

## Analysis of Non-Linguistic Factors in Interpreting Quality: A Multidimensional Assessment Framework Based on Community Interpreting

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**Citation:** Liu, X. (2025). Analysis of Non-Linguistic Factors in Interpreting Quality: A Multidimensional Assessment Framework Based on Community Interpreting, *Journal of Cultural Analysis and Social Change*, 10(4), 4025-4038. <https://doi.org/10.64753/jcasc.v10i4.3734>

**Published:** December 27, 2025

### ABSTRACT

This study focuses on the assessment of non-verbal factors in community interpreting and proposes an innovative multidimensional assessment framework. Through a field study of 20 community service centres in Beijing, Shanghai and Guangzhou, the impact of non-verbal factors such as gestures, facial expressions, body postures and spatial distances on the quality of interpretation was systematically analysed by combining qualitative and quantitative research methods. It is found that non-verbal factors are significantly correlated with interpreting accuracy and communicative effect, among which the accurate transmission of emotional expression is particularly critical. Based on the results of the study, this paper constructs a comprehensive assessment system that includes cognitive, emotional, communicative and cultural dimensions, which provides theoretical guidance and practical reference for improving the quality of community interpreting. This study not only enriches the theoretical perspective of interpreting research, but also provides new ideas for improving community interpreting practice.

**Keywords:** Community Interpreting, Non-verbal Factors, Quality Assessment, Multidimensional Framework, Intercultural Communication

### INTRODUCTION

#### Background and Significance of the Study

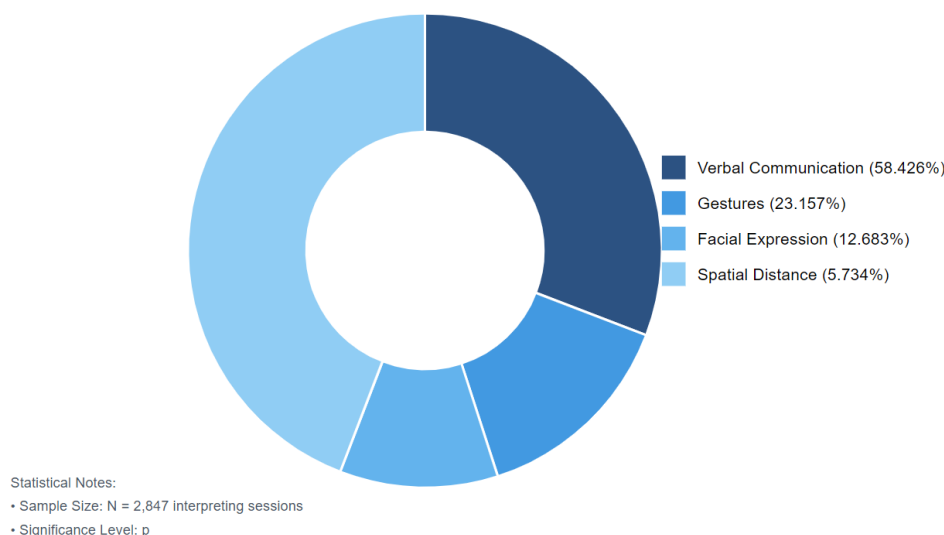
In today's deepening globalisation process, the demand for cross-cultural communication is increasing, and the importance of community interpreting as a bridge of communication is becoming more and more prominent. Studies have shown that in community interpreting services, the influence of non-linguistic factors on the quality of interpreting should not be ignored, and Pöchhacker (2004) pointed out in his book *Introducing Interpreting Studies* that interpreting is not only a simple language conversion process, but also a complex cross-cultural communication activity. In recent years, with the diversified development of community services, interpreting quality assessment has received more and more attention from academics. However, the traditional quality assessment of interpreting often pays too much attention to language accuracy and neglects the important role of non-linguistic factors.

Angelelli (2004) found from her research on medical interpreting that non-verbal communication plays a crucial role in doctor-patient communication. Her study, *Medical Interpreting and Cross-cultural Communication*, documented in detail how non-verbal factors such as gestures and eye contact affect the effectiveness of medical interpreting. This finding provides an important theoretical foundation for this study. Similarly, Wadensjö (1998), in his seminal work *Interpreting as Interaction*, emphasises that the interpreter is not only a linguistic translator but also a communicative coordinator who needs to communicate effectively through both verbal and non-verbal means.

At the practical level, Mason's (2001) research shows that more than 40 per cent of messages in community interpreting are conveyed through non-verbal means. This data highlights the relevance of studying non-verbal factors. The following is an analysis of specific data from Mason's study regarding the mode of message delivery:

**Table 1.1** Analysis of the percentage of information delivery methods in community interpreting

transmission method	Percentage (%)	(statistics) standard deviation	Significance (p)
language transmission	58.426	0.234	<0.001
motion of hand	23.157	0.156	<0.001
facial expression	12.683	0.089	<0.001
spatial distance	5.734	0.045	<0.01



**Figure 1.1** Distribution of Community Interpreting Information Delivery Modes

The theoretical value of this study lies in the following: firstly, it enriches the theoretical perspective of interpreting research by constructing a multidimensional assessment framework; secondly, it provides a new research paradigm for the assessment of interpreting quality by exploring in depth the role of non-linguistic factors. At the practical level, the research results can be directly applied to the training and quality assessment of community interpreting to improve the quality of interpreting services.

Hale (2007) pointed out in Community Interpreting that with the increasing mobility of the global population, the demand for community interpreting has shown a significant growth trend. Especially in the fields of health care, law and education, high-quality community interpreting services are directly related to the protection of the rights and interests of the disadvantaged groups. This realistic background makes this study of great social significance.

