RESEARCH ARTICLE

Does Directionality Affect Chinese-English Consecutive Interpreting Quality? Perceptions and Performance of Chinese Interpreting Students

Received: 01 July 2022; Revised: 13 September 2022; Published: 05 November 2022

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Abstract:

The impact of directionality on interpreting performance has been a long-term controversy in interpreting studies. The aim of this study is to investigate how directionality affects Chinese-English consecutive interpreting (CI) performance from the perspective of Chinese interpreting students. Both qualitative and quantitative analyses were used to identify their perceptions of directionality and to compare their actual interpreting performance in two directions: from Chinese, their A language, to English, their B language and vice- versa. The research findings are as follows: 1) interpreting students were more fluent but less accurate in their B-into-A CI performance even though the majority of them were more confident in their B-into-A performance; 2) limited B language availability is identified as the major reason accounting for the information loss in the B-into-A CI performance while low availability of trans-linguistic correspondences is found to be responsible for the disfluencies in the A-into-B CI performance; 3) the lack of diversified use of interpreting strategies in B-into-A CI leads to huge information loss, mainly manifested as omissions in order to maintain fluency. The results imply differentiated focuses on the training of CI between two directions and highlight the significance of incorporating interpreting strategies into the training of interpreters.

Keywords: directionality, consecutive interpreting, interpreting students, perceptions, interpreting quality

1. Introduction

According to the International Association of Conference Interpreters (AIIC), an individual interpreter's combination of working languages can be classified into A, B and C languages. A language refers to one's native or best "active" language; B language is one's active language at near-native proficiency. The conference interpreting from B language into A language has been favored in the western interpreting market, while the A-into-B interpreting, or the retour interpreting, has not been equally accepted (Pöchhacker, 2016). It has been argued that A-into-B interpreting is linguistically flawed, even if the interpreter has a good command of B language (Seleskovitch, 1999; Donovan, 2004). In contrast, based on his experience as a trainer of interpreters in Moscow, Denissenko (1989, p.157) preferred the A-into-B interpreting, and justified his viewpoint with the argument that "a less

idiomatic" full message is better than "an elegantly-worded" half-message. Earlier arguments on the directionality of interpreting were mainly generated from the intuition and observations of practitioners and researchers. Notedly, they focus their attention on which direction should prevail in interpreting practice. More follow-up studies, however, provide empirical evidence through in-depth investigation of professional interpreters' perceptions, interpreting quality and cognitive load in particular in either consecutive or simultaneous mode (i.e., Rinne et al., 2000; Bartłomiejczyk, 2004; Chang, 2005; Chang & Schallert 2007).

Besides the intensive attention to the impact of directionality on professional interpreters, a growing number of scholars associate directionality with trainee interpreters who are required to work from both directions. For example, Takeda (2010) pointed out that interpreting into their B language, or the retour interpreting, is the market reality for Chinese, Japanese, Korean, Russian and Spanish interpreters. At the same time, directionality is a topic that attracts the attention of trainee interpreters. According to a survey among trainee interpreters at the Monterey Institute of International Studies in the United States, one of the expectations mentioned most frequently by students is that explicit and respective guidance should be provided for their interpreting practice in both directions (Takeda, 2010). Although few related studies have been seen, it is worthwhile to investigate the directionality of interpreting through the lens of interpreting students, so as to better prepare them for the needs of market. The aim of this study, therefore, is to explore how directionality is related to the consecutive interpreting (CI) performance by Chinese interpreting students working between Chinese and English, hence deriving useful insights in pedagogy of two-way CI.

2. Directionality and Interpreting Performance

As one of the recurring themes in interpreting studies, the discussion of directionality in interpreting has shifted from theoretical views on the preference of direction, to empirical findings with regard to how directionality is related to the interpreting quality. Previous research on the relationship between directionality and interpreting performance falls into two major approaches: 1) the perceptions of interpreters based on medium-to-large scale surveys and 2) the relevance between directionality and interpreting quality.

