

MuseumsForward

Lost in translation: Unveiling the exclusion of Chinese visitors in English-Dominated U.S. Museums

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Abstract

This thesis investigates the prevalence and impact of language barriers on Chinese visitors to U.S. museums, with an emphasis on how these barriers influence their access to cultural and educational experiences. An online survey administered to 80 Chinese residents with prior museum visits in the United States revealed that 35% encountered significant difficulties due to language barriers, while an additional 42% faced moderate challenges in understanding museum content presented in English. Despite the availability of digital translation tools, used by 79% of participants, these tools were often insufficient for overcoming language barriers, leading to reduced engagement and satisfaction. The study underscores the necessity for U.S. museums to enhance multilingual support to ensure inclusivity and full participation of non-English speaking visitors, thereby enriching their overall museum experience. This thesis contributes to the discourse on cultural accessibility, highlighting the need for strategic improvements in language support within museums.

Keywords

language barrier; cultural inclusivity; museum interpretation; digital translation tools; social inclusion in museums

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Introduction

As museums worldwide experience a significant increase in visitors from diverse linguistic backgrounds, the challenges these visitors face due to language barriers in predominantly English-speaking environments have become more apparent. This issue is particularly pertinent in the United States, where English often serves as the primary language of communication in cultural institutions. My personal experience during a 2014 museum visit in Chicago, where most interpretive materials were available exclusively in English, highlighted the limitations in comprehension and a sense of exclusion faced by non-English-speaking visitors in museums and the impact of these experiences on their overall museum engagement.

This experience is not an isolated case but reflects a broader issue that many foreign visitors encounter, prompting a need to investigate the experiences of non-English speakers in museums and the impact of these experiences on their overall engagement. Research underscores the growing diversity among museum audiences. For example, a survey conducted at The Metropolitan Museum of Art in 2015 revealed that over 32% of audio guide users were non-English speakers, highlighting the increasingly multicultural nature of museum visitors (Tung, 2015). Such findings underscore the necessity of addressing language barriers to enhance the inclusivity and accessibility of museum experiences.

In response, there has been a concerted effort within the museum community to foster intercultural dialogue and inclusivity. The 25th International Council of Museums (ICOM) Triennial Conference in 2019, for example, became a pivotal forum for exchanging innovative ideas and best practices on accommodating international visitors through culturally relevant and engaging interpretive materials, including multilingual interpretation strategies (ICOM, 2019).

Given the significant and growing number of Chinese tourists globally, with over 2.83 million visitors from China to the United States in 2019 alone (National Travel and Tourism Office, 2023), and their increasing interest in cultural and educational tourism, this study specifically focuses on the experiences of Chinese visitors in U.S. museums. This demographic represents one of the largest groups of international visitors to the U.S., yet there is a notable gap in research regarding their experiences with language barriers within museum settings.

These advancements are crucial as museums strive to become more participatory and inclusive. Efforts to enhance interpretive texts are especially significant; however, the provision of multilingual interpretive services often remains inadequate. Studies indicate a persistent limitation in museums' ability to offer comprehensive interpretation

services in languages other than the dominant local language or English (Miklosevis, 2015). This deficiency not only impedes non-English speakers' full engagement with museum content but also limits museums' roles as agents of social justice and inclusivity (Sandell, 1998).

Despite the importance of addressing these linguistic challenges, there remains a notable gap in empirical research specifically focused on how language barriers affect interpretive experiences in museums. Most existing studies are either outdated or overly broad, lacking specificity regarding the impacts of language barriers on the interpretive experience of foreign visitors, particularly from high-traffic tourist origins like China. Furthermore, while many museums now provide exhibit labels, gallery guides, and informational brochures in multiple languages—a fundamental step in making exhibits accessible to a broader audience—challenges remain. For instance, the Guggenheim Museum has shared best practices for reaching multilingual audiences by emphasizing the importance of translating materials to reflect the community's predominant languages to maximize impact. However, the translation of specialized content and the availability of resources to cover multiple languages comprehensively continue to pose significant challenges. Museums with limited budgets often struggle to provide extensive multilingual support, leading to a service gap that can significantly affect visitor satisfaction.

Addressing the language barriers in museums is thus not only about enhancing accessibility and inclusivity but also about enriching the educational experience and cultural exchange that museums are uniquely positioned to offer (Cha, 2018). Overcoming these challenges is essential for museums to fulfill their potential as inclusive spaces that promote mutual understanding and contribute positively to societal tolerance and diversity. This study aims to bridge the research gap by focusing specifically on the experiences of Chinese visitors to U.S. museums, exploring the prevalence of language barriers, their impact on the museum experience, and the effectiveness of existing solutions such as digital translation tools.

Literature Review

Museums and Wellbeing

Museums play an increasingly crucial role in enhancing health and wellbeing. (Chatterjee & Camic, 2015). Research indicates that museum engagement offers numerous benefits, including fostering positive

social interactions, mitigating social isolation, and providing learning and skill development opportunities. Additionally, it leads to reduced anxiety, an increase in positive emotions such as optimism, hope, and enjoyment, and a boost in self-esteem and identity. Museums offer inspiration, opportunities for meaning-making, act as a positive distraction from clinical settings, and enhance communication among families, caregivers, and health professionals (Dodd & Jones, 2014; Chatterjee & Noble, 2013). However, when international audiences cannot fully engage with museums due to language barriers, the potential benefits are significantly limited. Limited language proficiency not only diminishes social interaction and sense of belonging among aging migrants but also restricts their ability to form and maintain social relationships, impacting their overall well-being (Pot, Keijzer, & de Bot, 2020). Furthermore, many museums in the United States predominantly use English for exhibition descriptions, information panels, and interactive displays, which may exclude non-English-speaking visitors, undermining the inclusivity of these cultural institutions. Given the significant and growing number of Chinese tourists globally, with over 2.83 million visitors from China to the United States in 2019 alone (National Travel and Tourism Office, 2023), and their increasing interest in cultural and educational tourism, this literature review specifically focuses on the experiences of Chinese visitors in U.S. museums. This demographic represents one of the largest groups of international visitors to the U.S., yet there is a notable gap in research regarding their experiences with language barriers within museum settings.

