

A Comparative Multimodal Analysis of Homepages of Two Universities

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Abstract: *The present study adopted a social-cultural perspective to investigate how two universities used their homepages to simultaneously create an official gateway and an institutional identity through multimodal analysis. Results indicated that the homepage of Nanyang Technological University foregrounded its identity as a vibrant global community with excellent academic and research performances by appealing, inter-personally oriented images and promotional texts while on the other hand, the homepages of Peking University presented its identity as a historical, traditional institute which stood for authority, shouldered the social responsibility as well as spread the Chinese culture through the impersonal pictures and texts and repetitive navigational styles. Findings also suggest that universities involve in marketing to attract potential students globally.*

Keywords: *Social semiotics; Systemic functional linguistics; Multimodal analysis; University homepages; Culture*

1. Introduction

The fast expansion of interactive web technologies has afforded and accelerated the evolution of web-mediated academic discourses (Kress, 2003)^[10] and posed new challenges. One is how to conduct the meaning-making practices of languages with other social semiotic resources including images, online videos, navigation tools etc. in such a multimodal society?

In the tertiary education, influenced by the trend of “marketization” (Fairclough, 1993)^[6], fierce competition and educational policies, universities endeavour to be more competitive. For example, in 2017, Chinese government launched a massive higher education initiative (hereafter named the “Double First Class” initiative) aimed to develop selected universities into the world-class universities and chosen disciplines into leading disciplines in the world (Ministry of Education, Ministry of Finance, & National Development and Reform Commission, 2017)^[18]. Universities find it hard to keep their privileged static status of excellence so as to follow the trend by re-positioning themselves as business companies to market themselves and compete with other institutions for the attention of potential students globally (Bhatia, 2005)^[4].

Facing challenges, universities value the important role their school websites play in promotion and make them more accessible by offering versions of different languages, such as, English and Chinese. University websites are usually the first resource for the potential students to refer to when they make their decisions on university application and for current students to rely on for their involvement with campus life (Zhang&Tu, 2019)^[28]. University websites are used as useful instrument to promote their identities as desirable academic institutions, “wave for its reputation for teaching and/or research” (Weideman, 2013)^[26] and carry out their missions to gain prospective students’ favor.

Homepages, serving as the doors and gateways (Askehave&Nielsen, 2005), occupy the dominant position of the university websites^[2]. Fletcher (2006) pointed out that much importance was attached to homepage to create the identity of a university, popularize the mission, promote its reputation and appeal to more potential students in such an intensely competitive tertiary educational market^[7]. So once the comprehension of discourses of university homepages is obtained, it would be easier to know how universities interpret themselves, what position they stand and the way they run as institutions.

Therefore, drawing on a social semiotic framework of Djonov and Knox (2014) informed by Systemic Functional Linguistics (Halliday, 1994)^[8] and the Grammar of Visual Design (Kress, &Van Leeuwen, 2006)^[12], this research is to explore how different social semiotics are construed in the homepages of Peking University in China (hereafter PKU) and Nanyang Technological University in

Singapore (hereafter NTU) and how the semiotic resources are deployed of the same homepage in English and Chinese differently. It is guided by the following research questions:

- What content do these two universities present in the homepages?(ideational metafunction) How do these two universities express their identities, position themselves and engage the readers in the homepages? (interpersonal metafunction)
- How do these two universities navigate the readers through the homepages? (textual metafunction)
- What similarities and dissimilarities are between the Chinese homepage of NTU and their English counterparts with multimodal design perspectives?
- How do social and cultural factors impact on the design of homepages with the regard to a multimodal perspective?

2. Literature Review

2.1 Multimodality discourse analysis and homepage as a multimodal discourse

In the development of the theory of multimodal discourse analysis, Halliday put forward the theory of systemic functional linguistics and treated language as a social semiotic resource (Halliday, 1994)^[8]. In the Halliday's metafunctional framework, a mode is capable of three meanings: Ideational metafunction: to represent the reality of the world and establish semantic logical relationships within that context; Interpersonal metafunction: to construe the social relations and values; Textual metafunction: to represent both as a coherent and cohesive message.