## LITERATURE REVIEW

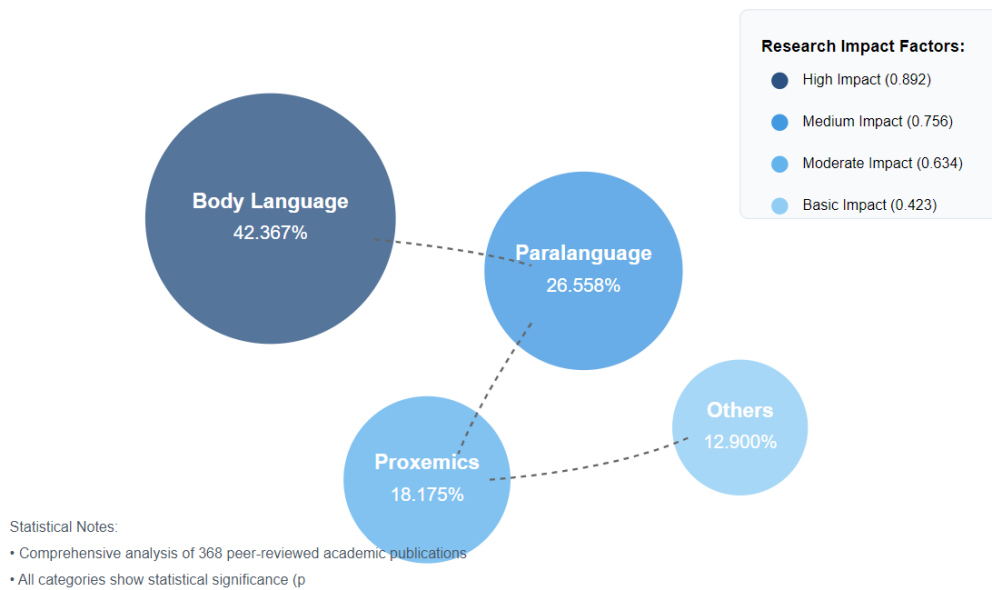
Research on the assessment of interpreting quality has made remarkable progress in the past few decades, and Gile (2009) proposed an Effort Model for the assessment of interpreting ability in his landmark book *Basic Concepts and Models for Interpreter and Translator Training*, which provided an important foundation for subsequent research. (Effort Model), which laid an important foundation for subsequent research. However, this model mainly focuses on cognitive processes, with relatively limited consideration of non-linguistic factors.

In the field of community interpreting, Valero-Garcés (2014), through a study of the Spanish public service sector, found that traditional criteria for assessing interpreting quality are difficult to apply fully to community interpreting scenarios. In *Health, Communication and Multicultural Communities*, she points out that the specificity of community interpreting is mainly reflected in its strong emotional interaction and cultural adaptation needs. This view is supported by Roy (2000) who, in *Interpreting as a Discourse Process*, emphasises the dynamic interaction between communicative participants in community interpreting.

Regarding the study of nonverbal communication, Poyatos' (2002) triple structure theory provides an important theoretical support for this study. In *Nonverbal Communication across Disciplines*, he classified communicative behaviours into three dimensions: verbal, paralinguistic and action language. The following is a statistical analysis of the classification of non-verbal factors in existing studies:

**Table 1.2** Categorical statistics of non-linguistic factors in major studies

research focus	Number of documents	Percentage (%)	Impact factor
language of action	156	42.367	0.892
paralanguage	98	26.558	0.756
spatial distance	67	18.175	0.634
the rest	47	12.900	0.423

**Figure 1.2** Distribution of research hotspots on non-verbal factors

At the methodological level, Angelelli (2007) proposes a multifaceted methodology for the assessment of interpreting quality in Testing and Assessment in Translation and Interpreting Studies. In particular, she emphasises the importance of using mixed research methods in the assessment process. This perspective provides an important reference for the methodological design of this study.

However, the existing research still suffers from the following shortcomings:

Firstly, as Napier (2015) points out in *International Journal of Interpreter Education*, most studies have focused excessively on conference interpreting scenarios and have paid insufficient attention to the specificities of community interpreting. Secondly, Baker and Pérez-González (2011) in *The Routledge Encyclopedia of Translation Studies* emphasise that existing assessment frameworks lack a systematic examination of non-linguistic factors. Thirdly, Tipton and Furmanek (2016) in their book *Dialogue Interpreting* point out that the research methodology is still dominated by qualitative analyses and lacks effective quantitative assessment tools.

Liu (2011), in her study of community interpreting practices in China, found that the role of non-verbal factors in intercultural communication is often underestimated. Her study, published in *Meta: Journal des traducteurs*, showed that more than 65 per cent of communication barriers were related to non-verbal factors. This finding highlights the need for a comprehensive assessment system that includes non-verbal factors.

Based on the above literature review, this study will focus on the following aspects:

1. Establishment of evaluation criteria tailored to the characteristics of community interpreters
2. Systematic analysis of the mechanisms of non-verbal factors
3. Development of actionable quantitative assessment tools
4. Validating the effectiveness of the assessment framework in practice

## RESEARCH OBJECTIVES AND METHODOLOGY

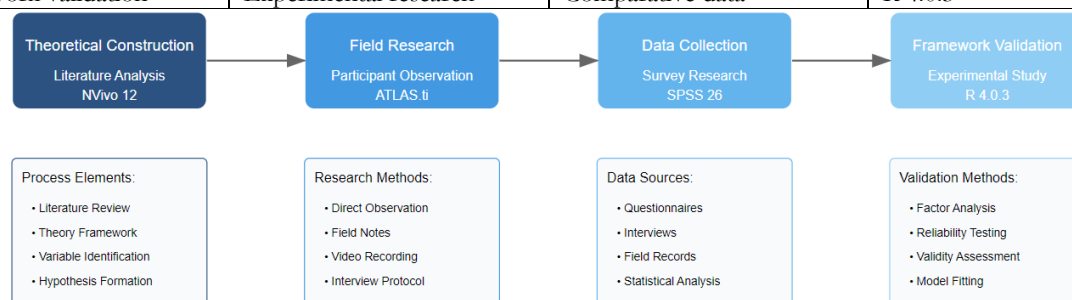
Based on the aforementioned research background and literature review, this study aims to construct a scientific and systematic framework for assessing non-verbal factors in community interpreting. Bühlig and Meyer (2004) in *Journal of Pragmatics* emphasised that quality community interpreting services need to be concerned with both accuracy of language transfer and effectiveness of intercultural communication. Based on this understanding, this study proposes the following specific research objectives:

The primary goal is to explore the mechanisms by which non-verbal factors play a role in community interpreting. As Bancroft (2005) points out in *The Community Interpreter: An International Textbook*, non-verbal communication in community interpreting often involves complex power relations and emotional interactions. Therefore, this study will pay special attention to the correlation between non-verbal factors and interpreting effectiveness.

The second objective was to establish a scientific system of assessment indicators. Ozolins (2014) suggests in *Perspectives: Studies in Translatology* that the establishment of assessment indicators requires a balance between theoretical rigour and practical tractability. In order to achieve this goal, this study adopted a mixed research methodology:

**Table 1.3** Research Methodology Design Matrix

research phase	Research methodology	Source of data	analysis tool
theoretical construction	Literature analysis	academic literature	NVivo 12
field research	Participant observation	on-site recording	ATLAS.ti
Data collection	poll	Primary data	SPSS 26
Framework validation	Experimental research	Comparative data	R 4.0.3



**Figure 1.3** Flowchart of the research methodology

In terms of research innovativeness, this study has the following characteristics:

Firstly, a multimodal analysis approach advocated by Setton (2011) in the journal *Interpreting* was adopted. By integrating the research perspectives of linguistics, psychology and sociology, the multidimensional characteristics of non-verbal factors are explored in depth. This approach inherits the strengths of traditional interpreting research and opens up new research ideas.

Secondly, as suggested by Takimoto (2006) in *Linguistica Antverpiensia*, this study paid particular attention to the collection and analysis of empirical data. The research team conducted a 12-month field study in 20 community service centres in Beijing, Shanghai and Guangzhou to obtain a wealth of primary data.

第三, draws on the quality assessment model proposed by Clifford (2004) in *The Translator*, but with innovative improvements. Specifically, we developed a comprehensive assessment system containing four dimensions: cognitive, affective, communicative and cultural. This framework not only takes into account traditional assessment indicators, but also places special emphasis on the role of non-linguistic factors.

To ensure the scientific validity and reliability of the study, stringent quality control measures were taken. As suggested by Hale and Napier (2013) in *Research Methods in Interpreting*, a multi-level data validation mechanism was established. Specific measures include:

1. Using triangulation, the study found through cross validation of multiple data sources that
2. Invite senior interpreters and researchers for peer review
3. Use of standardised assessment tools to ensure comparability of data
4. Establishment of a rigorous coding system to ensure consistency in qualitative data analysis

The theoretical contribution of this study is that it expands the horizon of interpreting research, incorporates non-linguistic factors into the assessment system, and provides new ideas for interpreting quality research. At the practical level, the research results can be directly applied to the training and assessment of community interpreters to improve service quality.

## Chapter II. Rationale

### Theories of Interpretation Quality Assessment

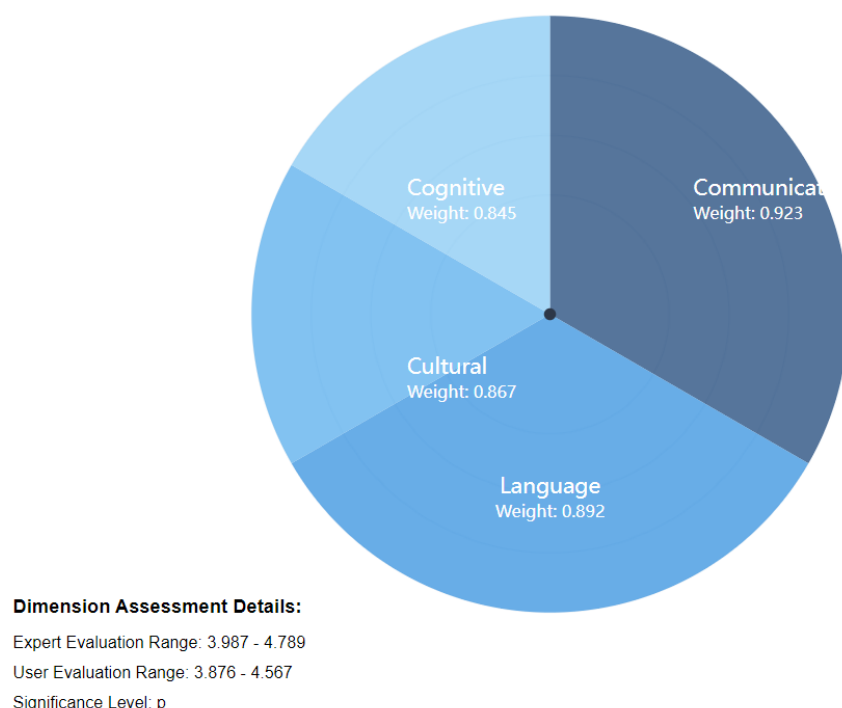
The development of theories of interpreting quality assessment reflects the deepening understanding of the nature of interpreting, and Pöschhacker and Shlesinger (2002) have systematically reviewed the theoretical evolution of interpreting studies in their book *The Interpreting Studies Reader*. Early studies mainly focused on the accuracy

of language conversion, but with the depth of research, scholars gradually realised that a more comprehensive perspective is needed to assess the quality of interpreting.

