Then, the researchers used Microsoft Word and Microsoft Excel to collect and sort out data for this research.

The researcher then identified the default language and other language settings of the homepage and clicked on the language option provided by the homepage to enter the page of the specific language to check if the page exists, confirm its language types (monolingual, bilingual, and multilingual), and infer its language functions.

Finally, to further identify the informational function, the researcher counted the amount of information was provided in navigation menus, and took notes of the information in Microsoft Excel. Then the researcher compared the content was presented between Chinese and English version web pages.

3.4 Data analysis

The specific steps of the data analysis procedure are as follows:

To answer RQ1, the researcher counted the numbers and types of languages displayed on each university’s homepage. Then the researcher used frequency and percentages to present the data as exemplified in Table 1. The complete data can be found in Appendix 2.

Language code selection and distribution					
Item No	**Names of universities**	**Language displayed situation**	**Language number**	**Language code selection**	**The types of the universities**
1	THU	Simplified Chinese+ English	2	Bilingualism	Science and technology
2	PKU	Simplified Chinese+ English	2	Bilingualism	Comprehensive university
3	ZJU	Simplified Chinese+ English +Russian +German	4	Multilingualism	Comprehensive university

Table 1 The language code selection and distribution of Chinese university websites

To answer RQ2, the researcher used content analysis to analyze the informational function of VLL embodied in the websites. Content analysis is a research technique for making replicable and valid inferences from texts---images, maps, sounds, signs, symbols, and even numerical records or other meaningful matter to the contexts of their use. In content analysis, the frequency of word or passage use is treated as a technique to determine the relative importance of specific content. Description and data organization are the key research purposes of content analysis (Drisko & Maschi, 2016, p. 3; Krippendorff, 2019, pp. 1-25). The researcher focused on the type information of the navigation menu and language emphasis patterns in navigation menus on the website while other elements such as the submenu of the

navigation tabs, footer, header, logo, and multi-modal forms (pictures, colors, animations, and videos) were excluded from the analysis (see Figure 2 and Figure 3).

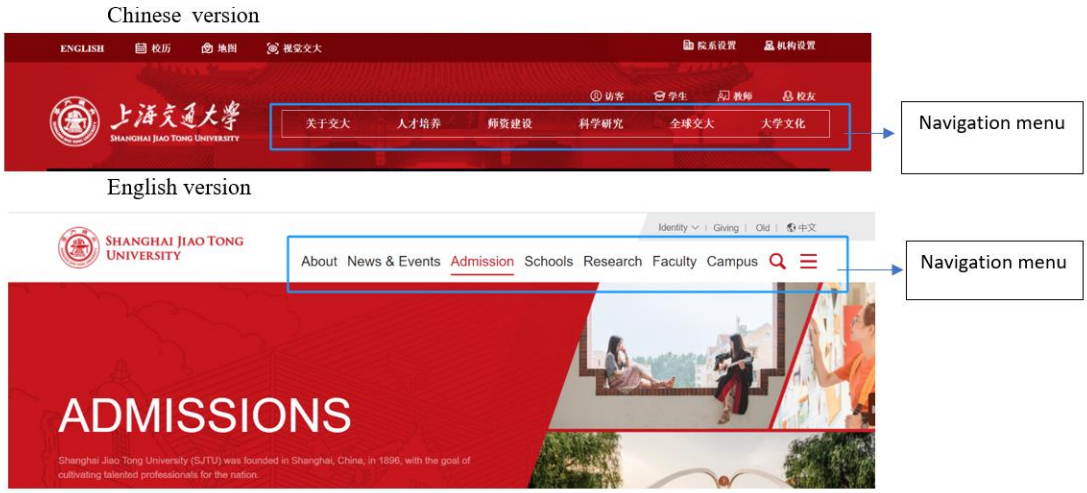

Figure 2 Examples of the navigation menu of the website

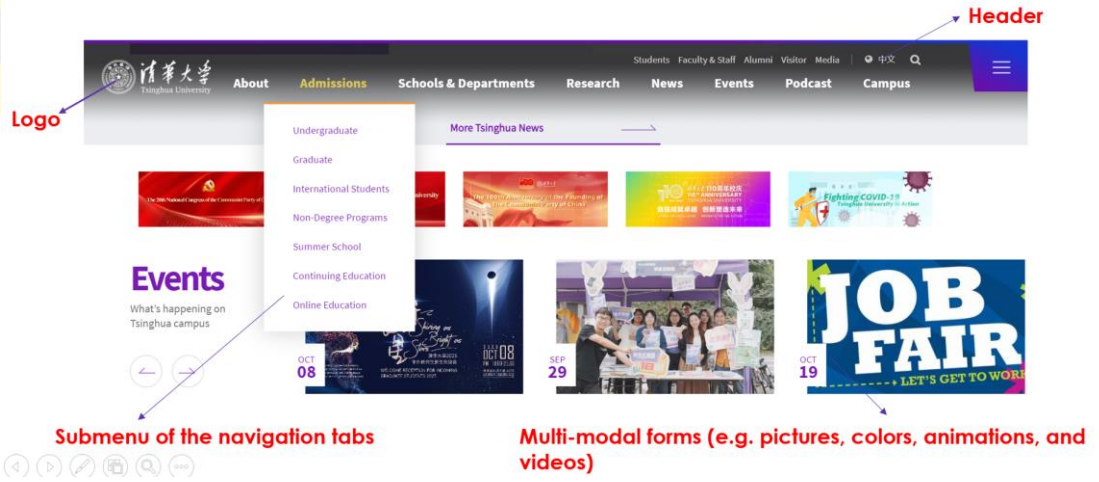

Figure 3 Excluded elements of the university's websites

Moreover, the researcher compared the information presented in the Chinese and English versions, aiming to examine whether both versions offered comparable content (see example of Table 2, and the exact data will be shown in the Appendix 3).

Language emphasis patterns in navigation menus						
Item No	**Names of universities**	**The quantity of Chinese navigation**	**The quantity of English navigation**	**Chinese navigation >English navigation**	**Chinese navigation =English navigation**	**Chinese navigation <English navigation**
1	THU				Y	
2	PKU			Y		
3	ZJU			Y		

Table 2 The information presented in the Chinese and English versions

To ensure the trustworthiness of this study, the research design and data collection methods were reviewed by experts in Applied Linguistics and Sociolinguistics. Additionally, the researcher presented the preliminary findings at two conferences:1) (the 2022 Thai Association of Applied Linguistics (TAAL) Graduate Forum, and 2) the 16th National and 3rd International Conference on Humanities and Social Sciences (NIC-HUSO 2023)) to validate the accuracy of their interpretations and conclusions.