This systemic language theory was extended to multimodal systems by Kress and van^[11] (Kress, 2003; Kress & van Leeuwen, 2006). O'Halloran (2008) further developed a systemic functional approach to multimodal discourse analysis (SF-MDA approach) by visual editing software^[20]. Martin and Rose (2008) proposed the importance of realizations of different modalities including images, logos and designs in configuring meanings^[17]. Molle and Prior (2008) observed that discourse usually is hybrid and multimodal, which is not limited to text form alone^[19]. Communication is naturally multimodal rather than language alone. Discourse as social practice are combined by all kinds of communication modes. This combination makes a richer and fuller meaning (Kress, 2015)^[10]. Bateman (2014) stressed the importance of exploring how different modes of semiotics interplay to make meanings^[3]. As Zhang and Tu (2019) pointed this multimodal discourse analysis explores the connections among different modalities such as image, video, links, spatial layout and how they "entertain, engage and/or persuade target audience".^[28] It is obvious that multimodality is a domain which deserves social semiotic actions and exploration (O' Halloran & Fei, 2014)^[21].

The rapid development of internet and modern technology has facilitated our research to shift from traditionally analyzing language itself to analyzing the meanings of different modes and their interactions in such an web-mediated communicative society. As Ancil (2008) reported, internet makes it possible for universities to update information anytime they need and also enables researchers to study them more effectively^[1].

Websites, homepages in particular, as a multimodal discourse are different from the printed texts. The websites especially homepages on the screen are not random but designed multimodal ensembles "with a view to collective and interrelated meaning" (Tomášková, 2011)^[23]. Lemke (1999) stressed the vital role the university websites can play in organizationally improving within themselves^[14]. Fletcher(2006) stressed the significance affect of university homepage in university's identity establishment, mission execution, and appeal to prospective students^[7]. The analysis of modes of text, images, and hyperlinks and the interplay among all modes on the multimodal homepages are important in representing universities and engaging potential students.

2.2 Related researches into the universities' web-pages

Some empirical researches have been undertaken to investigate the construction of university identity and the use of multimodal resources in university websites. Among them, some researches that focused on homepages are particularly pertinent to the present study.

Tomášková (2011) conducted his research based on a corpus comparative analysis of university

websites in Britain, North America and the Czechs through a framework of combining generic approach and multimodal discourse approach. Both homepages and potential students' web pages of these universities are chosen under investigation. The result revealed a significant difference on websites of three universities which resulted from the different cultural backgrounds.

Due to the oversupply and steady financial support from government, Czech University presented itself in a less interactive and promotional way than the other two universities. And the author pointed as the current trend just recently provoked the Czech society, the promotional feature of university websites has just "come into the fore"^[23].

Likewise, the promotional characters of homepages has also been observed in the study of Mafofo and Banda (2014)^[16]. Using multimodal discourse analysis, they investigated the homepages of three South African universities and reported that influence by the cultural, social and global factors, different universities made different multi-semiotic choices on the homepage to represent themselves differently. Despite the differences, faced globalization and fierce competition, all of the three universities endeavor to redesign their identities by changing visual and verbal semiotics on their homepages to promote themselves and appeal to student home and abroad.

Semiotic choices on the universities homepages are cultural-based. In the study of comparing Tsinghua University and Singapore National University, Zhang and O'halloran (2012), taking a hypermodal approach, they investigated the ways two universities employ multimodal resources to express their identities and design a gateway for potential readers to access the web-pages. They concluded that influenced by different cultures and social contexts, the homepage of Tsinghua University is more conservative and authority-centered while the homepage of National University of Singapore is internationally community-based and promotion-oriented^[27].