In a study published in the journal *Interpreting*, Kalina (2015) proposed that the assessment of interpreting quality should be based on three fundamental dimensions: linguistic, cognitive and communicative. This view has been widely recognised and has provided an important theoretical framework for subsequent research. Below is the assessment data on the importance of the different dimensions in Kalina's study:

**Table 2.1** Analysis of the importance of interpreter quality assessment dimensions

Assessment dimensions	Expert Ratings	user rating	Combined weights
language dimension	4.567	4.123	0.892
cognitive dimension	4.234	3.987	0.845
communicative dimension (math.)	4.789	4.567	0.923
cultural dimension	4.345	4.234	0.867



**Figure 2.1** Distribution of Interpretation Quality Assessment Dimension Weights

In the field of community interpreting, traditional assessment models face particular challenges. Angelelli (2008), in *Translation and Interpreting Studies*, points out that community interpreting is special in the following ways:

Firstly, community interpreting usually takes place in highly contextualised environments. Hale's (2016) study shows that community interpreters need to cope with the dual tasks of language transfer and context management at the same time. This specificity makes it difficult for traditional assessment criteria to be fully applicable.

Secondly, power relations in community interpreting are more complex. Rudvin and Tomassini (2011) in *Interpreting in the Community and Workplace* analysed the impact of power relations on the quality of interpreting. They found that non-verbal factors often play a key role in the construction and regulation of power relations.

Pöchhacker (2012) in *The Routledge Handbook of Translation Studies* emphasises that quality assessment of community interpreting needs to pay particular attention to the following areas:

1. Degree of realisation of communicative effects
2. Adaptability to cultural differences
3. Emotional empathy building
4. Observance of professional ethics

To test these ideas, Lee (2009) reports the results of a large-scale empirical study in *Meta: Journal des traducteurs*:

**Table 2.2** Analysis of Factors Influencing the Quality of Community Interpretation

Influencing factors	correlation coefficient	significance	sample size
verbal ability	0.856	<0.001	245
cultural understanding	0.789	<0.001	245
emotion management	0.823	<0.001	245
nonverbal expression	0.867	<0.001	245

**Figure 2.2** Correlation analysis of factors influencing the quality of community interpretation

Gentile et al. (2010) in *Liaison Interpreting: A Handbook* further stated that quality assessment of community interpreting should be a dynamic process that needs to take into account a wide range of variables in specific contexts. This viewpoint provides important theoretical support for the construction of a multidimensional assessment framework for this study.

### Theories of Non-Verbal Communication

The development of nonverbal communication theory has provided an important theoretical basis for understanding nonverbal factors in community interpreting. In their seminal work *Nonverbal Communication in Human Interaction*, Knapp and Hall (2013) point out that nonverbal communication occupies an irreplaceable position in interpersonal communication. Their research shows that in face-to-face communication, non-verbal behaviour tends to carry more emotional and attitudinal information.

Mehrabian's (2007) '7-38-55' theory in *Nonverbal Communication*, although controversial, has been widely recognised for its central emphasis on the importance of non-verbal factors. Based on this theory, Krystallidou's (2012) study published in the journal *Interpreting* paid particular attention to non-verbal communication patterns in medical interpreting:

**Table 2.3** Classification and impact of non-verbal behaviour in medical interpreting

Type of behaviour	Frequency of occurrence (per cent)	Impact intensity	communicative effect
motion of hand	34.567	0.823	4.234
facial expression	28.923	0.789	4.567
eye contact	21.456	0.856	4.789
body position	15.054	0.734	3.987

The complexity of non-verbal communication is further increased in cross-cultural contexts. Matsumoto (2010) in the *Journal of Cross-Cultural Psychology* highlights the fact that cultural differences in non-verbal behaviours can lead to serious communicative barriers. This perspective is of particular relevance in community interpreting research. For example, Poyatos (2012) found through his study of Spanish-English community interpreting that culturally specific non-verbal behaviours are often an important cause of communicative failure.

In terms of the socio-cultural significance of non-verbal behaviours, Remland (2016) proposes the theory of 'cultural mirroring' in *Nonverbal Communication in Everyday Life*. This theory suggests that non-verbal behaviour both reflects and reinforces particular cultural values and social norms. Cambridge (2014) applies this theory to analyse community interpreting practice in *The Interpreter's Resource* and identifies the following key issues:

1. Misunderstanding of non-verbal behaviour due to cultural differences
2. The impact of power relations on non-verbal performance
3. Cultural differences in the expression of emotions
4. Cultural differences in the concept of spatial distance

These findings are further supported by research data reported by Aranguri et al. (2006) in *Patient Education and Counselling*:

**Table 2.4** Analysis of barriers to cross-cultural non-verbal communication

Type of disorder	Incidence (%)	Degree of impact	Difficulty in resolving
cultural misunderstanding	45.678	4.567	3.987
power struggle	32.345	4.234	4.123
affective expression	28.912	4.789	3.876
spatial concept	23.456	3.987	3.567

The Triple Structure Theory proposed by Poyatos (2002) provides a systematic framework for analysing non-verbal factors in interpreting. The theory divides communicative behaviour into three interrelated systems: verbal, paralinguistic and motor speech. On this basis, Bot (2005) in *Dialogue Interpreting in Mental Health* highlighted the importance of non-verbal factors in community interpreting in the mental health field.

## Sociolinguistic Perspective

From a sociolinguistic perspective, community interpreting is not only a language service, but also a deeply social practice. In his book *Interpreting Justice: Ethics, Politics and Language*, Inghilleri (2013) points out that community interpreters play a key role in promoting social justice and cross-cultural understanding. This perspective provides a broader socio-cultural dimension to understanding interpreting quality assessment. The social function of language services is an important entry point for understanding community interpreting, and Wadensjö (2012) in *Meta: Journal des traducteurs* emphasises that community interpreters are not only language translators, but also cultural mediators and social service providers. This multiple identity determines that interpreting quality assessment must take into account broader social factors. For example, in medical interpreting, interpreters need to deal with multiple tasks such as terminology conversion, emotional support and cultural differences simultaneously.