Historical Context of Language Barriers

Adamantia Koliou's 1997 study on foreign visitors' experiences in UK museums revealed that non-native English speakers frequently encountered linguistic barriers, with 45% of foreign visitors having difficulties understanding English-written materials (Koliou, 1997). However, given that this research was conducted over two decades ago and exclusively within London, its applicability to the present-day United States context might not be direct or accurate, particularly considering the advances in digital and multilingual resources in museums, as well as shifts in global English proficiency and tourism demographics.

Building on the concept of museums as educational spaces, Cooker and Pemberton's (2010) project at The University of Nottingham explores the integration of language learning with cultural education.

Their initiative to develop thematic English for Speakers of Other Languages (ESOL) materials for use in museums underscores the potential of these institutions as dynamic arenas for both cultural engagement and language acquisition. By providing self-access language learning materials, museums can offer non-native speakers personalized educational pathways that enhance their understanding of both the language and the museum's exhibits. This approach not only aids in language development but also deepens the cultural comprehension of ESOL learners, effectively bridging the gap between language barriers and cultural immersion (Cooker & Pemberton, 2010).

Challenges and Ineffectiveness of Current Solutions

Collazo's research (2017) highlighted that language barriers frequently lead to challenges for foreign visitors in museums, such as when they encounter exhibition labels and descriptions exclusively in English. This lack of multilingual resources can hinder their understanding of the exhibits' cultural and historical contexts, significantly diminishing their overall experience. Furthermore, the article also points out that even when museums attempt to provide multilingual support, the translations are often inadequate or inaccurate, adding to the confusion. For non-English speakers, this can create a frustrating and less engaging experience. Yet, her work primarily relies on previous articles and informal observations rather than empirical data, and her bilingual perspective may not sufficiently capture the experiences of visitors outside of the Spanish and English language regions.

Digital Translation Tools

In enhancing the museum experience for foreign visitors, digital translation tools—ranging from translation application on the smartphone to handheld translation devices—encounter significant challenges in conveying cultural and linguistic nuances accurately. Qi Xu highlights the complexity of museum texts, enriched with cultural information and specialized terminology, suggesting that digital translations may not always strike the right balance between preserving cultural nuances and ensuring clarity for the audience (Xu, 2014). This discrepancy could lead to a gap in foreign visitors' understanding and appreciation of museum exhibits, relying solely on digital tools for translation. Lawrence Williams echoes this sentiment, critiquing Web-Based Machine Translation (WBMT) for its ineffectiveness in translating complex texts accurately, especially when

users cannot verify the translations' correctness (Williams, 2006). Such limitations could mislead foreign visitors, thereby diminishing their engagement with the content. Additionally, Reema Ghazi investigates translation practices within U.S. museums, revealing that the reliance on digital translation tools, compounded by limited resources and the necessity of multilingual staff, significantly challenges the provision of comprehensive linguistic access (Ghazi, 2022). This highlights the limitations of digital tools in fully meeting the demand for nuanced, expert translation in museum environments. Despite these discussions, there remains a noticeable gap in empirical studies directly exploring foreign visitors' experiences with digital translation tools in museums, with research often addressing theoretical or technical limitations without detailed insights into how these limitations impact visitor satisfaction, understanding, and engagement with exhibits.

Several studies have emphasized the exclusive nature of museum environments, particularly in the United States, where English serves as the predominant language of communication (Huerta & Egus, 2015). Huerta and Migus introduced the concept of social boundaries within the museum context, contending that these boundaries are frequently analyzed in terms of the welcoming or unwelcoming nature of the communication—whether spoken, written, or non-verbal—that visitors encounter. They emphasized the importance of assessing how such forms of communication contribute to visitors' feelings of inclusion or exclusion. Their term 'Bright social boundaries' refer to distinct, overt divisions within social spaces, reinforced through practices and policies that delineate who is included or excluded based on cultural norms, such as language proficiency. These boundaries create a visible demarcation between the cultural majority and minorities, often manifesting in museums as English-only informational materials, which cater predominantly to middle and upper-income visitors. This exclusivity not only limits access but also reinforces cultural exclusion, detracting from the museum's role as an inclusive educational space. As Huerta and Migus discussed, the deliberate establishment of English-only environments exemplifies these bright social boundaries, significantly restricting access and impeding the full enjoyment of museum exhibits for visitors who are non-English speakers or possess only functional English proficiency. The importance of understanding 'bright social boundaries' lies in recognizing that these systematic practices contribute to cultural exclusion that can compromise the broader goal of museums as inclusive spaces. Recognizing the imperative for a more nuanced understanding, it becomes crucial to delve into the experiences of specific visitor groups, such as the

substantial population of Chinese visitors. Despite these efforts, the current body of literature often falls short in thoroughly exploring the distinctive challenges encountered by Chinese visitors and their perceptions of exclusion within English-dominated museum environments.

While existing studies provide valuable insights into the experiences of foreign visitors to museums, they often lack the specificity needed to fully comprehend the unique issues faced by Chinese visitors. Most of the research is either outdated or based on informal observations, and there is a lack of empirical data exploring the language barriers faced specifically by Chinese visitors. Moreover, while we know that English-dominated environments can create “bright social boundaries,” there is limited understanding of how these boundaries are perceived and experienced by Chinese visitors. Given the significant number of Chinese visitors to U.S. museums, it is paramount to investigate their experiences in greater depth, to uncover the specific challenges they face, and to understand their feelings of exclusion due to language barriers.