Some researchers conduct a more specific research on university websites with a specific focus. In the doctoral thesis of Tu (2016), he investigated the websites of 40 universities in China with a focus on the self-introduction web-pages in Chinese and English. They reported the university websites are context-sensitive and audience orientated. He observed the shift in the introduction part from English to Chinese and this difference in the communication style was in response to the different sociocultural backgrounds, needs of target audience and sets of introductions. Therefore, he proposed that attention should be paid to social-cultural awareness and cross-cultural difference in the intercultural communication in universities web-pages^[25].

However, there is still a research gap. First, most of the aforementioned researches have focused on the homepages of universities in developed countries, but few researches have moved beyond the homepages of developing countries (Mafofo & Banda, 2014)^[16]. Second, the comparison of the same homepages in different languages hasn't caught the scholars' attention (Tu, 2016). Therefore, to fill the research gap, considering the difference in the status between universities in developing and developed countries and the difference of the same homepages in different languages, there is a need to make a comparative investigation into how universities create their identities differently as shown through the social semiotics on their homepages and how they represent themselves in two different languages for different audiences.

3. Methodology

This qualitative research is aimed to compare the multimodal features across the two university homepages and the same homepage in two different languages, explore how these two universities represent themselves to the targeted students and why they make such semiotic choices. Based on metafunctional framework, an adapted collection of research methods and a multimodal discourse analysis were applied.

3.1 Data Sources

The present study focuses on two top universities: NTU, Singapore and PKU, China. Both are typical Asian universities that have grown into the leading universities in the Asia and are ranked as the top 30 universities in the world according to the Quacquarelli Symonds (QS) World University Rankings 2020.

NTU, a fastest rising top young university in Singapore was placed 11th in the world in the QS World University Rankings. Influenced by the objectives of Singapore, the role of NTU is to improve

its research capacity, academic level and produce “thinking, independent and innovative young Singaporeans” through school work emphasizing the quality and experiential learning so as to compete even outperform economic rivals in the future (Tupas, 2011)^[24]. Thus, NTU improves its academic capacity by cooperating with top institutions and tries to portray itself as an example of entrepreneur to commercialize knowledge and academy to attract international students.

PKU is the first national university in modern Chinese history and endeavors to train students to be responsible civilians. The Chinese traditional culture and educational thoughts originating in Confucianism are deeply rooted in educational philosophy of PKU, which stresses the nationalism, patriotism, traditional values rather than materialism and commercialism. This may account for the a low population of international students. However, instructed by the nation’s construction plan of world-class universities and first-class disciplines by Chinese government in 2017^[22], PKU has been transforming into an academic center, embracing diverse branches of disciplines and all kinds of talents globally to achieve the aim of ranking among the best universities worldwide.

Both NTU and PKU have English and Chinese homepages. In order to make comparison, the English NTU homepage and homepages of PKU in Chinese and English are chosen for analysis. The homepages under examination were captured on April 15, 2020.

3.2 Research Framework

According to Djonov and Knox (2014), they illustrated that the web-page is a unit of analysis showing the part that technology plays in web for information exchange^[5]. Thus this premise permits researchers to consider the similar perspectives of both web designers and readers. Kress et al. (2014) pointed out that “[v]isual communication, gesture, and action have evolved through their social usage into articulated or partially articulated semiotic systems in the same way that language has^[11].” Influenced by their explanation, the social semiotic framework here adopted to analyse homepage is adapted from the Systemic Functional Linguistics (Halliday, 1994). This framework focuses on investigating semiotic resources, however, language is not included in the synthesis of resources in multimodal phenomenon described by Kress and van Leeuwen (2006)^[12].

From the systemic functional angle, homepages, as semiotic resources, have three metafunctions: ideational, interpersonal and textual. In this framework, it also combines semiotic resource systems in hypertext to reveal the potentials of the web-pages pointed by Lemke^[15] (2002). To get an in-depth analysis into university homepages, attempts are made to investigate how functions work together by the semiotic choices for color, image, icons and links etc.