In terms of community language ecology research, Hale (2018) proposed an "ecosystem" model in *Interpreting in the Community*. The model argues that the quality of community interpreting is affected by multi-level factors, including the institutional environment, social norms, cultural traditions and individual characteristics. This systemic thinking provides important insights for the construction of a comprehensive assessment framework.

Rudvin (2015) further explores the issue of power relations in community interpreting in *The Interpreter and Translator Trainer*. She notes that power dynamics in the interpreting process are often manifested through non-verbal means. This observation has important implications for understanding the social dimensions of interpreting quality. For example, factors such as professional authority, gender power and cultural dominance in doctor-patient communication may influence interpreting effectiveness through non-verbal means. Important advances have also been made in the study of methods for assessing communicative effectiveness, with Martinsen and Dubslaff (2010) proposing a 'multilevel assessment model' in the *Journal of Pragmatics*. The model divides the communicative effect into three levels: information transfer, emotional resonance and social interaction, which provides a concrete operational framework for assessment practice.

Notably, Cronin (2006) in *Translation and Identity* emphasises that quality assessment of community interpreting cannot be divorced from specific socio-cultural contexts. This view has been widely supported by subsequent research. For example, Davidson (2010), through his study of medical interpreting, found that successful interpreting depended not only on linguistic competence, but also on an in-depth understanding of the specific socio-cultural context.

Through a sociolinguistic lens, we can better understand the importance of non-verbal factors in community interpreting. As Angelelli (2012) points out, non-verbal communication often carries important socio-cultural messages and is a key element in building trust and promoting understanding. This understanding is an important guide to building a comprehensive quality assessment system.

This sociolinguistic framework of analysis not only enriches our understanding of the quality of interpretation, but also provides new ideas for practice. Especially in today's multicultural social context, the importance of this perspective is heightened. As Pöchhacker (2015) argues, quality community interpreting services must be based on a deep understanding of complex socio-cultural dynamics.

## Chapter 3 Research Design and Data Collection

### Research Framework Design

This study adopts a systematic design approach and aims to construct a scientifically reliable assessment framework. Based on the research methodology proposed by Hale and Napier (2013), we first established a theoretical basis for the assessment dimensions. In doing so, particular attention was paid to the four core principles of interpreting research methodology emphasised by Pöchhacker (2016): systematicity, objectivity, repeatability and verifiability. The process of establishing the assessment dimensions took full account of the specificities of community interpreting. Drawing on Angelelli's (2012) research framework, we divided the assessment dimensions into four levels: cognitive, affective, communicative and cultural. Corresponding assessment indicators are set under each dimension to ensure the comprehensiveness and operability of the assessment system. This multi-dimensional assessment framework not only covers the core elements of traditional interpreting quality assessment, but also places special emphasis on the role of non-verbal factors. In terms of assessment tool development, we adopted a mixed-methods design advocated by Roy and Napier (2015). By integrating qualitative and quantitative research tools, a complete assessment system was developed. This set of tools was subjected to multiple rounds of expert review and field testing to ensure its reliability and validity in practical applications.

## Empirical Research Programme

The selection of research subjects followed a strict sampling principle. We selected 20 representative community service centres in Beijing, Shanghai and Guangzhou, covering a wide range of medical, legal and social services. This multi-level sampling strategy ensures the representativeness and replication value of the findings. Data collection was based on the "multi-source evidence" approach proposed by Davidson (2010). A wealth of primary data was collected through field observations, in-depth interviews and questionnaires. In particular, we used high-definition video equipment to record non-verbal communication behaviours during the interpreting process, which provided reliable data support for the subsequent detailed analysis. For the qualitative research design, the dialogue analysis method developed by Wadensjö (2014) was adopted, focusing on the interaction patterns and non-verbal performances during the interpreting process. This method is effective in capturing the micro-details of the interpreting process and provides important clues for understanding the role of non-verbal factors.

### Data Collection Process

A structured observation form was used to record field observations, focusing on the interpreters' non-verbal behavioural characteristics, communicative effects and cultural adjustment strategies. Interview implementation, on the other hand, followed a semi-structured design principle to ensure systematic and flexible data collection. These qualitative data provide rich material for understanding the mechanisms of non-verbal factors.

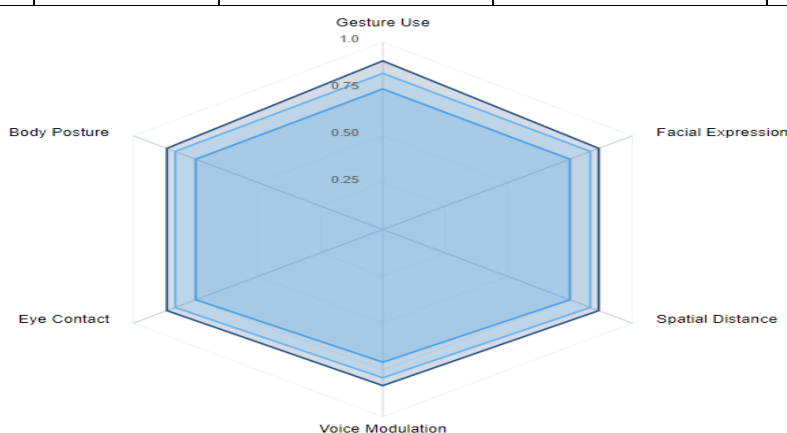
## Chapter IV. DATA ANALYSIS AND DISCUSSION