2.1 Interpreters' perceptions of directionality and interpreting performance

The possible impact of directionality on interpreting performance has been investigated by soliciting perceptions of professional simultaneous interpreter. The results, however, diverge among interpreters who work on different language pairs. Al-Salman and Al-Khanji (2002) discovered, from the results of questionnaires administered to Arabic-speaking interpreters, that the majority of respondents were more satisfied with their simultaneous interpreting from Arabic into English (A-into-B) than vice-versa. Similarly, Pavlović (2007) surveyed 61 professional interpreters from Croatia, and found that 45% of the participants were more confident in the A-into-B simultaneous interpreting performance while only 7% of the respondents preferred their simultaneous interpreting into their A language. By contrast, Bartłomiejczyk (2004) reported that over half of 40 professional simultaneous interpreters in Europe were more in favor of B-into-A direction. This result coincides with another larger scale survey-based study undertaken by Opdenhoff (2013) who issued questionnaires to 2129 professional interpreters from 94 countries, and concluded that the majority of professional simultaneous

interpreters considered their interpreting quality to be better in the B-into-A direction. Bartłomiejczyk (2004) argued that the main reason, accounting for the discrepancy among professional interpreters' perceptions of interpreting performance, lies in the language specificity, where some languages may pose fewer challenges as target languages while other may require extra listening and greater memory efforts.

It is worth noting that perceptual gaps concerning the potential impact of directionality on interpreting quality also exist between novice and professional interpreters, as well as between the two modes of interpreting. Bartłomiejczyk (2004) did one of the few studies concerning perceptions of trainee interpreters and pointed out that trainee interpreters were more confident in their A-into-B simultaneous interpreting performance, while the large majority of professional interpreters preferred their B-into-A simultaneous interpreting performance. Lim (2005) revealed, from a survey targeted at professional Korean interpreters, that participants were more willing to work into their B language in CI, but not in simultaneous interpreting due to their perceived reduction in interpreting quality.

A detailed review of literature has illustrated the potential effect of interpreting expertise, language combinations and interpreting mode on interpreters' perceptions of directionality. Since most of the previous research have been targeted at the perceptual opinions of professional simultaneous interpreters, this study will be centered on Chinese interpreting students' views of the relationship of directionality and their CI between Chinese and English. In this way, this study is expected to help not only enrich the current research on directionality through the extension of interpreting modality and language pairs but also inform the training of interpreters through the collection of interpreting students' perceptions.

2.2 Relevance between directionality and interpreting quality

In order to provide convincing empirical evidence, a large body of research has been devoted to the relevance between directionality and interpreting quality. Even though a few studies adopt a wholistic view of interpreting quality and score the interpreting performance globally, a growing number of researchers assess interpreting performance in two directions in an analytical way, so as to gain an in-depth insight into the specific effect of directionality on interpreting performance. Information completeness, target language quality and fluency of delivery are found in the previous literature to be the most used important parameters of interpreting quality.

Information completeness, quantified by propositional analysis, serves as an important index of the accuracy of the message in the interpreting performance in previous studies. The majority of research have identified a higher level of information completeness in the A-into-B CI performance by either novice or professional interpreters in different language pairs (Tommola & Helevä, 1998; Rinne et al. 2000; Kurz & Farber, 2003; Chen, 2020). One of the limited exceptions is the study carried out by Chang and Schallert (2007) who discovered that professional Chinese interpreters offered more accurate rendition in their English-into-Chinese simultaneous interpreting than that in the other direction. The result of this study is opposite to the finding of the research undertaken by Chen (2020) who used the same method of propositional analysis and identified higher information completeness in the Chinese-into-English CI performance by professional Chinese interpreters. This discrepancy of results, under the same interpreting expertise and language pairs, implies the possible impact of interpreting modality on the interpreting performance. Since previous studies concerning the impact of

directionality on the performance of trainee interpreters have been carried out in the mode of simultaneous interpreting, this study could be a valuable attempt to investigate their performance in the consecutive mode in the hope of generating interesting results.

Language quality of the target language is regarded as another essential parameter. A popular method used in previous studies is to evaluate the quality of target language by counting the numbers of grammatical and lexical errors. Chang (2005) and Chang and Schallert (2007) resorted to this method and found that Chinese professional simultaneous interpreters performed better quality in their Chinese (A language) output than in their English (B language) output. Adopting the same method, Özturk (2020) also concluded that Turkish interpreting students performed better in the B-into-A simultaneous interpreting in terms of target language quality.

Fluency of delivery, viewed as an important index of interpreting quality, has been associated with pauses in the previous studies concerning how directionality affects the fluency of delivery in the interpreting performance. Some studies have reinforced the hypothesis that output in A language should be more fluent than that in B language. For example, Mead (2000, 2005) found that both trainee and professional interpreters made significantly fewer pauses in their B-into-A CI performance as compared with their performance in the other direction. However, more recent studies have reported different results. Fu (2012) classified pauses made by interpreters in their CI performance according to their triggers, and reported that the overall number of pauses did not differ significantly between two directions while the directionality affected the distribution of pauses. In his study, interpreting students were found to make significantly more ungrammatical pauses in the A-into-B interpreting while they repaired more often in the B-into-A interpreting. Chen (2020) quantified fluency as the number of silent pauses, speech rate and duration, and surprisingly found that professional Chinese interpreters interpreted more fluently in their A (Chinese)-into-B(English) CI. In this regard, fluency of delivery will be quantified and included in the current study to investigate the possible effects of directionality on the interpreting students' performance.

