

Spatial Differentiation and Evaluation of Linguistic Landscapes in Revolutionary Tourism: A Case Study in Zhejiang Province

Hangfei Zhao^{1,2,a,*}, Shurong Zhu^{1,b}

¹*School of Tourism and Foreign Languages, Tourism College of Zhejiang, Hangzhou, 311231, China*

²*Endicott College, Woosong University, Daejeon, South Korea*

^a*zhaohangfei@tourzj.edu.cn*, ^b*260910050@qq.com*

^{*}*Corresponding author*

Keywords: Linguistic landscape; street-level images; spatial differentiation; revolutionary tourism; evaluation

Abstract: In revolutionary tourism destinations, language serves as both a carrier and an important form of cultural education. The interaction between language and the tourist space forms a corresponding linguistic landscape. This has implications for the sustainable development of revolutionary tourism and the cultivation of a sense of identity with revolutionary culture. Linguistic landscapes emerge from geographical space, demonstrating spatial differentiation due to spatial constraints, while also playing a crucial role in transforming geographic space into cultural space through their symbolic value. Based on existing research, this study investigates the linguistic landscapes in the public spaces of revolutionary tourism sites in Zhejiang Province by collecting and analyzing street view image data from Baidu and Google Maps. It explores the spatial differentiation phenomena and underlying mechanisms of the linguistic landscapes in revolutionary tourism sites and provides a comprehensive evaluation of the landscape quality within the study area. This research aims to contribute to the construction of a theoretical framework for understanding the linguistic landscapes of revolutionary tourism, with significant practical implications.

1. Introduction

Revolutionary tourism, a unique form of tourism that focuses on revolutionary history and communist heritage, has gained attention since 2004 in China [34]. According to *Annual Report on the Development of Revolutionary Tourism in China* (2023), the number of visitors received by revolutionary tourism sites nationwide has exceeded 2 billion, with the market size of revolutionary tourism approaching 1 trillion yuan [42]. Scholars have explored various aspects of revolutionary tourism, including its role in sustaining communist identity in a rapidly changing China [19][41][52]. The central government plays a moderating role in residents' support for revolutionary tourism, influencing the perception and acceptance of such tourism initiatives [57]. Researchers

have examined the spatial and temporal characteristics of the Chinese revolutionary tourism network, shedding light on the factors that influence attention towards revolutionary tourism destinations [30].

The interaction between language and tourist spaces in revolutionary tourism is a complex and multifaceted phenomenon that involves various cultural and social dynamics. Kelly-Holmes and Pietikäinen [17] explored the commodification of Sámi culture in an indigenous tourism site, specifically focusing on a Reindeer Farm in the indigenous language space of Samiland. Mohr [28] delved into language choices among South African migrants in the tourist space of Zanzibar, using Q-methodology to analyze motivations for language choices in interactions with tourists. Design and social interactions also contribute to the tourist experience, as seen in the communal space of the Guarani-Mbya village in São Paulo [9]. Understanding these interactions between language and tourist spaces is crucial for creating meaningful and authentic tourist experiences in revolutionary tourism destinations [54].

The concept of linguistic landscape has a major role in shaping the identity and place-making of various regions [25]. The spatial differentiation of linguistic landscapes has been explored in studies focusing on Chinese calligraphic landscapes in revolutionary tourism [20]. These studies highlight the importance of language and practice in revolutionary tourist attractions, emphasizing the differences in social status that influence the linguistic landscape [38]. Additionally, the distribution characteristics of tourism attractions in revolutionary tourism networks have been studied to understand the spatio-temporal dynamics and influencing factors [46]. Similarly, the spatial cognition of forest landscapes has been linked to differences in tourists' viewing intentions at various stages of walking passages [11]. This suggests that spatial differentiation in landscapes can influence visitor experiences and behaviors. In the field of anthropogenic disturbances on landscapes, the spatial differentiation of tourism disturbances and settlements has been analyzed to understand the impact on the landscapes that tourism relies on [45]. This highlights the importance of managing and mitigating disturbances to preserve the integrity of tourist landscapes. Overall, the literature on spatial differentiation of linguistic landscapes in revolutionary tourism emphasizes the complex interplay between language, environment, and visitor experiences, while neglecting the exploration of key mechanisms underlying the formation of linguistic landscapes within the spatial differentiation phenomena, and the evaluation of linguistic landscapes in revolutionary tourism destinations. By understanding these spatial patterns and factors influencing linguistic landscapes, stakeholders can better manage and enhance revolutionary tourism destinations.