CHAPTER 4
RESULTS

This chapter presents the results of an analysis of the VLL of Chinese university's websites. It is divided into two parts. The first part is the language code selection and distribution on the Chinese university's websites. The second part is the LL functions embodied in the VLL of the websites.

4.1 The language code selection and distribution on the top 100 Chinese university's websites

The languages of the studied 100 Chinese university websites can be divided into four main groups as exemplified in Figures 4-7: 1) Monolingual (i.e., simplified Chinese[1]); 2) Bilingual 1 (i.e., simplified Chinese and English); 3) Bilingual 2 (i.e., simplified Chinese, traditional Chinese, and English); 4) Multilingual (i.e., simplified or traditional Chinese, English and other foreign languages).

[2] Simplified Chinese is part of mainland China's communist reform system, widely promoted in the early 1950s to increase literacy among China's vast population. Simplified Chinese are simplified from traditional Chinese, and writing is simpler and easier, with relatively fewer strokes. Traditional Chinese is the Chinese writing system before China's reform, and is currently used in Hong Kong, Macau, and Taiwan.

Figure 4 An example of the monolingual code selection of the university website (Simplified Chinese)

Figure 4 is a presentation of monolingual code selection from the homepage of the university website. On the website, there was only simplified Chinese used.

Figure 5 An example of the bilingual code selection of the university website (Simplified Chinese-English)

Figure 5 depicts a situation of bilingual code selection from the homepage of the university website. On the website, there was employed simplified Chinese and English.

Figure 6 An example of the bilingual code selection of the university website (Simplified Chinese-Traditional Chinese-English)

Figure 6 represents a situation of bilingual code selection from the homepage of the university website. On the website, there was employed simplified Chinese, traditional Chinese, and English.

Figure 7 An example of the multilingual code selection of the university website (Simplified Chinese-English-Other foreign languages)

Figure 7 illustrates the multilingual code selection from the homepage of the university website. On the website, there was employed simplified Chinese, English, and other foreign languages.

As shown in Table 3, the 100 top university websites of China are bilingual, monolingual and multilingual, respectively. The majority (87%) are bilingual, incorporating two languages. These websites predominantly employ: 1) simplified Chinese and English and 2) simplified Chinese and/or traditional Chinese, and English. It is worthwhile to note that nine out of the top 10 universities in China, follow a bilingual format with the exception of Zhejiang University (ZJU) which is multilingual, the websites. Only a handful (6%) of the websites are monolingual using Mandarin Chinese. They are East China Normal University (ECNU), Nanjing University of Aeronautics and Astronautics (NUAA), Hefei University of Technology

(HFUT), Capital Medical University (CCMU), Peking Union Medical College (PUMC), Xi'an University of Architecture and Technology (XAUAT). These universities are ranked in various positions among the top 100 Chinese universities, i.e., 25th, 37th, 55th, 85th, 91st, and 97th, respectively.

Multilingual websites, accounting for 7%, incorporate a diverse range of languages beyond Chinese and English, including Russian, German, French, Japanese, Korean, and Spanish. They are Zhejiang University (ZJU), Harbin Institute of Technology (HIT), Tongji University (TJU), Tianjin University (TJU), Jiangnan University (JNU), Harbin Engineering University (HEU), China University of Petroleum (East China) (UPC). These universities are ranked 3rd, 13th, 19th, 26th, 56th, 63rd, and 90th respectively. While the website ranking might not necessarily correlate with the language display, it is noteworthy to observe that the top ten websites exhibit a combination of bilingual and multilingual formats.

The Language Code Selection	**Frequency of occurrences**	**Percentage On (100%)**
Monolingual Simplified Chinese	6	6%
Bilingual 1 simplified Chinese + English	85	85%
Bilingual 2 simplified Chinese + English + traditional Chinese	2	2%
Multilingual simplified Chinese + English+ other foreign languages	7	7%
Total	**100**	**100%**

Table 3 The frequency and percentage of the language code selection on the top 100 Chinese university websites

4.1.1 The language distribution in each type of Chinese university

Figure 8 depicts the language format of each university type. The majority of the top 100 universities are science and technology (45%) and comprehensive universities (33%). It is clear that most of these websites are bilingual. Thirty-seven out of 45 of science and technology are bilingual while 29 out of 33 comprehensive

universities are bilingual using simplified Chinese and English. Agriculture and forestry, grammar, and finance and economics university websites are all bilingual using simplified Chinese and English. Two out of 33 comprehensive universities are bilingual using simplified or traditional Chinese and English. For monolingual websites, two out of two medical university websites are monolingual, using only simplified Chinese. One out of 12 of normal university, and three out of 45 of science and technology are monolingual. Five out of the 45 science and technology universities, and two out of 33 of the comprehensive university websites follow the multilingual format, i.e., employing simplified Chinese, English and other foreign language.

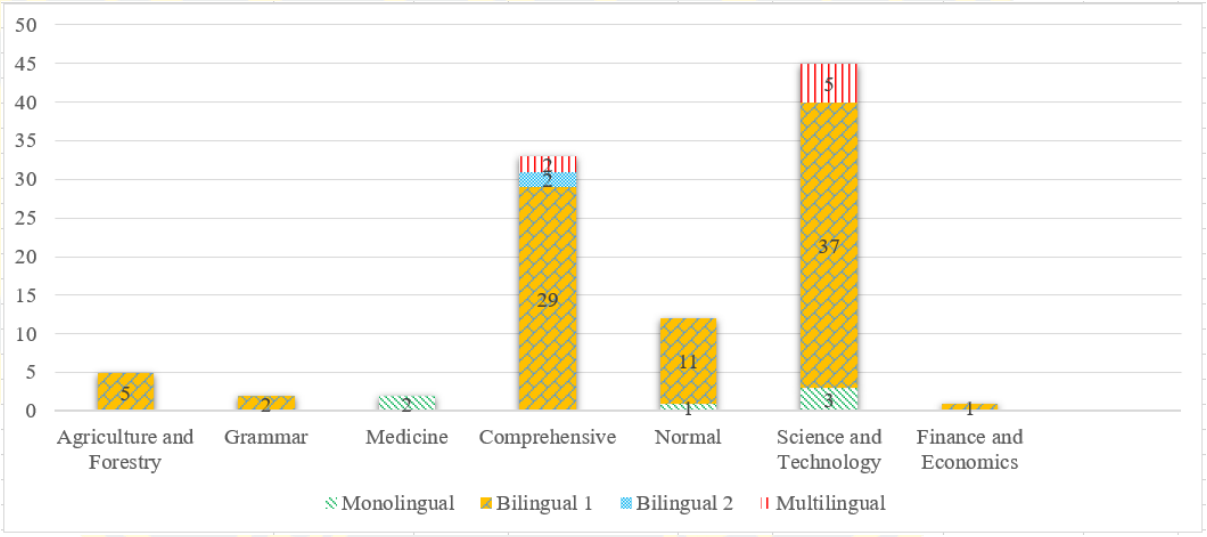

Figure 8 The language distribution by each university type

In addition, through the perspective and study of the top 100 Chinese university websites, the researcher found that even in the context of Chinese as an official language, English also pervades the majority of the websites (94%). It indicated that English as an international lingual franca plays a vital role in conveying information on Chinese higher education university websites.