In summary, the previous researches confirm the possible interaction between directionality and interpreting performance, and display obvious discrepancies in the results attributed to differences in interpreting modes, interpreters' expertise and specific language pairs. Since the preponderance of previous studies on directionality are mainly concerned with simultaneous interpreting and professional interpreters, the aim of this study is to explore how Chinese interpreting students perceive the role of directionality in their CI performance and how they actually perform while interpreting consecutively between Chinese and English.

The current research questions are as follows:

1) What are Chinese interpreting students' perceptions of the role played by the directionality in their CI between Chinese and English?
2) What impact does the directionality have on the performance of CI of Chinese interpreting students?

3. Method

3.1 Participants

The participants were 12 interpreting students (eight females and four males, aged between 20 and 21 years old) recruited from the undergraduate program of translation and interpreting, at Hubei University on a voluntary basis. They were all third year students, from a similar academic background, and were deemed to have the necessary pre-requisite knowledge and skills for CI since they had all attended interpreting training courses for one and a half years. All 12 participants spoke Chinese as their A language and English as their B language. They have, on the average, learned English for 13 years (12 years as minimum and 15 years as maximum) though none of them have ever studied, lived or traveled in an English-speaking country. All of them have pass the Test for English Majors-Band 4 (TEM-4), a nation-wide threshold test for English majors who should take the test in the second year of study. According to the description of TEM-4 test in the official website, examinees who are able to pass the exam should be equipped with an English vocabulary bank containing 5500 to 6000 words, 3000 to 4000 of which are their active vocabulary, and then they are able to comprehend English speeches and dialogues on general social and academic topics and medium-level newspaper or magazine articles.

3.2 Research materials

3.2.1 Pre-experiment questionnaire

A pre-experiment questionnaire (see Appendix 1) was designed to determine the participant's suitability for inclusion and to collect information about the participant's age, language learning background, self-assessment of proficiency levels of A language and B language and their perceptions of directionality in their CI practice. In line with the previous surveys (Özturk, 2020), participants were required to rate their language proficiency of English and Chinese using a 7-Liket scale, one for intermittent user and seven for expert user, in terms of speaking, grammar, vocabulary, and listening abilities. The questionnaire also included open questions about the participant's perceptions concerning their preference over the directions of CI and possible difficulties in interpreting.

3.2.2 Interpreting materials

Two speeches were prepared for participants to interpret consecutively. The chosen speeches, were delivered by native speakers, one in Chinese and one in English, and were originated from speeches delivered by representatives of the Chinese government and UK government at the Global COVID-19 Vaccine Summit in 2020. Considering that source text complexity could deviate the effect of directionality on interpreting performance (Tommola and Helevä, 1998), the two source speeches were edited with strict control of variances to ensure that they were as similar as possible in their complexity, with the only difference being the language. The two speeches were identified as difficult as each other in terms of topic, proposition count, idea density, speech rate and duration, as summarized in Table 1.

Table 1. Description of two source speeches

Source Text	Proposition Count	Idea Density	Speech rate	Duration
Chinese	73	0.23	2.46 word/second	1’23’’
English	69	0.23	2.38 word/second	1’24’’

3.2.3 Retrospective interviews

A retrospective interview was conducted with every participant in order to gain an insight into how directionality affects the information completeness, target language quality and delivery of interpreting performance.

While listening to the recording of interpreting, the participant could read their notes taken during the interpreting tasks and correspondent speech script for reference. He/she would be interviewed by the same researcher with the following questions at points where there was loss or misunderstanding of message, unnatural expressions and disfluencies in their interpreting performance:

The current research questions are as follows:

1) Why did you omit this piece of information?
2) Why did you pause at this point?
3) Why did you misunderstand this piece of information?
4) Why did you choose this phrase/vocabulary in your interpreting?
5) In which direction did you perform better? Does the result differ from your perceptions of directionality in CI in the pre-experiment test? If yes, why?

In order to ensure that participants could understand the questions and express their ideas to the fullest extent, the semi-structured interview was carried out individually with every participant in mandarin Chinese. All of the interviews were recorded and transcribed verbatim as raw data. Excerpts from the data, selected for the presentation of research findings, were then translated into English.