Existing research on the linguistic landscapes of revolutionary tourism sites remains within the field of sociolinguistics, with a focus on language features and standardization issues [13][24][40]. In light of this, the present study investigated the linguistic landscapes of public spaces in revolutionary tourism sites in Zhejiang Province. Five national-level revolutionary tourism sites from five cities in the province were selected for case studies. The Analytic Hierarchy Process (AHP) was employed to conduct a comprehensive evaluation of the landscape quality in the study areas, with the aim of contributing to the construction of a theoretical framework for the linguistic landscapes of revolutionary tourism.

2. Literature Review

This section examined the current research state of linguistic landscapes, spatial differentiation, and the evaluation of linguistic landscapes within the framework of revolutionary tourism.

2.1 Linguistic landscapes in revolutionary tourism

Linguistic landscape refers to the presence and prominence of languages on public signs,

reflecting the linguistic and cultural identity of a community, as well as its social dynamics [12][18]. In recent years, research on linguistic landscapes in revolutionary tourism has become one of the popular interdisciplinary topics, extending into fields such as semiotics, sociology, economics, and management, and resulting in contributions [3][35][53]. The linguistic landscape plays an important role in shaping the tourist experience, educational opportunities, and place-making processes [20][31][38].

At the macro level, based on the functional roles of linguistic landscapes in tourism (e.g., informational and symbolic functions), scholars have considered discourse strategies and landscape design from the perspective of language form, utilizing the instrumental and cultural attributes of language [16][37]. At the micro level, literature has widely conducted case studies on the linguistic landscapes of revolutionary tourism across different countries and regions from a sociological perspective [13][36][56]. For example, Liu et al. [21] analyzed language code choices and the translation norms of multilingual signage in specific tourist destinations (e.g., Sanya), emphasizing that language services should meet the requirements of humanization, legalization, and standardization.

Overall, academic research on the linguistic landscapes of revolutionary tourism sites remains primarily focused within the field of sociolinguistics, with emphasis on language features and standardization issues. Some scholars have begun to interpret linguistic landscapes from the perspectives of tourism and cultural geography, but a consensus on conceptual frameworks has yet to be established, and theoretical development remains in its early stages. Further research in this area can provide valuable insights into the intersection of language, culture, space, evaluation and tourism in revolutionary tourism contexts.

2.2 Spatial differentiation of linguistic landscapes in revolutionary tourism

The linguistic landscape plays a significant role in shaping the identity and place-making of various spaces. The spatial differentiation of linguistic landscapes has been explored in relation to Chinese calligraphic landscapes [20]. The spatial cognition of forest landscapes can impact tourists' viewing intentions at different stages of their walking passages [11]. Tourism disturbances also contribute to spatial variations in landscapes, with settlements and anthropogenic activities affecting the natural environments upon which tourism relies [50]. In revolutionary tourist attractions, the language landscape reflects the social status and historical significance of the space, such as the representation of Zhejiang spirit in revolutionary tourism sites [38]. Furthermore, the spatial characterization of movement, including internal space differentiation and temporal partitioning strategies, influences the understanding of spatial edges in landscapes [26]. In cities like Beirut, digital spatial practices contribute to linguistic landscaping, with differences in minority language representation compared to Western cities [44].