3.3 Data collection

The university homepages were selected using Awesome screenshot a tool to take, annotate and share a screenshot. The university homepage taken are English homepage of NTU and homepage of PKU in English and Chinese. Due to the long size of homepages, the English homepage of NTU and Chinese homepage of PKU were captured as several images.

4. Results

The university homepages consist of different modes such texts, images, short video, and graph. The following subsections are devoted to investigating images, and hyperlinks explore the ways these modalities express ideational, interpersonal and textual meanings, and advise threads coming along to weave the texture of multimodal ensembles.

4.1 Ideational meaning

What semiotic choices are made and what elements in content are chosen in the homepage are completely shaped by their distinct purposes: to present a multifaceted picture of university, highlight the strengths of university and promote it and attract prospective students.

In the English homepage of NTU, the entire screen is covered by a large frame flashing photos in the banner. There are seven flashing photos, each of which lasts 5 seconds. Above the huge flashing images are two thin navigation zones with blue background where there are tabs to different contents such as admission, academics, research and covid-19. The navigation zones are coupled with the coat

of arms at the top left representing the official status of the web-page. The effect when viewed on screen at the first sight is to make the homepages of NTU an attractive advertising billboard with huge appealing images rotating, which can be categorized into three themes: Campus life, University Ranking and Staff. Moving down to the page, the content zone is right below banner. A partial taxonomy of content on the NTU homepage is News and Announcements, Discover more, Featured Videos, Autonomous institutes. All the four subsections are structured in the same way, which employs an over image with a short title below to illustrate the content.

In the News and Announcements (see from Figure 1), there are nine subsections. The academic achievements from students and staff and campus life are overtly shown in the content sections with the overt image to each piece of news with a short message below in accord with the websites purpose: to emphasize the academic achievement and build a community. As seen below, there are 6 pieces of news with a focus on latest academic achievements and research. All images are shot in the horizontal angel with smiling experts and students of different ethnicities. Three pieces of the news are devoted to campus life such as events and campus views-green garden. The setting in the images of news and announcements are laboratory, library lecture hall and garden, which shows a colorful, vibrant and convenient campus life. In the other subsections of content, there are short videos about NTU and campus life. Also the world-leading institutes are also overtly. In the lower part of homepage is the functional section which list some links to social websites and contact information.