3.3 Procedure

After being briefed on the study, participants signed the informed consent form and completed the pre-experiment questionnaire. They then undertook two interpreting tasks in two directions between Chinese and English.

Participants individually completed the two CI tasks in a language laboratory. Before starting the interpreting task participants were given a glossary, including terminology and unfamiliar words, and a brief introduction to the topic of the source speeches. Participants were then given 10 minutes to familiarize themselves with the glossary and to get themselves ready for the interpreting tasks. They were allowed to perform the two CI tasks in random order. Eight participants undertook the CI from English-into-Chinese (B-into-A) task before Chinese-into-English (A-into-B) task, and the rest chose to interpret from Chinese-into-English (A-into-B) first. Blank sheets of paper were given to participants

to take notes while interpreting. The interpreting performance of every participant was recorded, and stored as audio files in order to analyze interpreting quality and to inform the retrospective interviews.

The retrospective interview was carried out with every participant immediately after he/she completed two interpreting tasks. Participants could answer questions raised by the same researcher while listening to their recorded output of two interpreting tasks with reference to their notes and respective speech script.

3.4 Data collection

To address the first research question, data collected from the pre-experiment questionnaire was used to investigate the participants' perceptions of the possible impact of directionality. Their preference over the directionality of CI between Chinese and English and the possible reasons accounting for their preference were identified from both closed and open questions in the questionnaire.

In response to the second research question, concerning the impact of directionality on the quality of CI, the data related to the interpreting quality were collected, comprising the measurement of information completeness, target language quality and fluency. To measure information completeness, the target speeches were transcribed, propositionalized and scored against the propositions of the respective source texts. Two raters propositionalized and scored the completeness on an individual basis. To measure target language quality, two native speakers of English and two native speakers of Chinese worked as raters to count the number of grammatical and lexical errors of the target speeches in the two languages respectively. The inter-rater validity ($\alpha \geqslant 0.8$) and intra-rater consistency ($\alpha \geqslant 0.8$) for each task were tested before raters proceeded to assessment. The final score was the mean of the two raters in each task. To measure fluency, the audio-processing software Praat was used to automatically analyze the audio recordings of the target speeches in terms of speech rate, the number of pauses and speech duration. The pauses identified in the current research include false starts, repetitions, self-corrections and the silent pauses lasting more than 0.25 ms in line with the methodology employed in previous research (Mead, 2000; Chen, 2020).

The retrospective interview was carried out with every participant to identify their self-assessment of their actual performance and factors undermining their interpreting performance in both directions. Based on the transcription of the interview recording, The researcher together with another assistant researcher drew up a list of themes and calculated the number of mentions of each theme for reporting.

4. Results

4.1 Interpreting students' perceptions on directionality and CI performance

The results from the pre-experiment questionnaire found that all of the participants (n=12) agreed that directionality could affect their CI performance. In response to questions related to their views on the relationship between directionality and their CI performance , 75% of the participants regarded A-into-B CI as more challenging than the B-into-A CI as they perceived vocabulary and grammar of B language as the most influential factors-. The remaining 25% of participants held the opposite opinion, and argued that listening comprehension of B language and short-term memory made B-into-A CI

more challenging than in the other direction. Participants' preference over the directions of interpreting, not surprisingly, coincided with their perceptions concerning the level of difficulty of the two directions. 75% of the participants preferred B-into-A CI. Their preference was justified by the linguistic and mental challenge of rendition in B language and the flexibility of rendition in A language, as illustrated in the following statements in response to open-ended questions in the pre-experiment questionnaire.

P1: *"There would be fewer lexical and grammatical errors in the rendition in A language than in B language."*

P8: *"I felt less stressed when speaking native language."*

P11: *"There are much more language resources I could resort to when I come across difficulties in rendition of A language."*

The remaining 25% of participants in favor of A-into-B direction argued that listening comprehension in B language which was much more challenging than that in A language is likely to ruin the B-into-A interpreting performance.

P3: *"It was much easier and relaxing for me to listen and comprehend speeches in A language than those in B language, which could ensure the accuracy of information in the interpreting performance."*

P6: *"Listening comprehension in B language is a real challenge, so it is more likely to stumble over it and result in a total failure in interpreting."*

4.2 Interpreting students' CI performance on both directions

Interpreting performance of every participant who interpreted consecutively in two directions was assessed in terms of six parameters. The Statistical Package for the Social Sciences (SPSS) 17.0 was used to analyze the data of assessment regarding interpreting quality. The normal distribution, mean, and standard deviation were obtained for all dependent variables. The results of the statistical analysis of interpreting quality assessment in the two directions were summarized respectively in Table 2 and Table 3.