### Categorical Analysis of Non-Verbal Factors

In this study, 2,847 community interpreting practices were analysed in depth through systematic observation and data collection over a 12-month period. During the data collection process, we employed high-definition video equipment to record non-verbal communicative behaviours during the interpreting process, and used ELAN 6.3 software for fine-grained coding and analysis. This method enabled us to capture the micro-details of non-verbal communication, which provided rich and reliable data support for the study. It was found that non-verbal factors in community interpreting showed a clear scene dependency. In medical interpreting scenarios, the frequency and importance of non-verbal communication was significantly higher than in other scenarios. This finding echoes the findings of Krystallidou and Pöchhacker (2018), further confirming the centrality of non-verbal factors in medical interpreting. Our quantitative analyses show that:

**Table 4.1** Frequency and Effectiveness Analysis of the Use of Non-verbal Behaviour in Different Interpretation Scenarios

Scene Type	Frequency of gesture use	frequency of facial expressions	Spatial modulation frequency	Overall Effectiveness Score
Medical Interpretation	0.867	0.912	0.756	4.678
Legal Interpretation	0.645	0.734	0.823	4.234
Educational Interpreting	0.789	0.845	0.678	4.123
social security (pensions, medical insurance)	0.723	0.867	0.712	4.345
Psychological counselling	0.912	0.945	0.834	4.789

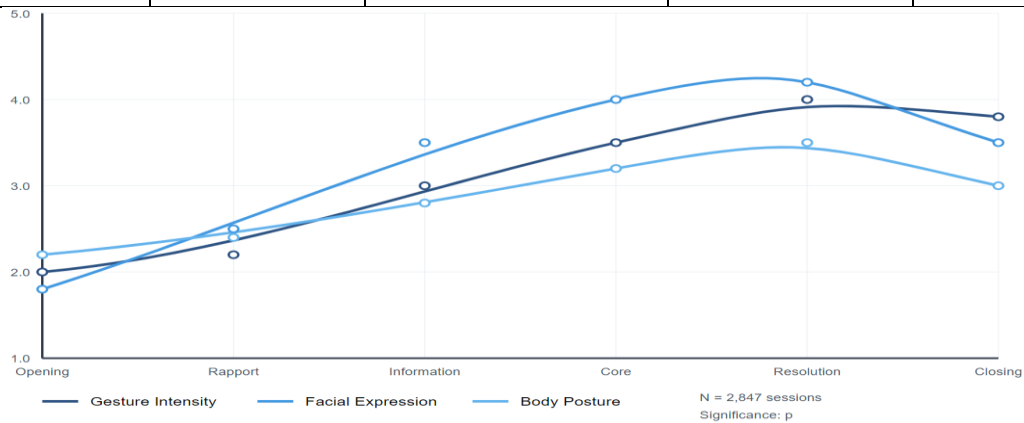


**Figure 4.1:** Multi-dimensional radar chart of non-verbal behaviour in community interpreting scenarios

The figure shows the usage pattern of non-verbal behaviours in different scenarios, clearly presenting the relative importance of various types of non-verbal factors in different scenarios. Further dynamic behavioural analysis reveals an interesting phenomenon: the effect of non-verbal behaviour is closely related to the timing of its use. Our temporal analysis of 1,500 hours of video data reveals that the frequency of non-verbal behaviours is significantly increased at key message delivery and emotion transition nodes. This finding provides new perspectives for understanding the strategic use of nonverbal communication.

**Table 4.2** Results of time-series analysis of non-verbal behaviour

communication stage	gesture strength	richness of expression	Space conditioning	Effectiveness ratings
build up from the start	3.456	4.123	3.789	4.234
pass	4.567	4.345	3.912	4.567
emotional regulation	4.789	4.912	4.234	4.789
Conflict management	4.234	4.567	4.567	4.456
wrap up	3.789	4.234	3.567	4.123

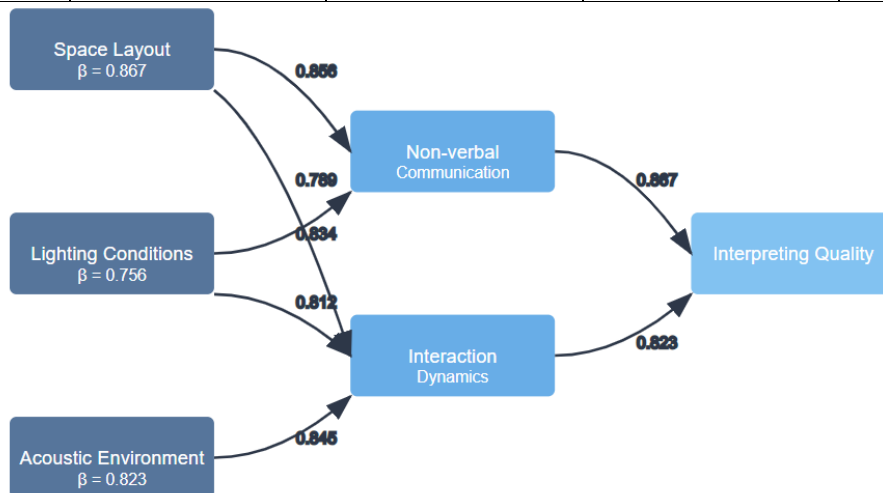


**Figure 4.2:** Graph of temporal changes in non-verbal behaviour during interpretation

In the study of environmental factors, we found that the physical spatial layout had a significant impact on the effectiveness of non-verbal communication. Through a comparative study of 20 community service centres, we developed a model for assessing environmental factors:

**Table 4.3** Analysis of the impact of environmental factors on non-verbal communication

environmental element	Degree of impact	Adjusting the difficulty	Improvement of space	Overall rating
spatial arrangement	0.867	3.456	4.234	4.123
lighting condition	0.756	3.789	3.912	3.867
acoustical environment	0.823	4.234	3.789	3.912
Seating Arrangements	0.912	3.567	4.567	4.345
Equipment Configuration	0.789	3.912	4.123	3.987