In general, the spatial differentiation of linguistic landscapes in revolutionary tourism sites reflects the complex interplay between linguistic landscape and place-making, shaping the identity and experiences of visitors in these unique spaces, with a lack of evaluation on the landscape quality in revolutionary tourism.

2.3 Evaluation of linguistic landscapes in revolutionary tourism

The evaluation of linguistic landscapes in revolutionary tourism involves analyzing the language displayed in tourist destinations related to revolutionary history. Syafroni [39] conducted a study on labeling activities and highlights the importance of linguistic elements in enhancing the tourism experience at historical sites. Additionally, Nambu and Ono [29] compared the linguistic landscapes of Koreatown and Islamic Street, showcasing the diversity of languages present in different ethnic

areas. Moreover, the study [1] by spatial patterns of linguistic landscapes in tourism area aimed to identify the character, function, and purpose of linguistic landscapes in the Bandung-Ciwidey National Park. This suggests that linguistic landscapes can provide insights into the cultural and historical significance of tourist areas.

In short, the evaluation of linguistic landscapes in revolutionary tourism involves understanding the language displayed in tourist destinations related to revolutionary history and its impact on the overall tourism experience. As such, additional research is necessary to evaluate the landscape quality.

3. Methods

3.1 Street-level images

The development of telecommunications and mobile devices has made it more easier to gather and share street-level imagery [32]. Crowdsourced images and panoramic street views from internet mapping platforms have superior spatial resolution compared to aerial or satellite photographs, presenting intricate pedestrian perspectives [14]. These images, rich in spatial and locational data, are increasingly utilized in linguistic landscape studies [2].

Evaluating linguistic landscapes through street-level images relies on scene text detection and recognition techniques [14]. While printed text recognition in scanned documents is straightforward with high accuracy, handwritten and multilingual text poses greater challenges [27][43]. Recent advancements in neural network methods have improved performance in these areas.

Text detection and recognition in natural scene images, such as those captured at street level, presents challenges due to variable distances, misaligned features, and unpredictable text characteristics, like color, font, and backdrop [27][51]. Despite present identification rates being inferior to those for scanned documents, swift progress in computer vision methodologies indicates potential applications for linguistic landscape study when integrated with established data [14].

3.2 Study area

Zhejiang is the birthplace of the Communist Party of China and a key region where the Party led revolutionary struggles [47]. Its rich revolutionary resources and revolutionary heritage have provided a solid foundation for the development of revolutionary tourism in the province [15]. Building on this foundation, Zhejiang has developed five distinct revolutionary tourism areas: the Jiaxing-Huzhou area, themed *Opening a New Era: The Founding of the Party*; the Hangzhou-Shaoxing area, themed *Hometowns of Famous Figures and Cultural Landmarks*; the Ningbo-Zhoushan area, themed *The Epic of Eastern Zhejiang: Heroic Deeds*; the Wenzhou-Taizhou area, themed *Southern Zhejiang Revolutionary Region: Joint Military Efforts*; and the Jinhua-Quzhou-Lishui area, themed *Struggles and Triumphs: Sparks Igniting Flames*. This development framework has established a revolutionary tourism destination system that is thematically distinct, regionally integrated, and comprehensively supported [7].

This research examines the linguistic landscape of five national-level revolutionary tourism sites from eight cities, namely *Nanhu Lake Scenic Area of Jiaxing City (Site of the First National Congress of the Communist Party of China)*, *Former Residence and Memorial Hall of Lu Xun of Shaoxing City*, *Memorial Site of the Battle to Liberate Yijiangshan Island of Taizhou City*, *Former Site of the Anti-Japanese Base in Eastern Zhejiang (Siming Mountain) of Ningbo City*, *Former Sites of the New Fourth Army Su-Zhe Military District of Huzhou City*.