Table 2. A (Chinese)-into-B (English) CI quality assessment

	Mean	Median	Std. Deviation	Minimum	Maximum
Propositions in TS/ Propositions in SS	71.80%	69.18%	0.139	0.521	0.918
The number of grammatical errors	1.250	0	1.712	0	5
The number of lexical errors	2.583	2	2.61	1	10
Duration	123.393	127.055	16.526	97.33	149.5
Speech rate	1.672	1.705	0.332	1.21	2.36
The number of pauses	7.750	7	3.019	5	15

Table 3. B(English)-into-A(Chinese) CI quality assessment

	Mean	Median	Std. Deviation	Minimum	Maximum
Propositions in TS/ Propositions in SS	50.12%	42.75%	0.167	0.275	0.783
The number of grammatical errors	0.167	0	0.389	0	1
The number of lexical errors	1.667	1.5	1.371	0	4
Duration	70.097	70.12	11.016	46.6	84.37
Speech rate	3.10	2.945	0.586	2.3	4.23
The number of pauses	3.083	3	2.065	0	7

Paired sample t-tests were employed to calculate the significance of the difference between the independent variables: the two directions of interpreting. Two-tailed p values of < 0.05 were considered to be statistically significant. Cohen's d (the difference between the means divided by the pooled standard deviation) was used to indicate the effect sizes recorded as either small (< 0.4), medium (0.4-0.6) or large (> 0.6).

As seen in Table 4, the differences among four parameters of interpreting quality were statistically significant, namely, the proportion of propositions, duration, speech rate and the number of pauses. The proportion of propositions is related to information completeness of interpreting performance; duration, speech rate and the number of pauses serve as sub-parameters for assessing the fluency of interpreting performance. The significant difference in the four parameters indicates the significant impact directionality imposes on the information completeness and fluency of interpreting performance. There were no significant differences in the number of grammatical and lexical errors of the target language between two directions, which implies that directionality does not necessarily impact the use of the target language in the CI performance of trainee interpreters.

Table 4. Paired samples T-test of mean number of interpreting quality parameters between A-into-B and B-into-A CI

	Paired Differences					t	df	Cohen's *d*
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Propositions in TS/ Propositions in SS	0.217	0.147	0.043	0.123	0.310	5.099***	11	1.472
The number of grammatical errors	1.083	1.730	0.499	-0.016	2.182	2.169	11	0.626
The number of lexical errors	0.917	2.575	0.743	-0.719	2.553	1.233	11	0.356
Duration	53.297	14.210	4.102	44.268	62.325	12.993***	11	3.751
Speech rate	-1.428	0.383	0.110	-1.671	-1.185	12.935***	11	3.743
The number of pauses	4.667	2.535	0.732	3.056	6.277	6.378***	11	1.841

***$p < 0.01$

4.2.1 Information completeness

Information completeness is measured by the proportion of propositions. The proportion of propositions coverage in the A-into-B interpreting (M=71.80%, SD=0.139) was significantly higher than that in the B-into-A direction (M=50.12%, SD=0.167, t (12)=5.099, $p < 0.01$,d =1.472). The result indicates that participants were more accurate in conveying the message in their A-into-B CI compared to the other direction. In response to the loss of information in B-into-A CI process, participants reported the following factors in the retrospective interview (see Table 5).

Table 5. Factors affecting information completeness in the B-into-A CI

Factors	No. of mentions	%
Failure in listening comprehension due to lengthy and complicated sentences	11	91.7
Failure in listening comprehension due to unrecognized expressions	7	58.3
Illegible notes	6	50
Failure in short-term memory	5	41.7
Failure in reformulation	1	8.3

As shown in Table5, the failure in listening comprehension of the original speech in B language at both syntactical and lexical level poses a dominant obstacle for interpreting students to achieve accurate rendition of message. They stumbled over complicated sentence structures and unfamiliar expressions.

P5: *"The original sentence structure is very intricate, so I did not figure out the meaning of the phrase 'on a scale beyond anything we've seen before' and had to omit this part in my interpreting in order to ensure the fluency of delivery."*

P9: *"The word 'replenish' in this sentence is completely new to me. Even though I tried to guess its meaning within the context, the rendition was still deviated from the original meaning."*

Participants' difficulties with listening comprehension in B language is also confirmed from their self-assessment of language abilities in the pre-experiment questionnaire. As illustrated in Table 6, participants rated their listening ability in B language (English) as significantly lower than that in A language. The response from the retrospective interview helps to identify lexical and syntactic barriers as the major challenges for trainee interpreters to achieve listening comprehension in B language.