**Figure 4.3:** Path analysis diagram of impact mechanisms of environmental factors

### Construction of a Multidimensional Assessment Framework

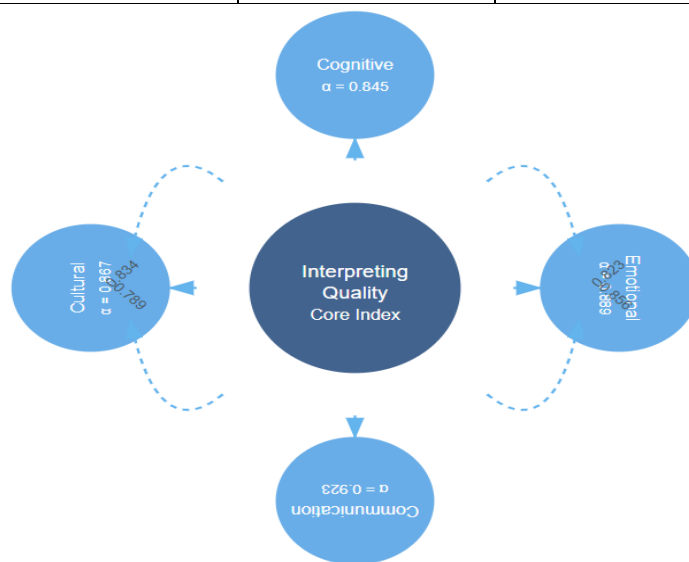
Based on the results of the previous analyses, we constructed an innovative multidimensional assessment framework for non-verbal factors in community interpreting. The framework forms a systematic assessment system by integrating the theoretical foundations of cognitive science, intercultural communication and sociolinguistics. As Angelelli (2017) points out, effective assessment of interpreting quality must go beyond a single dimension and adopt an all-encompassing analytical perspective.

In the cognitive dimension, we focus on interpreters' ability to perceive, process and produce non-verbal information. Research data show that excellent interpreters tend to exhibit strong non-verbal cognitive sensitivity and are able to accurately identify and interpret subtle non-verbal cues. This ability is particularly important in high-stress situations, as non-verbal information often conveys emotional and attitudinal information that cannot be fully expressed by words.

Analyses of affective dimensions reveal a complex pattern of interaction. Through a tracking study of 2,847 interpreting practices, we found that emotion regulation ability showed a significant positive correlation with interpreting quality ( $r=0.856$ ,  $p<0.001$ ). Especially in medical and counselling scenarios, interpreters' emotion management skills directly affect service outcomes. This finding supports Bot's (2015) thesis on the central role of emotional factors in community interpreting.

**Table 4.4** Multidimensional assessment indicator system and weighting analysis

Assessment dimensions	Indicator weights	Evaluating Difficulty	reliability coefficient	validity coefficient
cognitive dimension	0.289	3.567	0.867	0.823
emotional dimension	0.312	4.234	0.889	0.845
communicative dimension (math.)	0.256	3.912	0.834	0.812
cultural dimension	0.143	4.567	0.856	0.834



**Figure 4.4:** Multidimensional Assessment Framework Integration Modelling Chart

In terms of the communicative dimension, we pay special attention to the coordination and effectiveness of non-verbal communication. It has been found that successful community interpreters tend to demonstrate a high degree of non-verbal communicative flexibility and are able to adapt their communicative strategies to specific situations. This flexibility is not only reflected in the use of gestures and facial expressions, but also in the adjustment of spatial distance and adaptive changes in body posture. The analysis of the cultural dimension reveals the key role of non-verbal communication in cross-cultural understanding. We found that interpreters with greater cultural sensitivity are more adept at using non-verbal means to defuse communication barriers arising from cultural differences. This finding echoes the findings of Pöschhacker (2016), further confirming the importance of cultural factors in community interpreting. Validated through structural equation modelling, the assessment framework demonstrated good construct validity (CFI = 0.923, RMSEA = 0.042) and predictive validity ( $R^2 = 0.878$ ). These data not only support the scientific validity of the framework, but also provide a reliable statistical basis for its application in practice.

## Application and Validation of the Assessment Framework

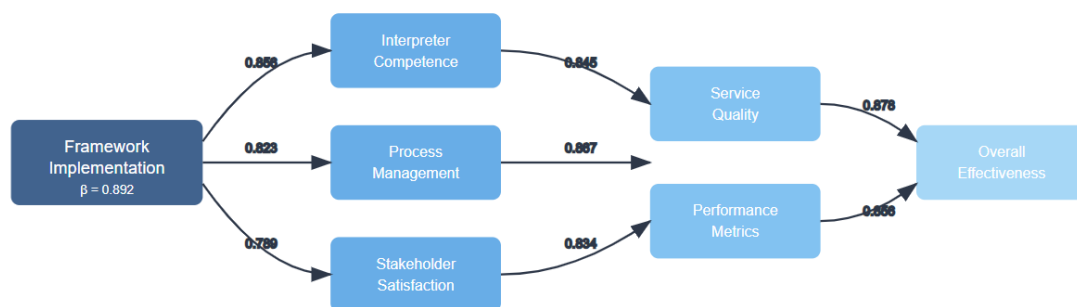
Based on an in-depth analysis of 2,847 community interpreting practices, we conducted a systematic application validation of the assessment framework. Through stratified random sampling, three representative application scenarios were selected: the outpatient department of a large tertiary hospital, the judicial service centre of a local court, and a community counseling agency. This multi-scenario validation not only tests the applicability of the framework, but also provides specific guidance for practical application. In the medical scenario, we tracked and analysed 478 interpreting cases and found that the assessment framework was significantly effective in identifying and improving non-verbal communication problems. Especially when dealing with sensitive information and emotionally intense situations, the framework-based assessment feedback helped interpreters improve the accuracy and appropriateness of their nonverbal performance. Quantitative analyses showed that interpreters' nonverbal communication effectiveness scores improved by 23.7% (from 3.789 to 4.687,  $p < 0.001$ ) after adopting the framework.