4.2 The informational functions embodied in the VLL of the websites

The informational function can be measured by the success of information delivery, and the efficiency and relevance of content presentation (Ivkovic &

Lotherington, 2009, p. 30). To analyze the informational function of the websites, we examined 1) the English and Chinese versions of the websites to identify the types of information provided; and 2) the language emphasis patterns, i.e., how languages are used within the navigation menus of the websites.

4.2.1 Types of information

A basic element of the website architecture is the navigation menu, which determines the number, level and layout of the webpages. The navigation menus of the studied universities cover the information involved in higher education services (Gu & Yi, 2009, p. 50). Through studying the navigation menus of top 100 Chinese university websites, the researcher identified the kind of information typically found under each of these navigation menu categories on university websites as summarized in Table 4.

Section	Description
1. About	This section provides an overview of the university. It often includes information about the university's history, mission, vision, values, leadership, achievements, and any special recognitions.
2. Admissions	Under this section, prospective students can find details about the admission process, requirements, application deadlines, entrance exams, and any specific admission criteria for various programs.
3. Schools and Departments	This category offers information about the different academic units within the university. It provides details about various schools, colleges, and departments, including faculty members, academic programs offered, research areas, and contact information.
4. Research	In this section, visitors can explore the university's research initiatives, ongoing projects, research centers, publications, collaborations, and breakthroughs in various fields.
5. News	The News section usually features updates, press releases, announcements, and articles related to the university's activities, achievements, events, faculty, and student accomplishments.
6. Events	This area highlights upcoming and past events hosted by the university, including academic conferences, seminars, workshops, cultural events, and other campus-related activities.
7. Podcasts	This relatively modern addition could include recorded audio

	or video content such as interviews, discussions, lectures, and presentations related to academic, cultural, or other relevant topics.
8. Campus Life and Campus Culture	This section offers insights into the overall university experience, including student life, extracurricular activities, clubs, sports, facilities, student services, and the university's cultural environment.
9. International Collaboration and Exchange	Here, information is provided about international partnerships, exchange programs, study abroad opportunities, collaborative research projects, and global engagement efforts.
10. Academics	The Academics category elaborates on the various academic programs offered by the university. It typically includes information about undergraduate, graduate, and doctoral programs, majors, minors, course descriptions, and academic regulations.
11. Talent's Training and Talents Recruitment	This section covers career development services offered to students, such as internships, job placement, resume workshops, and networking events. It may also feature information for potential employers looking to recruit graduates.
12. Chinese Communist Party and Government Building Culture	This part may provide insights into the university's adherence to political ideologies, the role of the Communist Party, government initiatives on campus, and any cultural aspects aligned with these themes.

Table 4 The navigation menu categories on the Chinese university websites

These 12 navigation menu categories offer a comprehensive view of the university's academic provisions, research pursuits, campus life, collaborations, and its role within larger social and political contexts. In addition, as shown in figure 9, the emergence of party and government information is to a certain extent the positive response and powerful promotion of the party and the country's major political policies in different periods, and it also highlights the distinctive characteristics of Chinese universities advancing with the times.

Figure 9 An example of Chinese Communist Party and Government Building Culture

In addition, the researcher found that not all university websites are available to access. These are NBU, BUCT, and HENU. The web interface of Ningbo university was messed up, the university's webpage cannot be accessed, neither the Chinese version or the English version, as shown in figure 10. The websites of Beijing University of Chemical Technology and Henan University can be accessed only in the Chinese version but cannot be accessed in the English version. This suggests that these three universities cannot present information well to the public, and although the university websites are public resources, not all of its contents are open to the public. Furthermore, these universities might face technical problems when showcasing the content of the websites to the public.

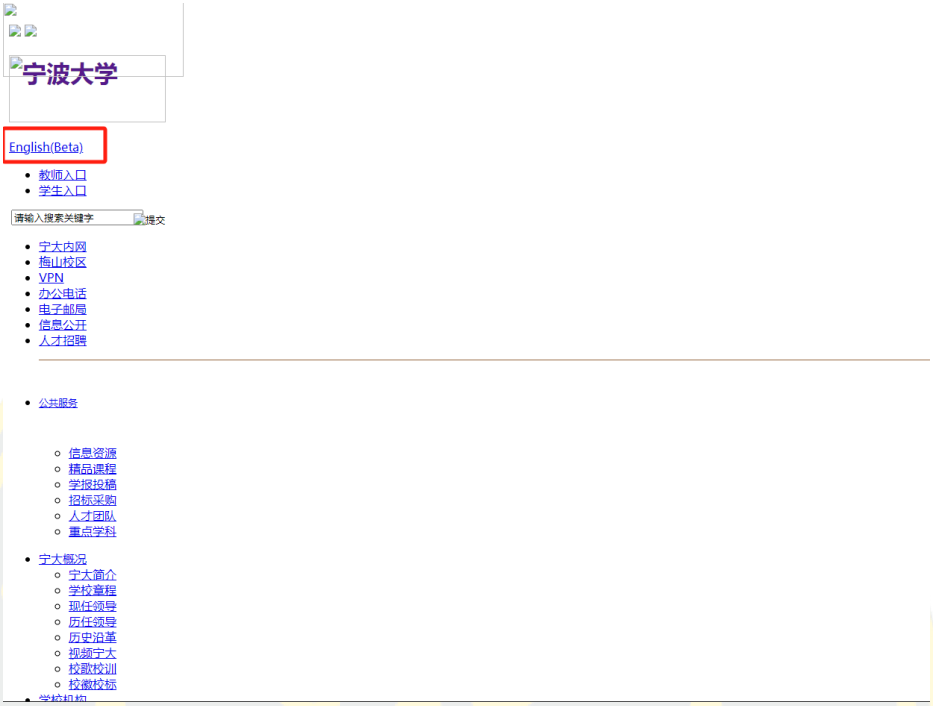

Figure 10 An example of the university homepage cannot be accessed

4.2.2 Language emphasis patterns in navigation menus

Three distinct language emphasis patterns were discerned: 1) Chinese navigation predominated over English (71%); 2) equivalent menus (14%); and 3) English navigation menu predominated over Chinese (6%), as shown in Table 5. Note that three university websites could not be accessed and the other six universities are monolingual.