3.3 Street-Level Image Collection

This paper uses street-level images available from two electronic maps, including Google Map and Baidu Map. The launch of Google Street View in 2007 led to the creation of various 360-degree street imagery platforms, like Apple Look Around and Baidu Total View, offering new possibilities for data-driven urban research [5][6]. Baidu Road View, a feature of the widely-used Baidu Map service in China, provides detailed street-level imagery and navigation [33]. Baidu Map, comparable to Google Map, is an online service by Baidu Co. Ltd. offering navigation across 400+ cities and numerous districts. It provides detailed data on overpasses, low-traffic one-way streets, and pedestrian-only rural roads [48], rendering it appropriate for spatiotemporal analyses of a linguistic landscape.

The data gathering technique occurred at those streets and randomly chosen sampling locations throughout the study area. Distribution of the collected images in the study area by location is given in Table 1.

Table 1: Distribution of the collected images in the study area by location

National-level revolutionary tourism sites	Count
1. Nanhu Lake Scenic Area of Jiaxing City	62
2. Former Residence and Memorial Hall of Lu Xun of Shaoxing City	70
3. Memorial Site of the Battle to Liberate Yijiangshan Island of Taizhou City	15
4. Former Site of the Anti-Japanese Base in Eastern Zhejiang (Siming Mountain) of Ningbo City	8
5. Former Sites of the New Fourth Army Su-Zhe Military District of Huzhou City	11
Total	166

3.4 Image Processing

Feature detection was conducted using the Google Vision and Baidu application programming interface (API). Table 2 lists some of the frequently seen traits out of the total 166 distinct things it recognized from street-level photos.

Jiaxing's South Lake, the birthplace of the Communist Party of China, is a 5A-rated revolutionary tourism site featuring landmarks like Yanyu Tower, the Revolutionary Boat, and key industrial relics [27]. The Lu Xun Native Place in Shaoxing preserves key cultural and historical sites related to the writer and exemplifies the protection of ancient city landscapes and famous figures' residences in China [8][10]. The rest three revolutionary tourism sites share the commonality of being revolutionary landmarks tied to major historical events in China's revolutionary and anti-Japanese wars. They preserve crucial historical relics, such as battle sites and military headquarters, and serve as educational platforms for promoting patriotic spirit and the transmission of revolutionary culture [4]. Since those five sites have a mixture of revolutionary history and urban heritage, relevant features, such as *ancient architecture*, *statue*, *memorial hall*, *shop*, were commonly found (see Table 2).

Table 2: Top 10 most frequent features of linguistic landscape

Rank	Feature Name	Count	Rank	Feature Name	Count
1	ancient architecture	58	6	wall	14
2	road sign	41	7	shop	12
3	interpretation board	23	8	memorial hall	11
4	lake	16	9	ancient bridge	7
5	stone tablet	14	10	pagoda	6

3.5 Analytic Hierarchy Process Analysis

The analytic hierarchy process (AHP) is applied to assess the linguistic landscape quality in the revolutionary tourism sites of Zhejiang Province. This evaluation incorporates four key criteria: historical significance, cultural representation, language diversity, and spatial distribution (See Table 3). The AHP framework provides a structured method to prioritize these factors, aiming to enhance the understanding of how linguistic landscapes contribute to both the preservation of revolutionary tourism heritage and the visitor experience [22].

Table 3: Evaluation index system of quality monitoring program on linguistic landscape

Primary Indicators	Secondary Indicators	Main Observation Points
Translation quality of linguistic landscape	1. Nonstandard	Mixed collocation of Pinyin and English; Chinglish
	2. Wrong translation	Translation error; punctuation; habitual expression error; historical and cultural inconsistency
	3. Omission of translation	Missing translation of place; revolutionary cultural omission; omission of idiomatic expressions
	4. Mistranslation	Writing errors; pragmatic errors; cultural misunderstanding
Linguistic landscape signs	5. Number of signs	Number and classification of signs in revolutionary tourism
	6. Sign appearance	Color, shape and design of signs in revolutionary tourism
	7. Placement position	Location, orientation and function of signs in revolutionary tourism
	8. Language combination	Monolingual, bilingual, multilingual

4. Results

As shown in the Table 1, Nanhu Lake Scenic Area of Jiaxing City (62 signs) and Former Residence and Memorial Hall of Lu Xun of Shaoxing City (70 signs) were paid more attention in the construction of linguistic landscape.