This research, therefore, seeks to fill this gap in the literature by focusing on the experiences of Chinese visitors to U.S. museums. It aims to dive into their feelings of exclusion and the impacts on their museum experiences, which will provide necessary data for museums to improve their language inclusivity and ensure a more enriching experience for all visitors, regardless of their linguistic backgrounds.

Purpose of study

The purpose of this thesis is to understand if and how Chinese visitors feel excluded during their museum visits in the United States. To better understand the feeling of exclusion, the study is going to be guided by these three research questions:

1. How frequently and in what ways do Chinese visitors experience language barriers in American museums?
2. How does language proficiency influence Chinese visitors' understanding of museum exhibits and their overall visitor experience?
3. How do digital translation tools impact the engagement and satisfaction of Chinese-speaking visitors in American museums?

Research Design

This study employed a mixed-methods survey design to investigate the language barriers experienced by Chinese visitors in American museums. The research design integrates quantitative and qualitative approaches to provide a comprehensive understanding of the prevalence and impact of language barriers.

Survey Design and Adaptation

Given the significant changes in international travel policies and restrictions on data collection in large museum settings due to the pandemic, the initial plan of conducting onsite surveys was adapted to an online format. This ensured the continuity of the study under altered circumstances. The survey was designed to capture detailed data on Chinese visitors' experiences with language barriers, their use of digital translation tools, and their overall satisfaction with museum visits in the United States.

Data Collection Tool

An online questionnaire was utilized as the primary data collection tool. The questionnaire was designed to capture both quantitative and qualitative data through various question types:

- Likert Scale Questions: 12 questions, rated from 1 (Strongly Disagree) to 5 (Strongly Agree), assessed participants' perceptions of language barriers, the effectiveness of digital translation tools, and their impact on museum experiences. These quantified the subjective experiences and tested hypotheses related to language accessibility.
- Dichotomous Questions: 2 yes/no questions identified the presence of specific barriers and the utilization of translation services.
- Open-Ended Questions: Participants were invited to share personal stories and suggestions through 3 open-ended questions, providing qualitative insights into improving language inclusivity in museums.
- Demographic Information: Data on age and visit frequency were collected to analyze response patterns across different visitor profiles.

Participant Recruitment

Participants were recruited through a network-based approach, leveraging professional and academic connections. Recruitment strategies included:

- Direct Outreach to Museum Staff: Messages were sent to museum staff who the researcher had previously worked with, requesting them to participate in the survey.
- Academic Network: College students and professors known to the researcher were contacted and asked to distribute the survey to individuals who had experienced visiting museums in the United States.
- Snowball Sampling: Initial participants were encouraged to share the survey with their contacts who fit the study's criteria, thereby broadening the recruitment reach through referrals.

To ensure eligibility, interested participants were required to meet the following criteria:

- Be over 18 years of age.
- Have visited a museum in the United States within the last decade.

Informed consent was obtained from all participants prior to their participation in the survey.

Data Collection and Participant Engagement

Of the 168 surveys initiated, 80 were completed, yielding a 47.9% completion rate. The average time to complete the survey was approximately 9 minutes and 24 seconds. This data helped evaluate participant engagement and survey adequacy without inducing respondent fatigue.

Participants were required to provide informed consent and confirm their eligibility through screening questions before participating. Eligibility criteria included being over 18 years of age and having visited a museum in the United States within the last decade.

Translation and Cultural Sensitivity

Recognizing the importance of linguistic accuracy and cultural relevance, the survey was translated into Simplified and Traditional Chinese following its adaptation to the online format. This ensured that

the survey was accessible and comprehensible to the target participants, minimizing potential biases or misunderstandings that could arise. The translation was performed by the author and validated by a bilingual expert to ensure the preservation of the nuances and meanings of the survey questions. Additionally, all of the open-ended responses were carefully translated from Chinese to English by the author to maintain accuracy and clarity.

Participant Demographics

Responses were received from 80 Chinese participants who had visited museums in the United States within the past ten years. The age distribution was primarily concentrated in the 46–55-year age bracket, accounting for 34.2% of respondents. This demographic information is crucial for analyzing typical visitor profiles and understanding variations in experiences across different age groups.

Ethical Considerations

Survey procedures were implemented in accordance with strict ethical guidelines, prioritizing participant anonymity and data security, particularly as the survey was administered online. The research protocol, including consent and data handling procedures, was approved by the Institutional Review Board (IRB). To further ensure the comfort and autonomy of the participants, every question on the survey was made optional, allowing participants to skip any questions they did not feel comfortable answering.

Results

Q1. How prevalent are language barriers among Chinese visitors to American museums?

This section presents analysis of the survey responses gathered from Chinese visitors to American museums, focusing on their experiences with language barriers. These barriers bring obstacles in understanding spoken English, comprehending informational labels, and communicating effectively with museum staff. The objective is to quantify the extent of these barriers and assess their implications on the visitor experience.

Extensive Language Barriers Impact Chinese Visitors

Survey results indicate a significant prevalence of language barriers among Chinese visitors. Out of the surveyed group, a notable portion reported difficulties with English which affected not only their understanding of complex terminology but also their ability to engage in general interactions and comprehend basic information within the museum setting. Specifically, 35% (n = 28) of participants reported substantial difficulties, scoring 4 and 5 on a difficulty scale, while 42% (n = 33) found understanding spoken English to be moderately challenging, neither effortless nor extremely difficult.