Table 6. Paired samples T-test of language abilities between A language and B language

	Paired Differences					t	df	Cohen's d
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Speaking	0.833	1.193	0.345	0.075	1.592	2.419**	11	0.698
Grammar	0.083	1.240	0.358	-0.705	0.871	0.233	11	0.067
Vocabulary	0.333	1.231	0.355	-0.449	1.115	0.938	11	0.271
Listening	1.417	1.311	0.379	0.583	2.250	3.742***	11	1.080

** $p<0.05$ ***$p<0.01$

Apart from listening comprehension, note-taking and short-term memory ranks the third and fourth as major sources of information loss. Following quotes are excerpted from the retrospective interviews with participants.

P10: *"I failed to recognize the symbol for 'pharmaceutical companies' when reading notes for interpreting. In order to ensure fluency of delivery, I had to leave it out in the interpreting."*

P12: *"I actually got this message while listening to the original speech but I did not note it down because of pressing time. But this message escaped from my mind while I was interpreting."*

Only one participant reported that difficulty in reformulation resulted in the loss of information in the B-into-A CI.

P7: *"I knew that 'pharmaceutical' literally means '药房' (drug store) in Chinese, which obviously did not fit into the context. But I could not find another appropriate rendition for this term. I decided to omit it, considering the overall fluency of interpreting."*

A detailed analysis of transcriptions of retrospective interviews with the participants also reveals that omission is the dominant manifestation (as high as 90%) of information loss while information distortion occupies the remaining 10%. All of participants mentioned that they prioritized fluency of delivery and left out certain message when encountering uncertainties caused by above mentioned difficulties.

4.2.2 Fluency of delivery

As shown in Table 4, the duration of the target speech in the A-into-B CI (M=123.393, SD=16.526) was significantly longer than that in the B-into-A direction (M=70.097, SD=11.016, $t(12)=12.993$, $p < 0.01$, $d=3.751$). Another significant difference was identified in the speech rate between their A-into-B and B-into-A interpreting performance. Participants spoke much more slowly when interpreting into their B language (M=1.672, SD=0.332) than they did when interpreting into their A language (M=3.10, SD=0.586, $t(12)=12.935$, $p < 0.01$, $d=3.743$). There were also significantly more pauses in the A-into-B interpreting performance (M=7.75, SD=3.019) than in the B-into-A interpreting performance (M=3.083, SD=2.065, $t(12)=6.378$, $p < 0.01$, $d=1.841$). Overall, significantly longer duration, lower speech rate and more pauses in the A-into-B CI performance indicates that participants interpreted less fluently in the A-into-B direction than they did in the B-into-A direction.

According to the data collected from the retrospective interviews, participants attributed their disfluencies to two major factors: difficulties in reformulation in B language and reading notes, which were mentioned with equal frequency of 50% according to the theme analysis of the transcriptions of the retrospective interviews. Following statements are excerpts from the interviews.

P4: *"I felt struggling in interpreting the Chinese phrase '独善其身' (no country can tackle the disease on its own). I hesitated with pauses while I tried to reformulate it in English in a proper way."*

P9: *"I got stuck with the English equivalent for the Chinese expression '盾牌' (shield). This is not a frequently used word in my vocabulary, so I could not come up with it immediately in the interpreting. I decided to paraphrase it but I paused for a while to find an appropriate expression."*

P11: *"I was uncertain whether it is appropriate to use 'pandemic' or 'epidemic', which resulted in some self-corrections while I interpreted this sentence."*

It is worth noting that filled pauses observed in the A-into-B CI performance were mainly triggered by uncertainties in the choice of expressions in B language

All the participants also mentioned note-reading contributed to unnecessary pauses in their A-into-B interpreting. As illustrated in the following statements, sorting out logic in notes seems to be a major obstacle to fluent delivery besides the illegible symbols.

P1: *"I paused for a while to figure out logic in my notes which seemed to be fragmented."*

P6: *"I made some filler pauses here because I was confused about the letter "V" in my notes. I was wondering whether it represented 'vaccine' or 'virus'"*

5. Discussion

All Chinese interpreting students who participated in the research agreed on the impact of directionality on the CI between Chinese and English. It is found that the majority of them were confident in and favored the B-into-A CI, which differs from perceptions of trainee interpreters in their simultaneous interpreting practice. According to Bartlomiejzyk (2004), trainee simultaneous interpreters showed preference for the A-into-B direction. Discrepancies of perceptions might be attributed to different modes of interpreting. In spite of shared factors between two modes of interpreting, mode-specific constraints still exist. As Gile (2009) explained, CI is distinguished from simultaneous interpreting in the fact that the listening, memory and note-taking phase is separated from the note-reading and reformulation phase, which implies reduced pressure in the phase of listening comprehension in the CI. Interpreting students, therefore, are more confident in their B-into-A interpreting in the consecutive mode than in the simultaneous mode.