Language emphasis patterns	Percentage
1. Chinese navigation predominated over English	71%
2. Equivalent menus	14%
3. English navigation menu predominated over Chinese	6%
Total	**91%**

Table 5 Language emphasis patterns in navigation menus

These three patterns show the general situation of displaying of navigation menus on websites of different languages. The first pattern is when the navigation menus of Chinese code exceed those of English. The second pattern is where the menus are equivalent. The third pattern is when the navigation menus of English code exceed those of Chinese as exemplified in Figures 11- 13.

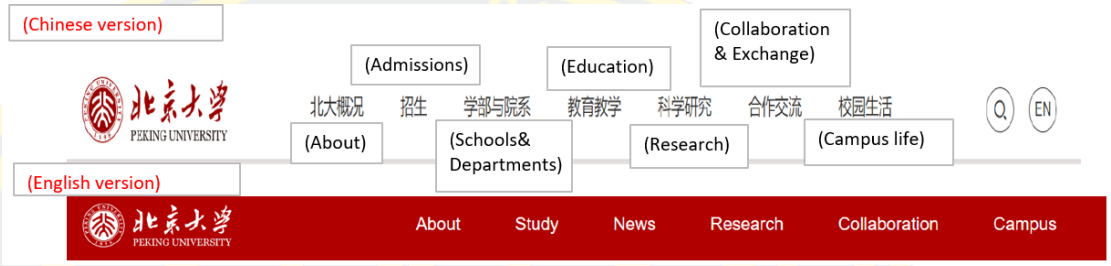

Figure 11 An example of Chinese navigation predominated over English navigation menus

Figure 11 is an example exhibiting that Chinese navigation menus predominated over English on the webpage. There were seven navigation menus on the Chinese version, while only six navigation menus on the English version.

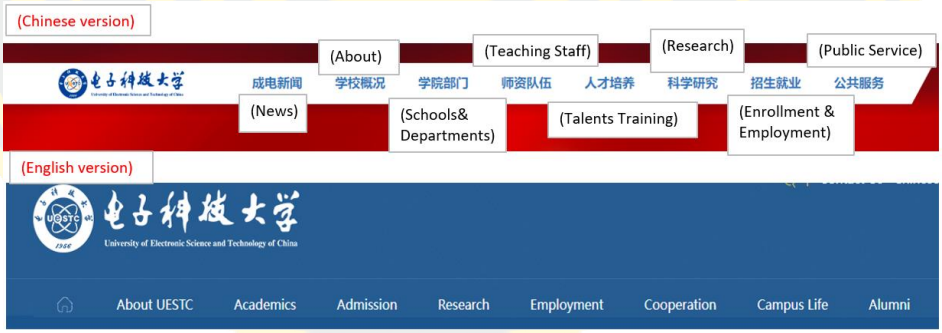

Figure 12 An example of Chinese navigation menus equivalented to English navigation menus

Figure 12 provides an example showcasing that Chinese navigation menus were equivalented to English navigation menus on the webpage. There were eight navigation menus on the Chinese version and the English version as well.

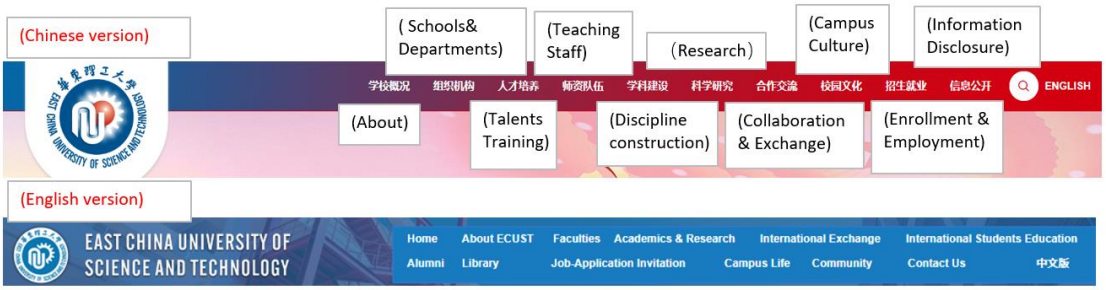

Figure 13 An example of English navigation menus predominated over Chinese

In Figure 13, it is demonstrated that English navigation menus predominated over Chinese on the webpage. There were twelve navigation menus on the English version, while only ten navigation menus on the Chinese version.

To sum up, this section of the language code selection and distribution results reveals the basic situation of language displayed on the top 100 Chinese university websites. There are four main categories of language code selection for these 100 universities, among them, the proportion of bilingualism (87%) is the highest percentage occurrence, followed by multilingualism (7%), and finally monolingualism (6%). The top 100 Chinese universities can be divided into seven types, namely, science and technology (45%), comprehensive universities (33%), normal universities (12%), agriculture and forestry (5%), Grammar (2%), Medicine (2%), and Finance and Economics (1%). Among them, the universities of science and technology (37%) have the largest proportion of bilinguals, followed by comprehensive universities (29%).

Secondly, the conclusion of the chapter presents an analysis of the informational functions embodied in the VLL of the websites. The informational functions analysis found that the navigation menu of the university websites covers the basic services and information of the public space. When comparing the content of English and Chinese web pages, the researcher found that the proportion of Chinese navigation exceeding that of English is the largest （71%). Furthermore, there are three university websites which are not available to access. The next chapter discusses the findings based on related theories and previous studies.

CHAPTER 5
DISCUSSION AND CONCLUSION

This chapter presents a summary of the main findings of this study. The first section covers a discussion about the findings of the language code selection of 100 Chinese university websites, namely, monolingual, bilingual and multilingual. It also covers a discussion of the language distribution, especially the language distribution situation of seven types of universities on 100 Chinese university websites. Among them, the discussion of language distribution will be interspersed with the discussion of language code selection. Furthermore, it covers a discussion of the informational function embodied in the VLL of the websites, which includes the types of information, and the language emphasis pattern of the English and Chinese websites. Finally, the conclusion and implications, and recommendations for further studies will be presented.

5.1 Summary of the main findings

The analysis revealed that the most frequently found language code selection at 87% was bilingualism. Among the bilingualism code, the combination of simplified Chinese and English had the highest percentage at 85%, followed by the combination of simplified Chinese, English, and traditional Chinese (2%). Multilingualism – simplified Chinese, English, and other foreign languages – accounted for the second largest proportion (7%), followed by monolingualism -simplified Chinese (6%).

In addition, according to the findings of the language distribution on the websites, the majority of the top 100 universities are science and technology (45%) and comprehensive universities (33%), and the language distribution of these two types of universities were mostly bilingualism.