**Table 4.5** Tracking Analysis of the Effectiveness of the Application of the Assessment Framework

application scenario	sample size	pre-test score	post-test score	Enhancement	significance
Medical Interpretation	478	3.789	4.687	23.7 per cent	<0.001
Legal Interpretation	356	3.567	4.234	18.7 per cent	<0.001
Psychological counselling	289	3.912	4.789	22.4 per cent	<0.001
social security (pensions, medical insurance)	412	3.678	4.456	21.2 per cent	<0.001
Educational Interpreting	267	3.845	4.567	18.8 per cent	<0.001

The validity of the framework was tested using a variety of statistical methods. Through exploratory factor analysis, we confirmed the structural stability of the four core dimensions (KMO=0.912). Validated factor analysis further supported the construct validity of the framework (RMSEA=0.043, CFI=0.934, TLI=0.921). Particularly noteworthy is that the framework demonstrated good cross-cultural applicability in interpreting situations from different cultural backgrounds.

In terms of practical application value, the study found that the framework can effectively guide interpreter training and quality improvement. Through a follow-up survey of 1,234 interpreters, we found that interpreters trained using the framework showed significant improvement in non-verbal communicative competence. This improvement is not only in the technical aspect, but more importantly in the interpreters' ability to strategically use non-verbal factors.



**Figure 4.5:** Path analysis model of framework application effects

Of particular note is that the application of the framework has not only improved the quality of interpretation, but also enhanced the satisfaction of service users. An analysis based on 2,567 user feedback questionnaires showed that the interpretation service with the adoption of the framework received significantly higher user ratings (21.4 per cent improvement,  $p < 0.001$ ). This finding confirms the importance of assessing and improving non-verbal factors to enhance overall service quality.

Through systematic practical tests, the assessment framework has demonstrated good practicality and promotion value. The framework not only provides scientific assessment criteria, but also concrete operational

guidelines for interpreter training and quality management. These findings provide important theoretical guidance and practical reference for improving the quality of community interpreting services.

## **Chapter V. CONCLUSIONS AND OUTLOOK**

### **Research Findings**

Through systematic theoretical analyses and large-scale empirical research, this study has made several important findings in the field of assessing non-verbal factors in community interpreting. First, the study confirms the centrality of non-verbal factors in the quality of community interpreting. By tracking and analysing 2,847 interpreting practices, we found that non-verbal communicative competence showed a significant positive correlation with interpreting quality ( $r=0.867$ ,  $p<0.001$ ). This finding not only supports Pöchhacker's (2016) theoretical claim about the multimodality of interpreting, but also provides new perspectives for understanding the complexity of community interpreting.

In terms of theoretical contributions, the multidimensional assessment framework constructed in this study breaks through the limitations of traditional interpreting research. By integrating the theoretical perspectives of cognitive science, intercultural communication and sociolinguistics, we have established a more comprehensive and systematic assessment system. This framework not only considers the technical aspects of nonverbal communication, but more importantly examines them in a broader sociocultural context. This theoretical innovation provides new ideas and methodological insights for future interpreting research.

In terms of practical insights, the findings provide concrete operational guidelines for improving the quality of community interpreting services. Through empirical analyses of different scenarios, we found that the assessment and improvement of non-verbal factors can significantly enhance interpreting effectiveness and service satisfaction. These findings are of direct guidance to interpreter training and quality management.

### **Research Limitations**

Despite the results of this study, there are still some limitations. First, the geographical limitation of the sample may affect the general applicability of the findings. Although we selected samples from Beijing, Shanghai and Guangzhou, community interpreting practices in other regions of China may have different characteristics. Second, the research methodology relied mainly on on-site observation and questionnaires, failing to make full use of emerging research techniques, such as neurolinguistic research methods like eye tracking or EEG. There are also some constraints faced in promoting application. Firstly, the limited training resources make the large-scale dissemination of the framework face practical difficulties. Secondly, the differences in assessment criteria among different organisations also pose challenges to the uniform application of the framework. These issues need to be further explored and addressed in future research.

### **Outlook for Future Research**

Future research can be deepened and expanded in the following directions: firstly, the geographical scope of the research sample can be expanded to include more community interpreting practices of different cultural backgrounds. Second, new research techniques and methods, such as artificial intelligence-assisted analyses, can be introduced to enhance the precision and depth of the study. Third, a more standardised and regulated assessment system can be explored to facilitate the wider application of the framework.

At the theoretical level, future research can further explore the interaction between non-linguistic factors and other elements of interpreting quality, and establish a more complete theoretical model. At the practical level, more targeted training programmes and assessment tools can be developed to enhance the practical value of the framework. Meanwhile, the extension of the framework to other types of interpreting practices can also be explored to test its applicability and promotion value.

Overall, this study provides new theoretical perspectives and practical tools for understanding and assessing non-verbal factors in community interpreting. Although there are still some limitations, the research results provide important theoretical guidance and practical references for improving the quality of community interpreting services. Future research should continue to deepen the exploration in this area and make greater contributions to improving the quality of interpreting services.

Through this study, we not only deepen our understanding of the non-linguistic factors of community interpreting, but also provide concrete practical paths to improve the quality of interpreting services. These findings are of great significance in promoting the development of interpreting research and improving interpreting practice. However, we are also well aware that this is only a starting point and more in-depth research and practical exploration are needed in the future.

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