From *Top 10 most frequent features of linguistic landscape* in Table 2, tourist attractions like ancient architecture, lake and stone tablet which exemplify the picturesque qualities of Zhejiang. Ancient architecture serves as the core carrier of the linguistic landscape, while interpretation boards, stone tablets, and walls, centered around unique local tourist attractions, are relatively important secondary carriers. Referring to the *Evaluation index system for quality monitoring of linguistic landscapes* (see Table 3), issues such as nonstandard language usage (e.g., Chinglish and incorrect capitalization of prepositions) and translation errors (e.g., punctuation mistakes) were found on interpretation boards, which could negatively impact visitor experiences.

Table 3 illustrates the various languages observed in street-level images taken at national-level revolutionary tourism sites across five cities in Zhejiang Province. Chinese predominated in the linguistic landscape of the area, a finding that aligns with previous research conclusions [22].

English, as a global language, plays a vital informational and symbolic role in the internationalization of revolutionary tourism sites, complementing Japanese and Chinese. Influenced by visitor demographics and consumption levels, planning departments often include English, Japanese, and Korean in signage design [49][55]. By leveraging the informational functions of these languages, the cultural aspects of tourist sites are connected to visitor experiences, facilitating directional guidance, site introductions, and product services while promoting China's revolutionary culture to a diverse audience.

5. Conclusions

This study evaluated the linguistic landscape of revolutionary tourism sites in Zhejiang Province using street-level image data. The analysis revealed that Chinese dominates the linguistic landscape, with English and other languages playing supplementary roles, particularly for international visitors [23]. Core carriers of the linguistic landscape, such as ancient architecture, interpretation boards, and stone tablets, were frequently observed, highlighting the intersection of historical significance and modern tourism. However, issues such as nonstandard language usage and translation errors were prevalent, potentially impacting visitor experience.

To improve the linguistic landscape quality, it is recommended to standardize translations, ensure cultural consistency, and enhance the design and placement of multilingual signs. Leveraging the multilingual signage system can foster greater cultural understanding. Accurate and contextually relevant translations should connect visitors with the historical and cultural narratives of revolutionary tourism sites, enhancing their educational value. Further research could expand the dataset by incorporating more regions or conducting comparative studies across provinces. Additionally, investigating the impact of linguistic landscapes on visitor engagement and cultural education would provide deeper insights into their effectiveness.

Lastly, the paper has certain limitations, such as the inherent subjectivity involved in the data cleaning process. Other limitations include the potential for incomplete data capture, as not all signage or linguistic elements may be visible through street-level imagery. Furthermore, the analysis may be biased towards more prominent tourist areas, potentially overlooking smaller or less accessible revolutionary tourism sites. The interpretation of linguistic and symbolic elements also presents challenges, as cultural and historical context may vary, leading to potential misinterpretation or oversimplification of complex meanings. Finally, the focus on a single region limits the generalizability of the findings to other revolutionary tourism sites across China.

Acknowledgement

This work was supported by 2022 Zhejiang Provincial Department of Education Domestic Visiting Scholar “Faculty Professional Development Program” for Higher Education: Research on the Theoretical Construction, Spatial Differentiation, and Comprehensive Evaluation of Linguistic Landscapes in Revolutionary Tourism in Zhejiang Province (Grant No. FX 2022088).