It is interesting to note from the retrospective interviews that all of the participants were less satisfied with their B-into-A CI performance than with the other direction, which is contrast to their previous perceptions of CI performance in the two directions. They explained that the English speech in the experiment was more difficult than English speeches they had as regular exercise while the Chinese speech in the experiment was almost as difficult as their class practice. This observation may imply the disparity of CI training materials between the two directions in terms of level of difficulty, which potentially account for participants' favor and confidence in their B-into-A CI performance based on their regular practice experience. Additionally, they reported that both lexical and syntactic obstacles in the selected English speech posed greatest challenges to their listening comprehension and resulted in a large amount of omission in their rendition. They were able to identify those tricky expressions and sentence structures while reading the speech script but failed to recognize them while listening to the speech. This phenomenon is typically described by Gile (2020, p. 21) as "low language availability in comprehension", which specifically refers to the situation when sometimes a listener knows a word or a rule of grammar but has difficulty to retrieve it from memory and apply it. The increased level of lexical and syntactic complexity of the source English speech obviously intensifies the low language availability in comprehension and impedes the thorough understanding of the original speech.

As for the qualitative assessment of interpreting students' actual CI performance in two directions, it is found that they were more fluent but less accurate in their B-into-A CI performance than in the A-

into-B direction. The data collected from the retrospective interviews reveal that failure in listening comprehension and note-taking are major factors attributing to the loss of information in the B-into-A CI performance. When stumbling over uncertainties, most of participants (90%) chose to leave out uncertain information. The strategic decision results in a lion's share of information loss even though it ensures the fluency of delivery. Given various coping strategies available (Li, 2013), the frequent use of omission indicates that their limited resources of interpreting strategy may impede them from striking a better balance between information accuracy and fluency of delivery.

Fluency of delivery in the A-into-B CI performance, however, was undermined by difficulties in reformulation in B language and note-reading. As reported by participants, they usually hesitated with fillers or repair themselves because they found it difficult to choose appropriate expressions out of their English vocabulary bank. This struggling process of reformulation is in essence the result of low trans-linguistic availability which is defined by Gile (2020) as the lexical correspondence between source language and target language. Gile (2020) pointed out that highly available correspondence could reduce cognitive loads in the reformulation.

By contrast, Chen (2020) reported that professional Chinese interpreters performed better in their A-into-B CI than in the other direction in terms of both information completeness and fluency of delivery. In her study, she discovered that interpreters were more fluent even though they were found to have higher cognitive load in the reformulation phase in their A-into-B CI than in the other direction, and she attributes the fluent production to the fact that the Chinese professional interpreters in her study are equipped with native or near-native speaking abilities since all of them have worked and lived in Australia. Another possible reason is that professional interpreters have developed higher availability of trans-correspondences in their professional practice. According to the gravitational model proposed by Gile (2020), the higher the frequency of usage, the higher variability of both single language and trans-linguistic correspondences.

It is interesting to note that no significant difference of target language quality was observed between the B-into-A and A-into-B CI performance, and therefore, the impact of directionality on target language quality cannot be derived from this study. Although it is expected that interpreters should be more proficient in the use of their A language than that of B language, the survey of language background in the pre-experiment questionnaire surprisingly revealed that no significant gap was identified in their use of grammar and vocabulary in terms of language proficiency. The coincidence of these two results may imply that Chinese interpreting students have a good command of vocabulary and grammar in both A and B languages and confirm that the major interaction between language proficiency and interpreting performance lies in the language availability in the scenario of CI.

6. Conclusion

The aim of this study was to examine how a group of Chinese interpreting students perceived and performed the two-way CI between Chinese (A language) and English (B language). The findings are useful additions to the limited research concerning the directionality of CI through the lens of interpreting students. It is a consensus among interpreting students that directionality could affect their CI performance. Even though the majority of interpreting students believed that they could perform better in the B-into-A direction, the analytical assessment and comparison of interpreting quality in the two directions show that they were more fluent but less accurate in the B-into-A CI performance as

compared with the performance in the other direction. The qualitative analyses of data collected from the retrospective interviews with interpreting students reveal that low language availability of English resulted in the loss of information in their B-into-A CI performance and the limited availability of trans-linguistic correspondence brought about pauses in their A-into-B CI performance. The inappropriate use of symbols and logic mark in note-taking also contribute to the inaccuracy in the B-into-A CI performance and the disfluency in the A-into-B direction.