The impact of these language barriers extends beyond general comprehension to affect practical aspects of the museum experience. For example, one participant recounted a particularly telling incident:

"During my visit to the Orlando Science Center, not being able to fully read the language caused me to enter through an exit. Although I quickly realized the mistake, it led to a very awkward visit throughout."

This example illustrates that even basic navigational tasks can become significant challenges without proper language support, leading to potentially embarrassing situations that detract from the quality of the visitor experience. Such difficulties not only disrupt the visit but also provoke feelings of frustration and exclusion, diminishing visitors' ability to fully engage with the museum's educational and cultural offerings. Highlighting the importance of accessible language resources, these incidents underscore the need for museums to ensure a welcoming and inclusive environment for all visitors.

Communication with Staff Poses Significant Challenges

Approximately 35% (n = 28) of the participants agree or strongly agree that comprehending spoken English by others in Museum presented a challenge, evidenced by their scores of 4 and 5 on the Likert scale. Additionally, a further 42% (n = 33) of respondents, although not explicitly citing difficulties in understanding spoken English, indicated that they did not find the task easy, as reflected by their moderate rating of 3 on the Likert scale. Further analysis of the interactions between museum visitors and staff highlights significant variability in visitor experiences and satisfaction levels. Out of all participants, 63% (n = 50) individuals reported either seeking help from or being approached by museum staff, indicating a proactive engagement from the staff side. Conversely, 38% (n = 30) participants reported neither seeking help nor being approached, which could suggest a reluctance

influenced by perceived communication barriers. Among those who had experience interacting with the staff and had recollection of that experience (n = 48), the average satisfaction rating regarding the staff's efforts to understand language needs was high, averaging 4 out of 5. This score distribution includes 23% (n = 11) participants giving the highest score of 5, suggesting exceptional effort by staff, 58% (n = 28) participants scoring 4, demonstrating substantial satisfaction with the support provided, 17% (n = 8) participants scoring a neutral 3, 2% (n = 1) participant scoring 2, reflecting a less satisfactory experience, and notably, no participants scoring 1. Additionally, the analysis reveals a notable trend: individuals who reported greater difficulty in communication, with an average score of 3.72 on the question 'I often experience difficulty communicating with museum staff due to language barriers,' were less likely to engage with museum staff, either through seeking help or being approached for assistance. This is in contrast to those who engaged with staff, who reported experiencing fewer communication difficulties, evidenced by an average score of 3.22 on the same question. This suggests that higher perceived communication barriers may deter visitors from seeking or engaging in assistance, underscoring the need for proactive outreach by museum staff to encourage all visitors to utilize available support.

This analysis highlights the effectiveness of museum staff interactions in mitigating language barriers, evidenced by the high satisfaction ratings among those who engaged with staff. The majority of these visitors reported substantial satisfaction, with a significant number rating their experience as excellent. However, the fact that a notable portion of visitors reported high communication barriers and did not seek interaction points to a potential gap in outreach and support, indicating that further efforts may be needed to encourage all visitors to utilize available assistance and fully benefit from their museum experience.

An illustrative anecdote from the survey underscores this point;

“When visiting a museum, I encountered some difficulties in understanding the exhibits. Even though the staff were friendly and available to help, I chose not to ask them due to communication barriers. Instead, I relied on a translation app to look up my questions. It wasn't a pleasant experience.”

This narrative not only highlights the visitor's discomfort but also their disengagement, which resulted from inadequate language support. Despite the availability and friendliness of the staff, the language

barrier led the visitor to depend on less interactive and potentially less effective means of obtaining information. This situation exemplifies the necessity for museums to enhance visitor engagement by integrating more accessible communication tools and strategies, including deploying technology such as interactive apps that offer translations and detailed explanations of exhibits in multiple languages.

Q2. How does language proficiency influence foreign visitors' understanding of museum exhibits and their overall visitor experience?

Impact of Language Barriers on Museum Experience

Visitors' understanding of and engagement with museum exhibits is significantly influenced by language proficiency. To quantify this, participants were asked to rate the extent to which language barriers affected their museum visits. A considerable portion reported negative experiences, with an average impact score of 3.8, signaling substantial challenges. This highlights that language proficiency is pivotal in shaping visitors' museum experiences.

To further examine the relationship between language barriers and visitor needs, the study explored the demand for bilingual signage and other interpretive aids. Correlation analysis revealed a weak positive correlation ($r = 0.26$) between negative experiences and the desire for more bilingual (Chinese-English) signage. This suggests that while improving bilingual signage could help, it alone may not significantly enhance the visitor experience without broader interpretive improvements. Additionally, an even weaker correlation ($r = 0.10$) was observed between negative experiences and the preference for guided tours or audio guides in Chinese, indicating that the mere presence of language barriers does not necessarily translate into a demand for specific language support solutions.

Enhancing our insights, a participant's narrative illustrates the distinct approaches to language barriers in U.S. and Chinese museums:

"Despite language barriers when visiting museums abroad, interactive programs and descriptive films can aid in understanding exhibit content. For instance, the Seattle Museum uses a combination of movies and voice-overs to narrate the history of the Great Seattle Fire. Although the voice-over wasn't fully comprehensible to me, the overall presentation allowed me to grasp the event's significance. Conversely, in

China, where language isn't a barrier, the presence of professional guides in museums enhances the depth of understanding regarding the exhibits and their historical context."

This firsthand account underscores the mixed effectiveness of interpretive resources in U.S. museums compared to the guided experiences in China. It emphasizes the potential benefits of employing professional guides alongside digital tools to create a more inclusive environment that accommodates diverse linguistic needs.