The second question investigated the type of information and the language emphasis patterns in navigation menus. For the type of information, the findings revealed that the top 100 Chinese university's websites provided the basic information for the public. The basic information included an overview of the university, the details about the admissions, the different academic units within the universities, the

university's research initiatives and breakthroughs in various fields, the news and events which closely related to faculty and student accomplishments, campus life and campus culture, the information related to international collaboration and exchange, the various academic programs offered by the university, the development services offered to students, the political ideologies and finally, government initiatives on campus. These sections of information are closely related to students' learning and daily life on campus. Furthermore, the emergence of themes related to the Party and government also reflects the strong support of universities for Chinese government policies. In other words, the Party and government themes to some extent represent the proactive response and powerful promotion of major political guidelines of different periods by Chinese universities. Strengthening the construction of the Party and government and fostering a sense of community among the Chinese nation has always been the normalized ideological and political work concerns of the Chinese government. Therefore, the VLL in the field of education highlights the distinctive feature of universities keeping pace with the times (Zhou, 2022). For the language emphasis patterns in navigation menus, the findings revealed three types of language emphasis patterns. They are; Chinese navigation predominating over English, Chinese navigation equivalent with English navigation menus, and English navigation menu predominating over Chinese. Among them, the Chinese navigation predominating over English has the highest proportion (71%), followed by Chinese navigation equivalent with English navigation menus (14%), and English navigation menu predominating over Chinese (6%).

5.2 Discussion

5.2.1 Language code selection and distribution on the top 100 Chinese university websites

1) Bilingual websites

The findings of this study reveal the largest proportion of bilingualism (simplified or traditional Chinese and English). Chinese holds the primary linguistic authority in public spaces as the official language while English is the secondary language which possesses significant advantages due to its linguistic vitality and convenience for information dissemination (Wen, 2023). This finding is not surprising

as most countries where English is not the national language use both their national language(s) and English on their university websites to market to different audiences and for different purposes (Callahan & Herring, 2012). The roles of English will be further discussed in the following sub-section.

These universities' predominant use of Chinese may indicate their intention to underscore their connection with Chinese culture and values. They may perceive their websites as platforms for promoting Chinese linguistic and cultural identity. Additionally, this preference may signify a strong dedication to preserving and championing the Chinese language, particularly as it holds the status of the official language of China—a symbol of national sovereignty and dignity, as well as a vital link between national and ethnic identity (Zhou, 2022).

Furthermore, on these bilingual websites, two universities out of 100 use traditional Chinese on their websites, suggesting that these universities aim to attract students not only from mainland China and abroad but also from Taiwan, Macao, and Hong Kong where traditional Chinese is commonly used (Chai & Jia, 2018).

2) Multilingual websites

The VLL of the studied websites reflects the development trend of multilingual culture in Chinese universities, and on the other hand, it reflects the background of the era in which Chinese universities pursue the development of international education. Although website rankings may not directly correspond to language presentation, it is important to highlight that the top ten websites utilize a mix of bilingual and multilingual formats. When a university offers information, resources, and communication channels in various languages, it demonstrates a commitment to inclusivity and global engagement. The views are consistent with Greenall (2012), Keles, Yazan, and Giles (2019), who proposed that universities should build more linguistically inclusive VLL in their website construction to improve the outcomes of international exchange programs. This, in turn, can enhance the university's reputation as an institution that values diversity, promotes internationalization, and strives to accommodate a wide range of students, scholars, and stakeholders. In addition, the visibility and importance of different languages in public spaces (physical or virtual space) vary greatly because of various factors such

as political, economic, social, cultural, and geographical factors (Zhou, 2022). In other words, the language setting of each university website is determined by a combination of factors such as geographic location, university policy, internationalization efforts, and target audience, etc. For example, in addition to simplified Chinese and English, the Harbin Engineering University (HEU) website also includes Russian because Harbin is located in Heilongjiang Province, and its long border connects with Russia. Also, the university has a Sino-Russian 'Belt and Road' joint laboratory with St. Petersburg State Marine Technical University in Russia.

On these multilingual websites, English is the second most commonly used language following Chinese, indicating a high regard for the international significance of the English language by Chinese universities. It also shows that Chinese universities attach great importance to their multilingual development. English is increasingly employed as an internationally preferred medium of communication in the era of globalization and the modern era's lingua franca (Crystal, 2003; Deterding, 2019; Graddol, 1997). Furthermore, the continued spread of English as the global language of higher education across university websites can make universities appear welcoming to speakers of these languages and provide a broader experience for international students (Callahan & Herring, 2012). However, compared to Chinese and English, other foreign languages are not widely distributed on Chinese university websites (Zhou, 2022). Among the top 100 Chinese university websites, except for employing Chinese and English, using other foreign languages as communication media is concentrated at Zhejiang University (ZJU), Harbin Institute of Technology (HIT), Tongji University (TJU), Tianjin University (TJU), Jiangnan University (JNU), Harbin Engineering University (HEU), China University of Petroleum (East China) (UPC). These universities involve six languages which are Russian, German, French, Japanese, Korean, and Spanish, their main role is to disseminate language information to overseas audiences (Wen, 2023). Due to the joint effects of development strategies and plans, international cooperation and exchanges, ethnic identity formation, cultural identity, and geographical advantages of various countries around the world, the visibility and prominence of various languages have emerged in real space or virtual space. Significant differences and the existence of long-term language differences are

also likely to cause uneven language development (Wen, 2023; Zhou, 2022).

3) Monolingual websites

The analysis reveals that the lowest proportion is monolingualism, possibly due to these factors. The target audience of these universities might primarily be the domestic audience. Secondly, it's possible that these universities have resource constraints that limit their ability to maintain multilingual websites. Creating and maintaining content in multiple languages can be resource-intensive, and smaller or less-funded institutions may opt for a monolingual approach. Mao and Ren (2018) pointed out that a shortage of language service personnel and inadequate financial investments can lead to limitations in the creation and maintenance of LL information. These universities might face technical challenges in implementing multilingual websites as Chinese universities are still in the early stages of constructing multilingual websites, and the content development of these websites lags behind the internationalization demands of higher education (Gu & Yi, 2019). It is noteworthy that both of the two medical universities exclusively utilize simplified Chinese on their webpages. This choice aligns with the typical focus of medical institutions, which primarily serve a local or domestic audience consisting of students, faculty, and healthcare professionals. Given that simplified Chinese is the predominant script within mainland China, this decision may be considered adequate for effectively reaching their target audience.