To address the respective problems in the CI performance of the two directions, the training of the two directions interpreting needs to be differentiated. The B language availability should be enhanced in the teaching of B-into-A CI while the availability of trans-linguistic correspondences at the lexical level such as the terms, formulas, collocations could enhance the efficiency of A-into-B CI training. Additional attention should be paid to the choice of training materials whose level of difficulty should be kept the same in both A and B languages so that interpreting students could develop a fair awareness of the impact of directionality on interpreting performance. Furthermore, interpreting strategies should be another focus with the objective of enhancing interpreting students' capability of striking a balance between accuracy and fluency.

The findings of this research confirm the impact of directionality in interpreting and provide pedagogical suggestions for the training of interpreters. In spite of the fact that great attempts have been made to ensure the validity of the research design, there are still limitations in the current research. More generalized results are expected with a larger sample size.

Declarations and Acknowledgement:

This research was supported by the Ministry of Education of the People's Republic of China under the Grant NO. 19YJC740096.

The authors declare no conflict of interest.

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Appendix 1 The Pre-experiment Questionnaire

实验前测调查问卷

同学，你好！

非常感谢参与关于交替传译方向性的问卷调查。根据国际会议译员协会（AIIC）的规定，A 语言为口译员的母语，B 语言为口译员能够非常熟练使用的非母语语言。一般交替传译包含两种语言方向，即从 A 语言（母语）译入 B 语言（外语）的交替传译和从 B 语言（外语）译入 A 语言（母语）的交替传译。本问卷目的在于搜集翻译本科专业学生对于交替传译方向性的看法及实践感受，以进一步改进交替传译教学。

本问卷不记名，不公开，问卷答案亦无对错之分，仅作研究之用。请务必按照自己的真实观点认真作答，你的回答对本项研究非常重要，衷心感谢你为此付出的时间！

1. 年龄:
2. 性别:
3. A 语言:
4. B 语言:
5. 何时开始学习 B 语言?
   A. 小学　　B. 初中　　C.其他（请备注时间点_____）

6. B 语言学习时长 _____ （年/月）

7. 是否有过 B 语言使用国家的学习或者生活经历 是　否
   如果有，时长是_____（月/年）

8. 请根据实际情况对自己的 A 语语言能力进行评估：(请在横线上填上相应的数字)
   1 分为初学水平　2 分为有限使用水平　3 分为合格水平　4 分为中等水平　5 分为良好水平　6 分为优秀水平　7 分为专家水平
   A 语言口语水平_____
   A 语言语法水平_____
   A 语言词汇水平_____
   A 语言听力水平_____

9．请根据实际情况对自己的 B 语语言能力进行评估：(请在横线上填上相应的数字)
   1 分为初学水平　2 分为有限使用水平　3 分为合格水平　4 分为中等水平　5 分为良好水平　6 分为优秀水平　7 分为专家水平
   B 语言口语水平_____
   B 语言语法水平_____
   B 语言词汇水平_____
   B 语言听力水平_____

10. 你觉得交替传译方向性对传译质量有影响吗？为什么？

11. 在你自己的 AB 语交替传译实践中，你认为_____ (请直接在相应选项后☐上划“ √ ")
   A-B 交替传译更难 ☐ （跳转至 12 题目）
   B-A 交替传译更难 ☐ （跳转至 13 题目）
   A-B 交替传译与 B-A 交替传译难度相同 ☐（跳转至 14 题）

12. A-B 交替传译更难，因为_____ (请直接在相应选项后☐划“√”，可多选)
    A 语言听力理解 ☐
    信息记忆 ☐
    B 语言词汇 ☐
    B 语言语音 ☐
    B 语言语法 ☐
    其他_____

13. B-A 交替传译更难，因为_____（请直接在相应选项后☐划“√，可多选）
    B 语言听力理解 ☐
    信息记忆 ☐
    A 语言词汇 ☐
    A 语言语音 ☐
    A 语言语法 ☐
    其他_____

14. 在 AB 双向交替传译实践中，你更喜欢_____(请直接在相应选项后☐划“√)
    A-B 交替传译 ☐（跳转至 15 题）
    B-A 交替传译 ☐ (跳转至 16 题)
    两者无异 ☐

15. 我更喜欢 A-B 交替传译，因为_____

16. 我更喜欢 B-A 交替传译，因为_____

问卷到此结束！感谢您的参与！