This analysis confirms the complex interplay between language proficiency and museum experiences. It advocates for a nuanced approach to communication and resource deployment in museums to effectively address the varied needs of international visitors. By integrating personalized narratives with quantitative data, this section offers a comprehensive view of how language barriers impact museum experiences, highlighting the necessity for innovative and inclusive interpretive strategies.

Exclusion caused by language barriers

Participants were surveyed regarding their experiences of exclusion and isolation during museum visits caused by language barriers. Despite a significant proportion of respondents grappling with these barriers, the data reveal that a mere fraction—less than 9%—reported strong feelings of exclusion or isolation directly attributable to language difficulties and less than 11% experienced these feelings to some degree. However, a deeper analysis exposes a more concerning trend. The correlation coefficient between the perceived negative impact of language barriers on the overall museum experience and feelings of exclusion or isolation stands at a substantial 0.70. This strong correlation underscores a pivotal insight: visitors who identify language barriers as a harmful feeling to their museum experience are markedly more likely to feel excluded or isolated. It's essential to consider the possibility of underreporting and response bias, where visitors may minimize or not fully recognize their feelings of exclusion in a survey setting, potentially leading to a discrepancy between reported experiences and actual impact.

Further compounding this issue is the relationship between the ability to communicate with museum staff and feelings of exclusion. A strong correlation coefficient of 0.72 demonstrates that difficulties in communication are significantly associated with increased feelings of

exclusion. This relationship highlights a critical challenge: the inability to engage effectively with museum personnel may not only diminish the quality of the visitor experience but also foster an obvious sense of isolation. Such findings emphasize the emotional and social ramifications of language barriers, impacting not merely the informational dimension of museum visits but their inclusivity as well. Therefore, addressing these barriers is imperative for enhancing the accessibility and welcoming nature of museum environments.

Q3. How do digital translation tools impact the engagement and satisfaction of Chinese-speaking visitors in American museums?

The survey's exploration of digital translation tools offers nuanced insights into their widespread adoption and varying effectiveness. Approximately 79% of respondents (n = 63) used these tools during their museum visits, demonstrating a significant reliance on technology to mitigate language barriers. Examples of these tools include smartphone translation apps (e.g., Google Translate, Baidu Translate, Youdao) that allow users to look up unfamiliar words, and handheld translation devices (e.g., iFLYTEK Smart Translator, DodoDuck Language Translator) that enable users to translate entire exhibit labels or facilitate communication with museum staff. While most users reported moderate to high satisfaction, the effectiveness of these tools in enhancing comprehension was inconsistent. This suggests that while the tools are frequently employed, their ability to consistently improve understanding is not guaranteed.

The analysis shows differing experiences among users; some praised the digital translation tools for improving their understanding of museum exhibits. For example, one visitor expressed, "The digital translator was a lifesaver in understanding the historical context of the exhibits, making my visit more enriching and enjoyable." In contrast, others highlighted issues with translation consistency and convenience, which sometimes negatively affected their overall experience. A respondent noted:

"The digital translation tools helped, but at times the translations were confusing, and using it was so time-consuming that if a museum visit in China takes 4 hours, here it felt like it doubled or even tripled. As a visitor from a foreign country, it's impossible for me to spend that much time in a single place."

Further statistical analysis underscores the subtle impact of digital translation tools on understanding museum labels. Those who used the tools reported a slightly higher ease of understanding, with an average score of 3.06 compared to 2.94 for those who did not use them. This indicates that the tools may offer a marginal improvement in comprehending labels.

The survey also examined the impact of language barriers on the overall museum experience, revealing that those who used digital translation tools felt a stronger negative impact, with an average score of 2.98, compared to 2.59 for non-users. This discrepancy might suggest that visitors relying on digital aids are either more sensitive to language challenges or have higher expectations of linguistic accessibility that are not entirely met, thus heightening their perception of the barriers.

The narrative of user experiences, as shared by respondents, further illustrates the complex interplay between technology use and visitor satisfaction in museum settings. While some visitors found the digital tools beneficial, particularly for basic translations, others experienced notable frustration due to inadequacies in the technology. One visitor elaborated on their experience, stating: "Despite using the translation tool, I still felt lost at times, which was frustrating." This sentiment was echoed by several participants who found that while the tools provided general guidance, they often struggled with the accuracy and contextual understanding of more complex museum texts. Moreover, issues such as technical glitches, slow response times, and the user interface of these applications could detract from the overall experience, rather than enhance it.

Overall, the findings highlight the potential of digital translation tools to slightly enhance the comprehension of museum content for non-English speakers. To that end, their effectiveness in addressing broader language barriers appears limited. The mixed user experiences highlight the complexity of integrating technology into culturally diverse settings, suggesting that while digital aids can be helpful, they do not universally resolve the challenges posed by language barriers. This study underscores the importance of ongoing enhancements in translation technology to better serve diverse museum audiences.

Discussion

The survey results not only corroborate Koliou's (1997) observations of significant linguistic challenges faced by foreign museum visitors but

also highlight a paradigm shift toward the adoption of digital solutions for navigating these challenges. While the 1997 study pointed to physical guidebooks as the primary aid, our study reveals a significant transition, with 79% of participants now utilizing digital translation tools. This shift emphasizes the increasing role of technology in addressing language barriers. However, despite the advancements in digital tools, their effectiveness is limited by their inability to fully capture cultural nuances. Within the open-ended responses, participants highlighted the potential of advanced technologies, noting that “museums provide an ideal setting for deploying technologies like AI-driven translation devices and automated translation glasses.” This insight suggests a further evolution in how technology could enhance the visitor experience, specifically through innovations that bridge linguistic and cultural divides more effectively. The substantial prevalence of language barriers, as evidenced by 35% of participants reporting significant difficulties, underscores the urgent need for these advanced solutions. Digital tools, while prevalent, often fail to completely overcome these barriers, as indicated by the mixed effectiveness reported in survey responses. However, some responses suggested the integration of AI-driven Augmented Reality devices could potentially address these gaps by providing more accurate and context-sensitive translations, thereby enhancing the accessibility and inclusivity of museum experiences for all visitors, regardless of their language proficiency. Emphasizing this, the positive reception of existing digital tools among participants suggests a readiness to embrace more sophisticated technologies that could further mitigate the linguistic challenges highlighted throughout the study.