5.2.2 The informational functions of the VLL of the studied Chinese university's websites

1) The types of information on Chinese and English websites

The analysis of university websites clearly indicates that the VLL of these websites serves informational functions. The university's navigation menu categories provide a comprehensive view covering academic provisions, research pursuits, campus life, collaborations, and the university's role in the wider social and political context. Secondly, it can be inferred that universities tailor their messaging to audiences in different languages. For instance, the information such as 'International collaboration' and 'International Exchange' under the navigation menus demonstrates

Chinese universities focus on catering to international students and global audiences. It is also reflected that Chinese universities actively responded to the national 'Overall Plan for Promoting the Construction of World-Class Universities and First-Class Disciplines' 'Educational Action for Promoting the Construction of the Belt and Road' policies. Especially encouraged Chinese higher education sustainable development by providing bilingual and multilingual language emphasis patterns in navigation menus. This view was aligned with Gu and Yi (2019), that multilingual language websites serve as a crucial platform for the development of 'Double First-Class' initiatives in foreign language disciplines at Chinese universities and play a pivotal role in China's higher education strategy for internationalization. Essentially, the informational function of the LL provides the public with information on communication and services (Zeng & Luo, 2019, p. 115; Lu et al., 2020), so, the researchers considered that the presence or absence of specific content in the Chinese and English menus reflects the university's strategic decision to different language audiences and specific information emphasized by its internationalization goals. In addition, as a media form in the public virtual space, official websites offer various information services to website users. They engage in interactive communication and create a multifunctional service platform, all of which contribute to the advancement of public relations and communication efforts (Zhao, 2021).

The information regarding the Chinese Communist Party and government shows that the universities have actively responded to and promoted major political policies of the party and the country in different periods. This demonstrates the important role of universities in China's social and political system and their mission in supporting national policies and social progress. At the same time, this also emphasizes the contemporary nature and flexibility of Chinese universities. They can continuously adapt and evolve as the political environment changes, which is a distinctive feature of China's higher education system. This finding aligns with the notion that fostering a strong connection between the Party and the government has consistently been a central theme in China's ideological and political efforts, reflecting the prevailing characteristics of the era (Wen, 2023; Zhou, 2022).

2) Language emphasis patterns in navigation menus

The findings indicate that Chinese occupies a dominant position in the VLL of Chinese university websites. This is clearly because Chinese is the official language of China. The official languages hold the highest power in informational functions, and the readers of the landscape determine the dominant role of Chinese in the LL of university official websites (Wang, 2020; Wen, 2023). When the main audience of the universities are Chinese users, the universities might want to attract and meet the needs of local or regional students and parents in terms of admissions information, campus activities, and campus life (Wen, 2023).

The circumstance that Chinese websites and English websites provide equal information suggests that these universities value a consistent user experience across languages, which may be a sign of internationalization efforts aimed at catering to diverse student populations and global audiences. It can be seen that universities focus on effective bilingual communication, and ensuring consistent messaging for all stakeholders is very important. Hence, it can be further deduced that these universities aim to create a unified global identity, attract diverse students and promote international collaboration, research, and uniformly provide information to researchers and scholars around the world.

Lastly, the findings of the situation in which there were fewer menus in Chinese than in English suggested that Chinese websites provide less information compared to English websites. It may be due to some information being more accessible or relevant to English-speaking audiences. The reduction in Chinese menus might be due to specific strategies to attract and support international students. As the second preferred language in the VLL, English is not as dominant as Chinese in the local communication context, but its language vitality gene and information dissemination advantages as the world's lingua franca are undeniable (Zhou, 2022). It is suggested that these universities might be more focused on providing information to English-speaking prospective students.

5.3 Conclusion and Implications

This study aimed to examine the language selection and distribution on Chinese university websites, and the informational function embodied in the VLL of

the websites. The analysis of the VLL of Chinese university websites shed light on crucial aspects of language utilization and priorities within the country's higher education sectors. Firstly, from the language selection of the websites, it is apparent that Chinese universities place a strong emphasis on bilingual and multilingual communication, signaling a forward-looking vision for international engagement and communication. Moreover, English features prominently on these websites. On the top 100 Chinese university's websites, 94% of universities employ English on their websites, underscoring the universities' acknowledgment of its global significance as a lingua franca for academic and international discourse. The prevalence of English, following Chinese, highlights its pivotal role in reaching diverse global audiences and underscores the high regard Chinese universities have for the international importance of the English language. Chinese universities strategically leverage English websites to build international reputations, attract exceptional students and scholars, foster international cooperation, and serve as centralized repositories of information for researchers worldwide.

Additionally, the examination of these websites reveals Chinese universities' commitment to providing diverse academic opportunities. This commitment extends across various areas, including knowledge advancement, innovation, student well-being, and collaborations with institutions both within and outside of China. Notably, the selection of language codes caters to specific audience groups, and the content of the websites varies based on the unique goals and purposes of each university. Lastly, the alignment of these findings with national policies underscores the pivotal role of Chinese universities in championing and supporting governmental initiatives. In particular, the emergence of party and government themes highlights the strong support of Chinese universities for national policies and their distinctive characteristics of advancing with the times.

5.3.1 Implications

The implications of these findings for higher education institutions, policymakers, and stakeholders are noteworthy. Firstly, the emphasis on bilingual and multilingual communication by Chinese universities underscores the strategic value of multilingualism. This should prompt institutions worldwide to recognize the importance of language diversity in connecting with various audiences and fostering

inclusivity and internationalization. To engage international audiences effectively, universities should consider adopting more and more bilingual and multilingual websites. Secondly, the dominant role of English as a global lingua franca emphasizes the necessity for universities to foster English language proficiency among their staff and students. Proficiency in English is crucial for successful internationalization efforts and meaningful participation in the global academic community. Therefore, universities should actively promote English language proficiency among both faculty and students. Lastly, the variations in content between Chinese and English navigation menus highlight the importance of tailoring information to specific language audiences. To effectively engage diverse user segments, institutions should contemplate offering customized content aligned with language proficiency levels and individual interests. These insights are invaluable for educational leaders, policymakers, and university administrators as they navigate the continually evolving landscape of modern higher education.

In conclusion, the study provides valuable insights into how Chinese higher education utilizes the virtual linguistic landscape to effectively communicate information and appeal to international students and staff. Simultaneously, the research findings have the potential to drive enhancements in website designs, making sure that crucial information required for internationalization is readily available and enhancing user navigation. Additionally, the examination of language usage patterns can shed light on how website content is organized and emphasized, particularly in relation to the role of English. These insights are not limited to the Chinese context alone; they hold applicability in other higher education settings as well, such as Thailand. By leveraging the knowledge gained from this study, similar institutions in various regions can refine their online presence, ensuring effective communication and engagement with their diverse audiences.

5.4 Recommendations for further research

Looking forward, future investigation should delve into both the informational and symbolic functions of VLL, aiming to provide a comprehensive understanding of the current LL within a specific context. This exploration could shed light on the power and status relationships of competing language groups in the VLL of university

websites, the language values of social groups, and even the hidden motivations behind code selection.