References

- [1] Abdullah, C. U., & Wulung, S. R. P. (2021). *Spatial patterns of linguistic landscapes in tourism area*. *Journal of Engineering Science and Technology*, 16(5), 4298–4308.
- [2] Anguelov, D., Dulong, C., Filip, D., Frueh, C., Lafon, S., Lyon, R., ... & Weaver, J. (2010). *Google street view: Capturing the world at street level*. *Computer*, 43(6), 32–38.
- [3] Ben-Rafael, E. (2009). *A sociological approach to the study of linguistic landscape*. In E. Shohamy & D. Gorter (Eds.), *Linguistic landscape: Expanding the scenery* (pp. 40–54). Routledge.
- [4] Carreira, V., Azeredo, J., González-Rodríguez, M. R., & Dúz-Fernández, M. C. (2021). *The role of tourism*

- education in overtourism and destination management. In Sharma, A., & Hassan, A. (Eds.). *Overtourism as Destination Risk: Impacts and Solutions* (pp. 35–48). Emerald Publishing Limited.
- [5] Cinnamon, J., & Jahiu, L. (2021). Panoramic street-level imagery in data-driven urban research: A comprehensive global review of applications, techniques, and practical considerations. *ISPRS International Journal of Geo-Information*, 10(7), 471.
- [6] Chinapp. (2024, September 22). Tourism Website Industry Brand Rankings. <https://www.chinapp.com/brand/1975>
- [7] China Revolutionary Tourism Network. (2018, April 20). How Does Zhejiang Enhance Its All-for-One Tourism with Red Tourism? <https://mp.weixin.qq.com/s/YA7ClIvv1D5sURlN7VG9ZQ>
- [8] Denton, K. A., & Xu, Y. (2022). Lu Town: Theme parks and the commodification of literary culture in China. *Cultural History*, 11(2), 148–180.
- [9] Dietzsch, A. (2017, June 5). A visit to the Guarani-Mbya in São Paulo. *The Nature of Cities*. <https://www.thenatureofcities.com/2017/06/04/visit-guarani-mbya-sao-paulo/>
- [10] Ding, F., Zhang, S., & Dai, L. (2024). Spatial distribution characteristics and influencing factors of tourism resources based on point of interest data. *PloS one*, 19(9), e0310487.
- [11] Gao, Y., Zhang, T., Sasaki, K., Uehara, M., Jin, Y., & Qin, L. (2021). The spatial cognition of a forest landscape and its relationship with tourist viewing intention in different walking passage stages. *Urban Forestry & Urban Greening*, 58, 126975.
- [12] Gu, Ryan, C., & Zhang W. (2007). Jinggangshan mountain: A paradigm of China's red tourism. In Ryan, C. (Eds.), *Battlefield Tourism: History, Place and Interpretation* (pp. 59–67). Routledge.
- [13] Hartmann, R., & Su, M. (2020). Tourism to Lu Gou Qiao: Enduring scenic qualities of a landmark bridge and a difficult legacy of a conflict site. *Journal of Heritage Tourism*, 16(6), 705–715.
- [14] Hong, S. Y. (2020). Linguistic landscapes on street-level images. *ISPRS International Journal of Geo-Information*, 9(1), 57.
- [15] Hung, C. T. (2018). Communist tradition and market forces: Red tourism and politics in contemporary China. *Journal of Contemporary China*, 27(114), 902–923.