Moreover, Reema Ghazi's investigation into the translation practices of U.S. museums highlights a substantial discrepancy between the demand for and the provision of effective linguistic services. Although 79% of Chinese visitors employed digital translation tools, many reported these tools as inadequate in accurately conveying the complexities of museum content, leading to prolonged and less fulfilling visits. Ghazi points out the piecemeal nature of many museums' translation efforts and the undue pressure this place on multilingual staff. Consequently, my survey results lend weight to Ghazi's call for museums to implement more systematic and reliable translation strategies to genuinely accommodate the needs of a diverse audience.

Transitioning to the broader context, the present study builds upon Julie Schwietert Collazo's insights from her 2017 article, "The Challenge of Making US Museums Multilingual," where she outlines significant

challenges in providing multilingual support in museums. Collazo argues that insufficient multilingual resources hinder visitors' understanding of exhibits' cultural and historical contexts, significantly affecting their overall experience. This literature points to a gap in museum offerings that my empirical research aimed to explore. The results from the current study validate Collazo's claims, showing that non-English speakers experience substantially lower satisfaction and engagement levels due to language barriers. This direct empirical evidence not only confirms the literature's observations but also emphasizes the urgent need for actionable solutions within museum settings. To mitigate these effects, the study recommends the implementation of multilingual signage and audio guides. These measures have proven effective in bridging communication gaps, thus enhancing visitor engagement and satisfaction by making exhibits more accessible and enjoyable for a diverse visitor base. By addressing these needs, museums can not only improve inclusivity but also enrich the cultural and educational experiences they offer.

Following this, it is crucial to consider innovative educational strategies that could bridge these gaps. The study's findings align with the research conducted by Cooker and Pemberton (2010), who explored the potential of self-access language learning materials in museums. These materials, designed to enhance language skills while also facilitating cultural immersion, could provide a vital resource for improving visitor experiences. The research corroborates Cooker and Pemberton's proposal that museums can significantly benefit from incorporating educational resources that promote both language development and cultural understanding. By leveraging such materials, museums can address the linguistic needs of their visitors more effectively, thereby enriching their overall engagement and educational outcomes. This approach marks a pivotal step towards inclusivity, ensuring that all visitors, regardless of language proficiency, can fully participate in and benefit from museum offerings. Moreover, the positive reception of digital tools among the survey participants suggests that integrating technology with self-directed learning resources could further improve the effectiveness of these interventions. By offering multilingual self-access materials that include digital components, museums can better cater to the linguistic diversity of their visitors. These resources not only address the direct need for language support but also enhance the overall educational and cultural experience by making it more accessible and engaging. To maximize their effectiveness, museums should create targeted materials that relate directly to specific exhibits, use interactive technologies like

Augmented Reality apps to make learning engaging, and actively promote these multilingual resources to raise awareness among potential users. Feedback mechanisms and staff training can also be important in enhancing the accessibility and usability of these educational tools, ensuring they meet the needs of a diverse audience effectively.

The findings from this study have significant implications for museum administrators, policymakers, and educational institutions. For museum administrators, understanding the specific challenges faced by Chinese visitors can help develop targeted strategies to improve language accessibility, thereby enhancing the overall visitor experience. This includes prioritizing the hiring of multilingual staff and providing language training for existing staff to better assist non-English-speaking visitors. Furthermore, investing in advanced digital translation tools and interactive technologies, such as AI-driven translation devices and augmented reality, can bridge language gaps more effectively. Policymakers can use these findings to advocate for increased funding and support for museums to implement multilingual services and technologies, promoting cultural inclusivity. The development of regulatory frameworks that encourage or mandate the provision of multilingual resources in cultural institutions can ensure a more inclusive environment for all visitors. Additionally, these findings can inform the creation of policies that support the integration of advanced technologies in museums, fostering an environment that embraces innovation and inclusivity. Educational institutions, particularly those involved in museology and cultural management programs, can incorporate these findings into their curricula, emphasizing the importance of language accessibility in museum studies. By doing so, future museum professionals can be better prepared to address linguistic challenges in their careers. Moreover, universities and research institutions can encourage further research into innovative solutions for language barriers in museums, leading to the development of more effective tools and strategies. Integrating these findings into educational programs can ensure that the next generation of museum professionals is equipped with the knowledge and skills necessary to create inclusive and accessible cultural experiences for all visitors.

Conclusion

The study reveals that language barriers significantly deter the full engagement of Chinese visitors in American museums, limiting their ability to fully appreciate and interact with cultural and educational content. Quantitative analysis indicates that 35% of Chinese tourists

report significant challenges in understanding spoken English and museum labels, while an additional 42% experience moderate difficulties. These findings corroborate existing research suggesting that non-English speakers often feel excluded from fully participating in cultural experiences due to linguistic constraints.

Crucially, the persistence of these barriers, despite the availability of digital translation tools, underscores the inadequacy of current solutions in addressing the needs of a linguistically diverse audience. The research highlights a substantial reliance on technology, with 79% of respondents using digital aids, yet many report these tools as insufficient for overcoming language obstacles effectively. This gap points to a need for museums to enhance their multilingual offerings, not only in digital formats but also through human interactions and environmental adaptations.