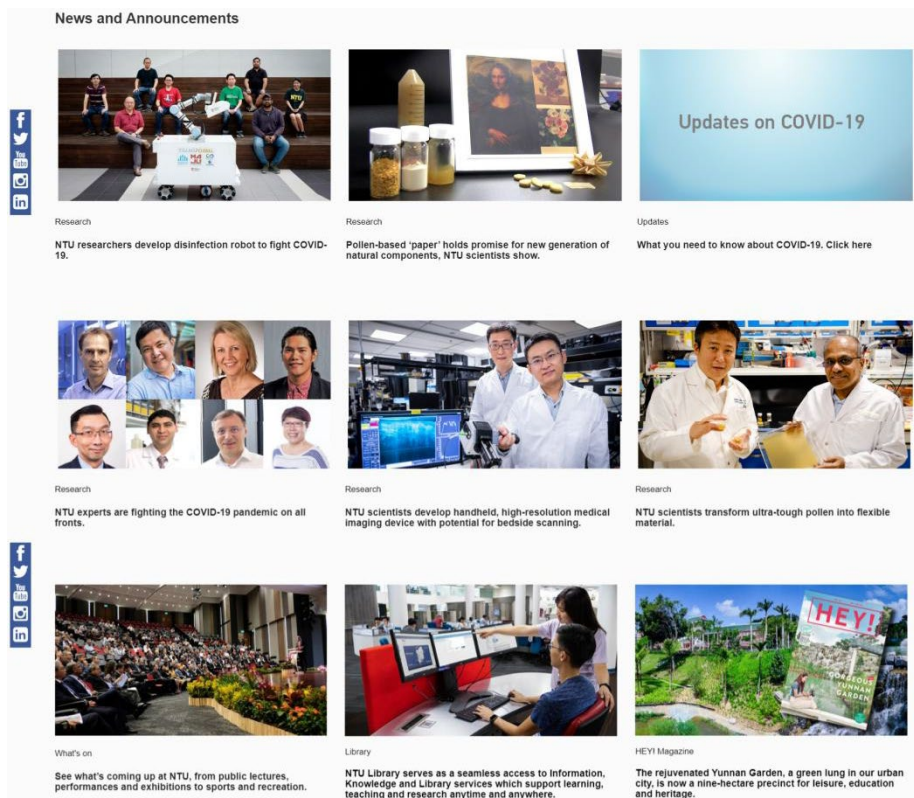


Figure 1 News and Announcements in NTU Homepage(4/15/20)

In the Chinese homepage of PKU, the whole page is designed as a picture of traditional propitious clouds. What is foregrounded is flashing photos with a five second pause between each one. The flashing images focus on the four themes: care for students and staffs in covid-19, traditional culture and festivals, campus life and patriotic education. There are two navigation zones: the upper most has red background and the lower is set in the image of the banner with seven tabs organized horizontally. There is an overt red icon on the right side with a hyperlink to the long history of PKU. The affordance of red circle icon allows readers to easily click it and get access to the history of PKU. The homepage of PKU at the first sight is viewed as a board to portray university as a warm family for students and create an image of responsible member devoted to fight against covid-19 and conduct the education of traditional culture and patriotism.

The first section of content is PKU News. As observed, this content is obstructed with one image on the left corner and the other on the diagonal right corner. The left picture is considered as given associated with general and past and the right picture is the new(Halliday, 1994)^[8]. The left showed the

available online courses in the spring term. The right image is in hope of a new spring when the covid-19 is over. All pieces of news are presented in pure text with the background of traditional Chinese elements. Updated News mainly focused on the covid-19 and patriotic activities. The rest part of the homepage is content section with 7 subsections, namely: Academics & Research, Missions & Campuslife, Notice&Announcement, Specialized Websites, Communication & Cooperation, and Guide & Visit.

In the English homepage of PKU, similarly, the board can be seen as a Chinese ink painting. The banner consists of 6 flashing images. Three images is about the global interaction. Two shows the historical, picturesque view of campus life and lively students activities. Three of them are about covid-19. The first image of campus in spring implies the victory of the fight against covid-19. The second shows groups of staff and students covered by mask in protective suit from medical department of PKU depart for areas in need. The red flags in the front show the mission and responsibility of the students. The third image using a close shot shows the excellent alumna who play a critical role in fighting against covid-19. All images in the banner create responsible positive images of university members home and abroad. The other three pictures represent PKU as an international platform by presenting students globally.

Followed by the banner, here comes the content section with subsections: news research, media, events shown mainly in pure text of small size. The content parts of People, Campus, History, Topic in form of smaller frame of pictures. News sections are latest news reports mainly focusing on covid-19. There are some discursive semiotic choices. The topic section is not clearly classified. The eight small images in the bottom are shown in Figure 2 without any title.