Secondly, future studies may explore a comparative analysis of university websites from two distinct higher education contexts, such as China and Thailand, or other countries' universities. By examining contrasting higher education environments, researchers can deepen their understanding of the factors influencing VLL and contribute to a more nuanced comprehension of the global landscape of VLL.

Lastly, the field of VLL research could be enriched by investigations into the multimodal forms of VLL. This entails exploring not only the textual components but also the visual, auditory, and interactive elements present in VLL. This avenue of research has the potential to find innovative approaches to virtual space and expand the diversity of the VLL field.

In summary, by addressing these areas in future studies, researchers can contribute significantly to the evolving discourse on VLL, fostering a more nuanced and comprehensive comprehension of language use in the digital realm of higher education.

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APPENDIX

Appendix 1: The certificate of Institutional Review Board (IRB)

สำเนา

ที่ IRB4-176/2565

เอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์
มหาวิทยาลัยบูรพา

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาโครงการวิจัย

รหัสโครงการวิจัย : G-HU148/2565
โครงการวิจัยเรื่อง : ภูมิทัศน์ภาษาศาสตร์เสมือนจริงของเว็บไซต์มหาวิทยาลัยจีน
หัวหน้าโครงการวิจัย : MISSJINZHEN LI
หน่วยงานที่สังกัด : ภาษาอังกฤษเพื่อการสื่อสาร

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาแล้วเห็นว่า โครงการวิจัยดังกล่าวเป็นไปตามหลักการของจริยธรรมการวิจัยในมนุษย์ โดยที่ผู้วิจัยเคารพสิทธิและศักดิ์ศรีในความเป็นมนุษย์ไม่มีการล่วงละเมิดสิทธิ สวัสดิภาพ และไม่ก่อให้เกิดภยันตรายแก่ตัวอย่างการวิจัยและผู้เข้าร่วมโครงการวิจัย

จึงเห็นสมควรให้ดำเนินการวิจัยในขอบข่ายของโครงการวิจัยที่เสนอได้ (ดูตามเอกสารตรวจสอบ)

1. แบบเสนอเพื่อขอรับการพิจารณาจริยธรรมการวิจัยในมนุษย์ ฉบับที่ 1 วันที่ 30 เดือน สิงหาคม พ.ศ. 2565
2. เอกสารโครงการวิจัยฉบับภาษาไทย ฉบับที่ 1 วันที่ 30 เดือน สิงหาคม พ.ศ. 2565
3. เอกสารชี้แจงผู้เข้าร่วมโครงการวิจัย ฉบับที่ - วันที่ - เดือน - พ.ศ. -
4. เอกสารแสดงความยินยอมของผู้เข้าร่วมโครงการวิจัย ฉบับที่ - วันที่ - เดือน - พ.ศ. -
5. เอกสารแสดงรายละเอียดเครื่องมือที่ใช้ในการวิจัย ฉบับที่ - วันที่ - เดือน - พ.ศ. -
6. เอกสารอื่นๆ ฉบับที่ - วันที่ - เดือน - พ.ศ. -

วันที่รับรอง : วันที่ 30 เดือน สิงหาคม พ.ศ. 2565
วันที่หมดอายุ : วันที่ 30 เดือน สิงหาคม พ.ศ. 2566

ลงนาม *นางสาวพิมลพรรณ เลิศสิ้ว*
(นางสาวพิมลพรรณ เลิศสิ้ว)
ประธานคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา
ชุดที่ 4 (กลุ่มมนุษยศาสตร์และสังคมศาสตร์)

Appendix 2: Language Code Selection and Distribution

Language Code Selection and Distribution					
Item No	**Names of Universities**	**Language Displayed Situation**	**Language Number**	**Language Code Selection**	**The Types of Universities**
1	Tsinghua University (THU	Simplified Chinese+ English	2	Bilingualism	science and technology
2	Peking University (PKU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
3	Zhejiang University (ZJU)	Simplified Chinese+ English +Russisch +Deutsch	4	Multilingualism	comprehensive university
4	Shanghai Jiaotong University (SJTU)	Simplified Chinese+ English	2	Bilingualism	science and technology
5	Wuhan University (WHU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
6	Fudan University (FDU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
7	Nanjing University (NJU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
8	Huazhong University of Science and Technology (HUST)	Simplified Chinese+ English	2	Bilingualism	science and technology
9	Jilin University (JLU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
10	University of Science and Technology of China (USTC)	Simplified Chinese+ English	2	Bilingualism	science and technology
11	Sun Yat-Sen University (SYSU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
12	Sichuan University (SCU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
13	Harbin Institute of Technology (HIT)	Simplified Chinese+ English+ Russian	3	Multilingualism	science and technology
14	Southeast University (SEU	Simplified Chinese+ English	2	Bilingualism	science and technology
15	Renmin University of China (RUC)	Simplified Chinese+ English	2	Bilingualism	grammar
16	Xi'an Jiaotong University (XJTU)	Simplified Chinese+ English	2	Bilingualism	science and technology
17	University of Chinese Academy of Sciences (UCAS)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
18	National University of Defense Technology (NUDT)	Simplified Chinese+ English	2	Bilingualism	science and technology
19	Tongji University (TJU)	Simplified Chinese+ English+Deutsch	3	Multilingualism	science and technology
20	Shandong University (SDU	Simplified Chinese+ English	2	Bilingualism	comprehensive university
21	Central South University (CSU)	Simplified Chinese+ English	2	Bilingualism	science and technology
22	Beijing Normal University (BNU)	Simplified Chinese+ English	2	Bilingualism	normal
23	South China University of Technology (SCUT)	Simplified Chinese+ English	2	Bilingualism	science and technology
24	Beihang University (BUAA	Simplified Chinese+ English	2	Bilingualism	science and technology
25	East China Normal University (ECNU)	Simplified Chinese	1	Monolingualism	normal
26	Tianjin University (TJU)	Simplified Chinese+ English+ Russian+French+Japanese+Korean+Deutsc h+Espanol	8	Multilingualism	science and technology
27	Beijing Institute of Technology (BIT)	Simplified Chinese+ English	2	Bilingualism	science and technology
28	Nankai University (NKU/Nankai)	Simplified Chinese+ English	2	Bilingualism	comprehensive university

29	Dalian University of Technology (DUT)	Simplified Chinese+ English	2	Bilingualism	science and technology
30	Chongqing University (CQU)	Simplified Chinese+ English	2	Bilingualism	science and technology
31	Xiamen University (XMU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
32	University of Electronic Science and Technology of China (UESTC)	Simplified Chinese+ English	2	Bilingualism	science and technology
33	China Agricultural University (CAU)	Simplified Chinese+ English	2	Bilingualism	agriculture and forestry
34	Northwestern Polytechnical University (NWPU)	Simplified Chinese+ English	2	Bilingualism	comprehensive university
35	Soochow University (SUDA)	Simplified Chinese+ English	3	Bilingualism	comprehensive university
36	Northeastern University （NEU）	Simplified Chinese+ English	2	Bilingualism	science and technology
37	Nanjing University of Aeronautics and Astronautics （NUAA）	Simplified Chinese	1	Monolingualism	science and technology