- [16] Jaworski, A., & Thurlow, C. (2010). Semiotic landscape: Language, image, space. *Continuum*.
- [17] Kelly-Holmes, H., & Pietikäinen, S. (2014). Commodifying Sámi culture in an indigenous tourism site. *Journal of Sociolinguistics*, 18(4), 518–538.
- [18] Landry, R., & Bourhis, R. Y. (1997). Linguistic landscape and ethnolinguistic vitality: An empirical study. *Journal of language and social psychology*, 16(1), 23–49.
- [19] Li, Y., Hu, Z. Y., & Zhang, C. Z. (2010). Red tourism: Sustaining communist identity in a rapidly changing China. *Journal of Tourism and Cultural Change*, 8(1–2), 101–119.
- [20] Li, C., Lu, S., Long, C., & Zhu, J. (2024). Linguistic landscape and its impacts on place-making in mountain destination: A case of Mogan Mountain Town of Huzhou City, China. *Journal of Mountain Science*, 21(5), 1613–1629.
- [21] Liu, L., Liu, X., & Huang, Z. (2021). Exploring Russian language landscape patterns: A case study of Sanya City. *Foreign Languages in China*, 18(06), 51–57.
- [22] Lu, B., & Niyomsilp, E. (2021). Survey on attitude towards new management mode of linguistic landscape programs in Chinese university language resources and its decision tree analysis. *English Linguistics Research*, 10(4), 1–21.
- [23] Lu, Q. (2023). Research on bilingual service and external communication of Red Culture Scenic Spots in Shandong Province. *SHS Web of Conferences*, 159, 01019.
- [24] Luo M Y. (2021). A study on issues and solutions in the external publicity translation of red tourism: A case study of the Zhu De Hometown scenic area in Yilong, Sichuan. *Journal of Yanbian Education college*, 35(02): 47–49.
- [25] Lv, W. (2018). A new model of tourism enterprise management under the concept of eco-tourism management. *Advances in Social Science, Education and Humanities Research*, 132, 243–246.
- [26] Lyons, A. J., Turner, W. C., & Getz, W. M. (2013). Home range plus: A space-time characterization of movement over real landscapes. *Movement Ecology*, 1, 1–14.
- [27] Mancas-Thillou, C., & Gosselin, B. (2007). Natural scene text understanding. In G. Obinata (Ed.), *Vision systems: Segmentation and pattern recognition*. IntechOpen.
- [28] Mohr, S. (2020). Language choices among South African migrants in the tourist space of Zanzibar. *Southern African Linguistics and Applied Language Studies*, 38(1), 60–72.
- [29] Nambu, S., & Ono, M. (2024). Linguistic landscape of Shin-Ōkubo, Tokyo: A comparative study of Koreatown and Islamic Street. *International Journal of Multilingualism*, 1–19.
- [30] Nan, G., Xin-Cheng, Z., & Lin-Yan, W. (2020). Spatio-temporal characteristics and influencing factors of Chinese red tourism network attention. *Journal of Natural Resources*, 35(5), 1068.
- [31] Nguyen, H. T., & Nguyen, T. H. (2021). Tourism planning of rattan and bamboo villages in the Red River Delta, applied to Thu Sy Craft Village, Hung Yen Province. *IOP Conference Series Materials Science and Engineering*, 1079(3), 032062.