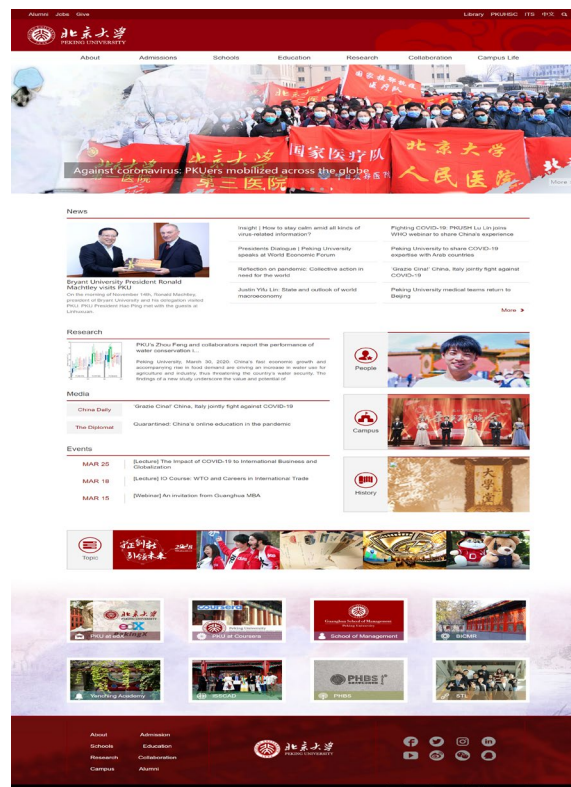


Figure 2: English homepage of PKU

From identional metafunction perspective, great difference can be found in structure and content among three homepages. The logo of NTU is English only while PKU has its logo in two languages. NTU is seen as an academical and promotional company which highlight excellent academic, research performances and sell knowledge while PKU regards itself as an authority which values its history, culture and sense of social responsibility. Different from Chinese version, PKU is portrayed as an friendly international platform focusing on international cooperation and collaboration in English. As for unique features, NTU has a video section while PKU has a visitor and guidance section.

4.2 Interpersonal meaning

The statics, color, shape and space, bending and bonding in three homepages construe different interpersonal meanings. Statics refers to the degree of movement (Knox, 2007). Three homepages take a similar form and adopt flashing images in the banner to attract audience attention while static elements are employed in the content parts to visually add more credibility. A slight difference lies in the content of Chinese homepage of PKU with each image of news flying out as the mouse moves forward. This animation adds flexibility to websites and attract more attention.

As for the shape and space, NTU homepage looks rational, ordered and logical by presenting all parts in a squared, ordered form. In contrast, PKU looks more flexible, vigorous and traditional by adopts shapes in different sizes and some with traditional Chinese cultural elements. Referring to color, all are near-white background. The dominant tone of NTU is blue, which is related to consciousness, stability and intellect. And the text is appealing because as “plain text is of high affordance, if the color is blue” (Zhang & O’halloran, 2012)^[27]. The tone of two homepages of PKU is red, one standing for Chinese traditional culture. Also, red shows the passion and vigor and also brings text and images to the foreground to attract more attention.

In term of binding and bonding, NTU adopted a user-oriented navigation which offers audience a sense of comfort. In contrast, there is too much freedom of navigation in two homepages of PKU where readers may easily get frustrated. All homepages use the bonding icons of excellent students, teachers and famous architectures to represent its authority. NTU relies on the established value of professors, laboratories and library to symbolize academy. In contrast, PKU employs the traditional Chinese buildings, excellent scholars and famous pioneers, which gains in an interpersonal appeal for readers to interpret PKU as an traditional historical university and a pioneer of innovation leading China upwards in old and contemporary times. Icons like international forum and international alumnus found English Homepage portray PKU as an international community where vibrant youth and the campus melt into eternal harmony.

4.3 Textual meaning

From a textual aspect, three homepage are constructed as a “Head-Tail” opposition named by Knox (2007)^[13]. The most salient meaning is construed on the banner of all the homepages. After analyzing the “head”, obviously, it shows that the most salient part in NTU homepage is academical achievements and campus life including the most updated corona-virus. The most significant part of Chinese PKU is the inheritance of traditional culture and building sense of responsibility. In English homepage, the most salient part is international collaboration.

There are more links in PKU than NTU homepages which provide users of freedom by offering many hyperlinks (such as text links and image links) and access to different contents sections. Zhang and O’halloran (2012) illustrated because of its clickable feature, button has the highest affordance. Users are likely to click the icons only if they know their meanings. Images have the lowest affordance^[27].