To address these challenges, this study recommends the implementation of specific strategies aimed at enhancing linguistic accessibility. Employing multilingual staff, particularly during high-visitor seasons, can significantly enhance visitor interactions by providing guided tours and assistance in multiple languages. Improving signage and informational materials is also crucial; museums could adopt digital displays that visitors can interact with to choose their preferred language, enhancing their ability to navigate and understand exhibits independently. Additionally, integrating advanced digital translation tools, which should be continuously updated for accuracy and ease of use, can further support non-English speakers. Examples include the use of handheld devices that offer real-time translation of exhibit descriptions or the deployment of mobile apps that utilize augmented reality to overlay textual information in multiple languages directly onto the exhibits.

In conclusion, tackling the language barriers in museums is not merely a logistical challenge but a fundamental aspect of enhancing the educational and cultural value of museums worldwide. As this study has shown, through thoughtful and targeted strategies, museums can transform their environments to be more welcoming and accessible to all visitors, regardless of their language background. This commitment to inclusivity is not only a reflection of societal values but also a crucial step towards broadening the impact of museums as agents of intercultural understanding and education.

This study, while providing valuable insights into the experiences of Chinese visitors facing language barriers in American museums, is not without its limitations. One notable constraint is the focus on a specific

visitor demographic, Chinese tourists, which may not fully represent the experiences of other non-English-speaking visitor groups. Additionally, the reliance on self-reported data might introduce biases related to social desirability or memory recall inaccuracies. Another limitation stems from the lack of control over the specific museums that participants visited. Since the survey encompassed visitors who had experiences in museums across the United States within the last ten years, the diversity of these museum environments could significantly affect the results. Different museums vary widely in their offerings, size, location, visitor demographics, and available language support services. As such, the language barrier experiences reported by participants might not solely reflect the prevalence or impact of language difficulties but could also be influenced by the particular characteristics of the museums they visited.

Looking forward, several directions for further research are evident. Expanding future studies to include a broader array of linguistic and cultural backgrounds could enhance the generalizability of the findings. Implementing more objective measures of language proficiency and direct observation techniques could mitigate the biases and provide a more nuanced understanding of visitor experiences. Comparative studies contrasting different types of museums or analyzing approaches across various countries could bring deeper insights into effective practices and cultural differences in addressing language barriers. Additionally, longitudinal studies could track changes in visitor satisfaction as museums evolve their language support strategies, assessing the long-term impacts of these adaptations.

Further research could also explore how different types of museum environments influence the experiences of language barriers among non-English-speaking visitors. Given the diversity in museum settings—from major international institutions to smaller regional museums—each offers unique challenges and resources when it comes to language support. Investigating how museums with varying levels of resources implement and manage multilingual services could provide insights into best practices and areas needing improvement. This approach would not only refine our understanding of where language barriers are most acute but also help in developing targeted strategies that museums of all sizes and types can employ to enhance accessibility and inclusivity for all visitors.

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Appendix A

Survey

Please rate the following statements from 1 (Strongly Disagree) to 5 (Strongly Agree)

1. I often experience difficulty communicating with museum staff due to language barriers.
2. I find labels easy to understand.
3. I often experience difficulty communicating with museum staff due to language barriers.
4. I feel that the language barrier has negatively impacted my museum experience.
5. I felt excluded or isolated during my museum visits due to language barriers.
6. I would appreciate more bilingual (Chinese-English) signs and exhibits in the museum.
7. I would be more inclined to visit museums if they offered guided tours or audio guides in Chinese.
1. I would recommend these museums to other Chinese visitors despite the language barrier.
2. I think visual language (images, animation, video) is important for enhancing my museum experience.
3. Have you utilized any digital translation tools during your visit?
 - a. If yes, rate the following statement
 - i. Digital translation tools were helpful in understanding the exhibits.
 - b. If no, proceed to the next question
4. Have you asked help from any museum staff or have any museum staff come to you to offer help?
 - a. If yes, rate the following statement
 - i. Museum staff made consistent efforts to understand my language needs.
 - b. If no, proceed to the next question
5. Language inclusivity is important in enhancing my museum experience.