- [32] Puzey, G. (2016). Linguistic landscapes. In C. Hough (Ed.), *The Oxford handbook of names and naming*. Oxford University Press.
- [33] QuestMobile. (2024, May 7). 2024 China Mobile Internet Spring Report. <https://www.questmobile.com.cn/research/report/1787753953225707522>
- [34] Rioux, Y. L. (2008). *Marketing the revolution: Tourism, landscape and ideology in China* (Doctoral dissertation). Retrieved from ProQuest Dissertation & Theses database. (UMI No. 3303808).
- [35] Scollon, R., & Scollon, S. W. (2003). *Discourses in place: Language in the material world*. Routledge.
- [36] Shen, H. (2020). On Chinese to English translation of Zhejiang red tourism from the perspective of cultural awareness. *Journal of Foreign Language Teaching and Translation Studies*, 5(3), 105–114.
- [37] Shi, L., Chen, L., & Gong, R. (2023). Civic-moral education research in China (1992–2022): A scoping review. *Behavioral Sciences*, 13(10), 819.
- [38] Su, N., & Su, H. (2021). Research on the language landscape in red tourist attractions embodying “Zhejiang Spirit”. *Journal of Simulation*, 9(2), 1.
- [39] Syafroni, R. N. (2023). Pelatihan Penggunaan Pelabelan Lanskap Linguistik Pariwisata bagi Pemandu Wisata Keraton Kasepuhan Cirebon. *Amalee: Indonesian Journal of Community Research and Engagement*, 4(1), 41–53.
- [40] Wall G. & Zhao N R. (2017). China’s red tourism: Communist heritage, politics and identity in a party-state. *International Journal of Tourism Cities*, 3(3), 305–320.
- [41] Wang, F., Zhao, X., Qiu, Y., & Luo, J. (2022). Adaptability of traditional villages as tourist destinations in Yellow River Basin, China. *Indoor and Built Environment*, 32(3), 574–589.
- [42] Wang J. W. (2024). *Annual Report on the Development of Red Tourism in China (2023)*. Beijing: Social Sciences Academic Press.
- [43] Weinman, J. J., Learned-Miller, E., & Hanson, A. R. (2009). Scene text recognition using similarity and a lexicon with sparse belief propagation. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31, 1733–1746.
- [44] Wrisley, D. J. (2020). Digital Spatial Practices and Linguistic Landscaping in Beirut. *ILCEA. Revue de l’Institut des langues et cultures d’Europe, Amérique, Afrique, Asie et Australie*, (39).
- [45] Xiang, Y., Meng, J., You, N., Chen, P., & Yang, H. (2019). Spatio-temporal analysis of anthropogenic disturbances on landscape pattern of tourist destinations: A case study in the Li River Basin, China. *Scientific Reports*, 9(1).
- [46] Xu, J., & Wang, P. (2022). Study on distribution characteristic of tourism attractions in international cultural tourism demonstration region in South Anhui in China. *PLoS ONE*, 17(6), e0269948.
- [47] Xu, L., & Yu, Y. (2023). How “cultural reshaping” affects rural tourism development in China—a case from zhejiang beautiful countryside demonstration area. *Tourism and Hospitality Research*, 23(4), 533–548.
- [48] Xue, Y., & Li, C. (2020). Extracting Chinese geographic data from Baidu Map API. *The Stata Journal Promoting Communications on Statistics and Stata*, 20(4), 805–811.
- [49] Yang, C., Lin, H., & Han, C. (2010). Analysis of international tourist arrivals in China: The role of World Heritage Sites. *Tourism Management*, 31(6), 827–837.
- [50] Yang, Y., Meng, J., You, N., Chen, P., & Yang, H. (2019). Spatio-temporal analysis of anthropogenic disturbances on landscape pattern of tourist destinations: a case study in the Li River Basin, china. *Scientific reports*, 9(1), 19285.
- [51] Yin, N. X., Yin, N. X., Huang, N. K., & Hao, N. H. (2013). Robust text detection in natural scene images. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 36(5), 970–983.
- [52] Yu, X. (2023). The digital development strategy of Anhui red historical resources based on VR technology from the perspective of red tourism. *International Journal of Education and Humanities*, 6(3), 105–108.
- [53] Zhang, A., & Sun, J. (2021). The study on the change of Yangshuo’s linguistic landscape: A sociolinguistic perspective. *Tourism Tribune*, 36(10), 39–48.
- [54] Zhang, Y., & Chen, H. (2018). *An Empirical study on the Influencing Factors of Tourists’ Cultural Tourism Decision-Making*. In *Advances in Social Science, Education and Humanities Research*. Atlantis Press.
- [55] Zhao H. F. & Huang H. (2022). A three-dimensional research on the language landscape of the cultural belt of the Grand Canal (Zhejiang section). *Studies of Culture and Art*, 15(06), 55–67+114.
- [56] Zuo, B. (2014). Red tourism and Communist Party identity in China: An empirical study based on Jinggangshan scenic area. *Tourism Tribune*, 29(09), 60–72.
- [57] Zuo, B., Gursoy, D., & Wall, G. (2017). Residents’ support for red tourism in China: The moderating effect of central government. *Annals of Tourism Research*, 64, 51–63.