Clickable buttons and icons are found in homepages of PKU, but few clickable buttons are found in NTU. Also, PKU takes a more diverse icons and more navigational styles than NTU, which can be accounted by richer content of homepages of PKU. NTU homepage, deploys mostly plain text in black font or images for links. In contrast, unlike NTU, homepages of PKU adopt image, texts, icon for links and all the subsections vertically in the navigation zones fly out on the move of mouse without a click. In NTU homepage, there are many promotionally oriented links. For example, on the left, there are Facebook, Twitter, YouTube and ins links, the image links here are easy for users to click. By clicking, thus the promotion aim of NTU is achieved.

5. Discussion

What factors result in the differences in the three homepages? From economic perspective, the globalization and marketization have brought profound changes in multimodal choices made by universities in tertiary education. The homepage of NTU is obviously more promotional than those of PKU, which highlights its identity, university ranking, advanced research and excellent academic achievements via using of images and other semiotic resources. This promotional character enables NTU, one of most leading Singapore institutions to extend its market into the global market and attract

the best students in the world and to obtain oversea student fees as a large portion of their income, which reflects the government policy to attract more foreign elites and excellent immigrants to make contribution to economical construction in Singapore.

In contrast, the homepages of PKU in two languages are not promotional and remain a conservative and authority-centered. PKU as the top university across China, has the restrict enrollment policy and the average rate of enroll is 0.07%. Financially supported by the government, PKU find no urgent need to promote itself to enroll students and gain money. However, recently, influenced by the “Double First Class” initiative, universities like PKU have to endeavor to be enlisted in the world leading universities and first-class disciplines. To achieve this, PKU needs to increase its international academic influence and attract more students overseas and the homepage is very important tool in promotion process.

As for culture, NTU is open cultural university with a short history. The semiotic choices make NTU a young open and welcoming community. The images and videos of smiling professors and students of different ethnic groups in the advanced laboratories using welcome gestures shorten the distance with the prospective students and invite them to join in this big community. Due to the short history, the semiotic resources are quite limited. There is few types of links and less cultural elements in NTU.

To contrast, in the homepage of Chinese PKU, there is a combined culture of openness and conservation. On the one hand, its openness is reflected by a diversity of pictures, links, buttons and colors, flying-out menu and animated icons in particular, encouraging students to explore more. There are diversities of contents and images to present its richness in culture and history. On the other hand, influenced by the traditional wall culture (Qiu et al. 2005), the homepage is seen as an old garden with a virtual wall, which is conservative^[22]. For example, the existence of visitor appointment section creates a distance with the students. As for English homepage of PKU, there is less diversity in semiotic resources and limited links. PKU is portrayed as a new comer transformed from the senior authority figure to compete in an international market. This can be accounted by for the fact that only recently, PKU has realized to lower its status, promote itself and attract more students overseas.

6. Conclusion

In conclusion, homepages of two universities have been enriched with images, links, and other visual elements to represent themselves and attract students. Influenced by social and cultural factors, university homepages vary in multimodal choices. It is easily to find that NTU wants to represent itself as a top young university and an international platform with excellent academic and research performances while PKU identifies itself as a historical, traditional university which stands for authority, shoulders the social responsibility as well as spreads the Chinese culture.

Acknowledgments

This paper is the process research result of 2024 the Industry-university Cooperation and Collaborative Education project of the Ministry of Education is “Research on the Construction Path of the Virtual Teaching and Research Section of English Courses in Universities in Western China under the Concept of Collaborative Education” (Project No.: 231101339064300) and 2023 “Teacher Development Research Project of Shaanxi Province” and “Research on the Path of Digital Literacy of English Teachers in Primary and Secondary Schools in Western China”(Project No.: 2023JSZ010).

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