Open ended questions

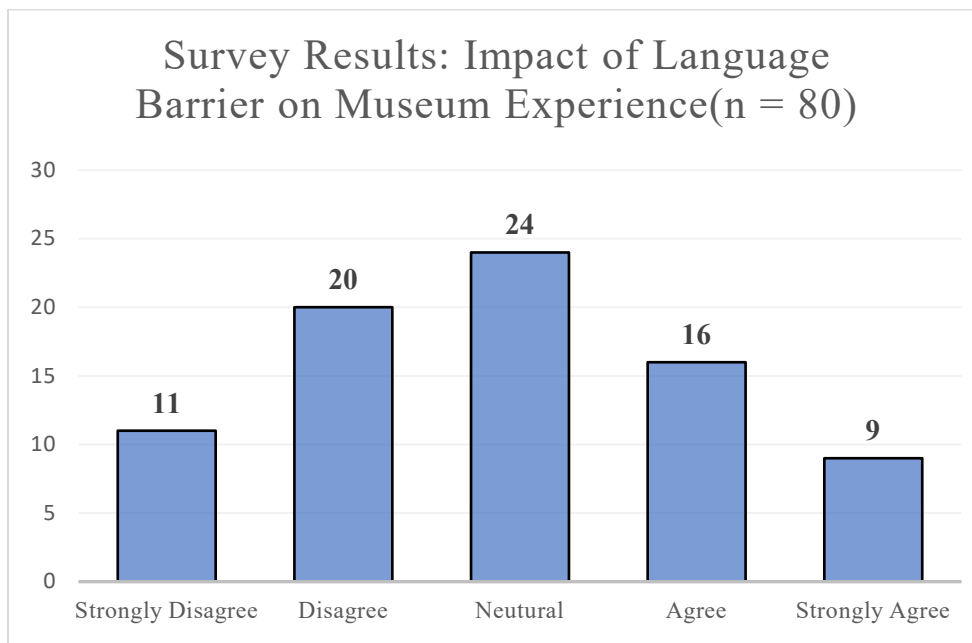
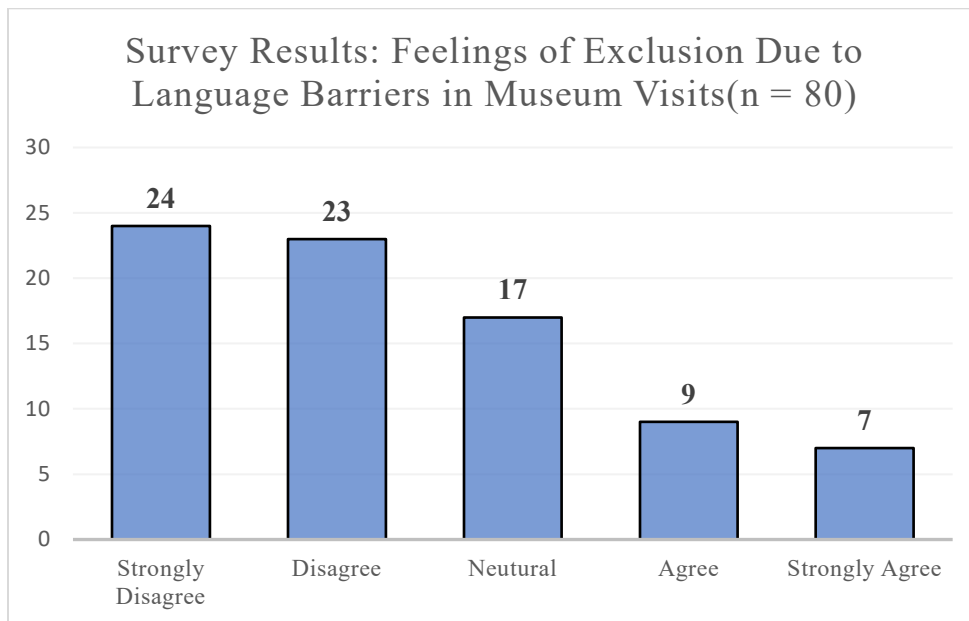
1. What specific instances can you recall where you felt a language barrier? How did that make you feel?
2. How do these experiences compare to your experiences in museums or similar institutions in China?
3. Do you have any suggestions or ideas on how museums can better accommodate non-English speakers to reduce feelings of exclusion?

1. What is your age range?
 - a. 18-25
 - b. 26-35
 - c. 36-45
 - d. 46-55
 - e. 56-65
 - f. Above 65
 - g. Decline to answer

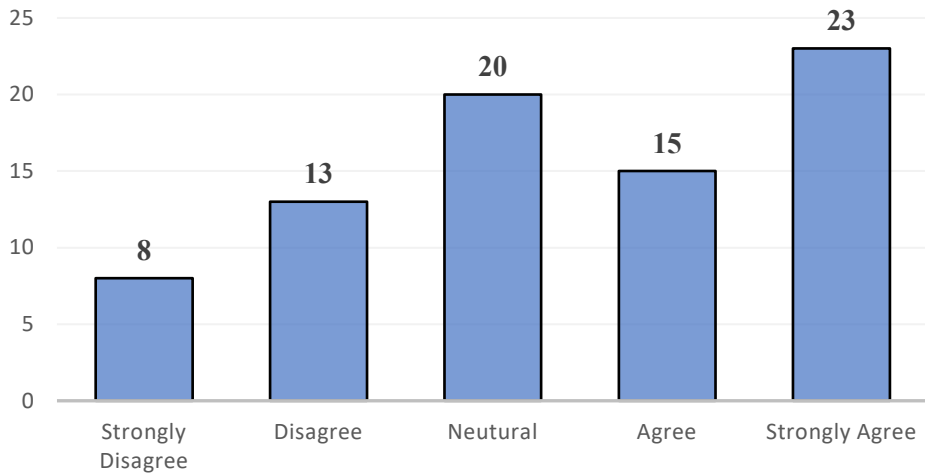
2. How many times have you visited museums in the United States in the past 10 years?
 - a. This is my first time visiting a museum in the United States
 - b. 1-3 times
 - c. 3-5 times
 - d. more than 5 times
 - e. Decline to answer

Appendix B

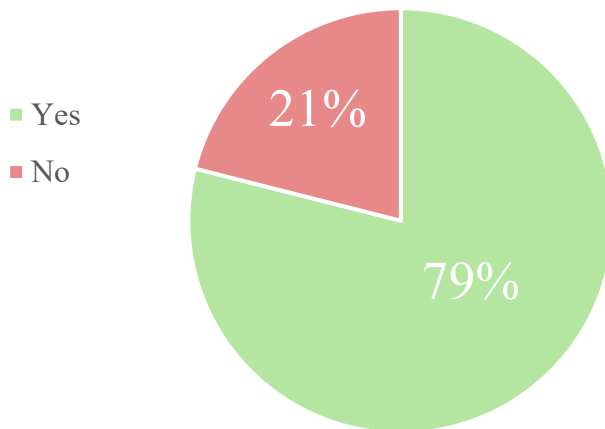
Data Visualization



Survey Results: Communication Challenges with Museum Staff Due to Language Barriers (n = 80)



Have you utilized any digital translation tools during your visit?
(n=80)



Have you asked help from any museum staff or have any museum staff come to you to offer help?
(n = 80)

- Yes
- No