Appendix 3: Language Emphasis Patterns in Navigation Menus

Language Emphasis Patterns in Navigation Menus						
Item No	Names of Universities	The quantity of Chinese navigation	The quantity of English navigation	Chinese navigation> English navigation	Chinese navigation= English navigation	Chinese navigation< English navigation
1	Tsinghua University (THU)	8	8		Y	
2	Peking University (PKU)	7	6	Y		
3	Zhejiang University (ZJU)	9	8	Y		
4	Shanghai Jiaotong University (SJTU)	6	7			Y
5	Wuhan University (WHU)	8	6	Y		
6	Fudan University (FDU)	6	6		Y	

7	Nanjing University (NJU)	9	8	Y		
8	Huazhong University of Science and Technology (HUST)	10	6	Y		
9	Jilin University (JLU)	7	6	Y		
10	University of Science and Technology of China (USTC)	14	6	Y		
11	Sun Yat-Sen University (SYSU)	9	8	Y		
12	Sichuan University (SCU)	9	9	Y		
13	Harbin Institute of Technology (HIT)	9	6	Y		
14	Southeast University (SEU)	11	5	Y		
15	Renmin University of China (RUC)	3	3		Y	
16	Xi'an Jiaotong University (XJTU)	14	6	Y		
17	University of Chinese Academy of Sciences (UCAS)	10	5	Y		
18	National University of Defense Technology (NUDT)	9	6	Y		
19	Tongji University (TJU)	9	5	Y		

20	Shandong University (SDU)	10	7	Y		
21	Central South University (CSU)	8	7	Y		
22	Beijing Normal University (BNU)	10	6	Y		
23	South China University of Technology (SCUT)	9	6	Y		
24	Beihang University (BUAA)	8	7	Y		
25	East China Normal University (ECNU)					
26	Tianjin University (TJU)	6	6		Y	
27	Beijing Institute of Technology (BIT)	8	7	Y		
28	Nankai University (NKU/Nankai)	8	6	Y		
29	Dalian University of Technology (DUT)	9	8	Y		
30	Chongqing University (CQU)	9	7	Y		
31	Xiamen University (XMU)	11	6	Y		
32	University of Electronic Science and Technology of China (UESTC)	8	8		Y	

33	China Agricultural University (CAU)	11	10	Y		
34	Northwestern Polytechnical University (NWPU)	9	7	Y		
35	Soochow University (SUDA)	10	8	Y		
36	Northeastern University（NEU）	8	8		Y	
37	Nanjing University of Aeronautics and Astronautics（NUAA）					
38	Hunan University (HNU)	8	9			Y
39	Zhengzhou University (ZZU)	9	6	Y		
40	Shanghai University (SHU)	11	5	Y		
41	Nanjing University of Science and Technology (NJUST/NUST)	8	4	Y		
42	Southwest Jiaotong University (SWJTU)	8	7	Y		
43	Lanzhou University (LZU)	9	5	Y		
44	East China University of Science and Technology	11	12			Y

	(ECUST)					
45	Wuhan University of Technology (WUT)	10	9	Y		
46	University of Science and Technology Beijing (USTB)	8	6	Y		
47	Beijing Jiaotong University (BJTU)	8	6	Y		
48	Jinan University（JNU）	8	6	Y		
49	Xidian University（XDU）	11	6	Y		
50	Southwest University（SWU）	5	6			Y
51	Hohai University (HHU)	9	8	Y		
52	Nanjing Normal University (NNU)	9	7	Y		
53	Nanchang University（NCU）	9	5	Y		
54	Central China Normal University (CCNU)	6	5	Y		
55	Hefei University of Technology（HFUT）					
56	Jiangnan University (JNU)	9	8	Y		

57	Huazhong Agricultural University (HZAU)	10	10		Y	
58	Beijing University of Technology (BJUT)	11	6	Y		
59	Zhejiang University of Technology (ZJUT)	8	5	Y		
60	Nanjing Agricultural University (NJAU/NAU)	8	6	Y		
61	Ocean University of China (OUC)	11	6	Y		
62	Shaanxi Normal University (SNNU)	10	9	Y		
63	Harbin Engineering University (HEU)	11	5	Y		
64	China University of Mining and Technology (CUMTB)	10	7	Y		
65	South China Normal University (SCNU)	11	8	Y		
66	Northeast Normal University (NENU)	9	9		Y	
67	Yanshan University (YSU)	9	6	Y		
68	Yangzhou University	11	7	Y		

	（YZU）					
69	North China Electric Power University (NCEPU)	9	10			Y
70	Donghua University (DHU)	18	8	Y		
71	Yunnan University (YNU)	10	7	Y		
72	Northwest University (NWU)	8	8		Y	
73	Beijing University of Posts and Telecommunications (BUPT)	7	9			Y
74	Ningbo University (NBU)					
75	Northwest A&F University (NWAFU)	12	7	Y		
76	South China Agricultural University (SCAU)	12	8	Y		
77	Central University of Finance and Economics (CUFE)	8	6	Y		
78	Hunan Normal University (HNNU)	8	7	Y		
79	Zhejiang Normal University（ZJNU）	7	7		Y	
80	Beijing University of Chemical Technology					

	(BUCT)					
81	Fujian Normal University（FNU）	8	6	Y		
82	Jiangsu University（UJS）	9	8	Y		
83	Guangxi University (GXU)	9	5	Y		
84	Fuzhou University (FZU)	8	6	Y		
85	Capital Medical University (CCMU)					
86	Shanghai Normal University (SHNU)	9	7	Y		
87	Shenzhen University (SZU)	9	7	Y		
88	Henan University (HENU)					
89	Anhui University (AHU)	9	9		Y	
90	China University of Petroleum (East China) (UPC)	10	1	Y		
91	Peking Union Medical College（PUMC）					
92	China University of Geosciences (Wuhan) (CUG)	10	6	Y		

93	Hangzhou Dianzi University (HDU)	10	7	Y		
94	Guangdong University of Technology (GDUT)	10	5	Y		
95	Taiyuan University of Technology (TYUT)	9	9		Y	
96	China University of Political Science and Law (CPUL)	11	10	Y		
97	Xian University of Architecture and Technology (XAUAT)					
98	Chang'an University (CHD)	9	9		Y	
99	Capital Normal University (CNU)	7	7		Y	
100	Hebei University (HBU)	7	6	Y		

BIOGRAPHY

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