Note-Taking Proficiency in Interpreting Teaching: Putting the Note-Taking Fluency Scale to the Test

Lili Han
Faculty of Languages and Translation, Macao Polytechnic University, Macao SAR, China

Jing Lu
Faculty of Languages and Translation, Macao Polytechnic University, Macao SAR, China

Zhisheng (Edward) Wen
Faculty of Languages and Translation, Macao Polytechnic University, Macao SAR, China

Abstract—Note-taking skills are critical to consecutive interpreting. As an important construct of translation competence and an essential skill of interpreting performance, note-taking merits rigorous and systematic investigations as well as reliable and valid assessment instruments and procedures. In the present study, we aim to further validate the note-taking fluency scale developed by Zhou and Dong (2019), focusing on four dimensions, the coordination between listening and note-taking, the timing of taking notes, the systematic nature of notes, and the use of notes. We evaluated the note-taking skills of a group of Master in Translation and Interpreting (MTI) students majoring in Chinese-Portuguese interpretation in Macao. The fluency scale was administered twice, at the beginning and the end of the training program respectively. The results corroborated the development of note-taking proficiency along with note-taking training in three cognitively less demanding dimensions, i.e., the timing of taking notes, the systematic nature of notes and the use of notes, while the more "stagnant/attractor" aspect of the coordination between listening and note-taking remained unchanged after several months' training. We conclude the paper by outlining specific pedagogical implications tailor made for the four dimensions of note-taking skills for future Chinese-Portuguese interpreting training.

Index Terms—note-taking skills, note-taking fluency scale, interpreting proficiency, interpreting training

I. INTRODUCTION

When it comes to note-taking in interpretation, we normally think of actions to record the essential contents and the respective logic to interpret properly the information heard from another language during interpreting. In the realm of interpretation studies, there are several lines of research endeavors that are related to note-taking. Some studies discussed its definition (Rozan, 2002; Pöchhacker, 2004; Gillies, 2017), others have explored its constituent parts (Gillies, 2017; Jones, 2014). Still, there are studies that investigated its relationship with memory (Gillies, 2013; Pöchhacker, 2015), while others have explored its roles in interpretation (Gile, 2006; Liu & Zhang, 2009; Gillies, 2013; Setton & Dawrant, 2016), and its dynamic interaction with interpretation performance (Szabó, 2006; Gile, 1995/2009; Gillies, 2013). In terms of pedagogy, some studies have discussed its importance in teaching interpretation (Dam, 2004, 2007; Liu & Zhang, 2009).

When all these lines of inquiry are put into perspective, there is still one obvious research gap that has not been filled. This relates to the instruments and assessment procedures. In other words, there has been very little research aiming to provide systematic measures for assessing the proficiency in note-taking. That was the background and rationale for the note-taking fluency scale developed by Zhou and Dong (2019) who aimed to fill up this gap. According to the authors, the scale was designed to describe, test and predict note-taking proficiency. Its validity and reliability were confirmed among a group of year-3 students of a Chinese-English translation program.

In light of these developments, the present study intends to put the note-taking fluency scale proposed by Zhou and Dong (2019) to test in interpreting practice, with a view to identifying its applications and utility in the real note-taking situation. To achieve this goal, we administered the scale to a group of (N=8) Master in Translation and Interpreting (MTI) students specialized in Chinese-Portuguese interpretation. The scale was administered respectively at the beginning and the final phase of a consecutive interpretation (CI) training in one semester. Our purpose was to verify the validity and reliability of the teaching and learning methods of interpretation in terms of four dimensions as stipulated in the metric table. These include the coordination between listening and note-taking, the timing of notes, the systematization of notes and the use of notes. We aim to better understand the dynamic interactions between the proficiency of note-taking and the proficiency of interpretation.

II. LITERATURE REVIEW

Gilles (2017) defines the note-taking skill as a representation of the skeletal structure of the discourse. Note-taking plays an important role throughout the interpretation process. According to Rozan (2002), effective note-taking in interpretation should follow seven principles; (a) noting down the idea but not the verbatim word forms; (b) following strict rules of abbreviations; (c) making effective links; (d) paying particular attention to negation; (e) knowing where to add emphasis; (f) verticality; (g) shift. According to the widely cited Effort Model of consecutive interpreting (Gile, 1995/2009), the interpretation process involves two phases of cognitive tasks: the first phase happens during the speech of the speaker and it implicates the coordination between comprehension, analysis, note-taking on the part of the interpreter, all of which are subserved by his/her short-term memory operations. Then, the second phase arrives when the interpreter needs to speak (interpreting). This involves recalling from reading the notes taken during the first phase and the articulation or production of speech. Thus, it becomes clear that note-taking is actively engaged in both of the two essential stages of interpreting, the input stage and the output stage, both when the speaker speaks while the interpreter listens and analyzes the flow of information, and when the interpreter produces his or her own interpretation.

In addition to the active involvement of note-taking during the entire interpretation process, we can also expect a close connection between note-taking and memory functions and skills. According to Andrew Gillies (2013), note-taking can be considered as a tool that helps to recall the original speech and it thus becomes a technique of memory per se. In interpreting, especially in consecutive interpreting during which process an interpreter provides several rounds of interpretation, note-taking becomes an essential device to complement the limitation of short-term memory, an external device to strengthen our limited working memory capacity by reducing the cognitive load placed on the interpreting task (Dong et al, 2018; Wen & Dong, 2019). Above all, note-taking, as a skill and a memory technique, plays an essential role in the two key stages of interpretation, namely, both in the understanding and the production stages, permeating the entire interpretation activity and thus becomes the guarantee for a fluent and qualified interpreting task to proceed smoothly. This intricate association between note taking and memory is also echoed by Pöchhacker (2015) who describes their inseparable relationships as follows:

> CONSECUTIVE INTERPRETING of entire speeches presents major challenges to the interpreter's MEMORY. Faced with the need to render speeches lasting five to ten minutes or even longer, interpreters take notes to avoid overburdening their memory during the initial processing phase (COMPREHENSION) and to ensure the retrieval of content stored in memory during the second processing phase (production) (Pöchhacker, 2015, p. 283).

Therefore, note-taking contributes significantly to working memory capacity and the efficient recall of the contents heard. In addition, according to Andrew Gillies, proficient note-taking can help ensure the quality of interpretation, reduce the brain burden and increase the efforts of interpreters in the speech comprehension and analysis phase as well as in the production phase:

> [I]f you have a sound note-taking system, ingrained through a lot of practice, then you won't need to put so much mental effort into taking the notes, they'll be better notes and you'll have more mental capacity free for listening and understanding the speech. You also won't have to put so much effort into reading your notes in the second phase of consecutive, so your presentation will be better (Gillies, 2013, p. 168).

In addition, Setton and Dawrant (2016) elaborate, in a more systematic way, the three functions of note-taking that guarantee the quality of an interpretation, including the reinforcement of memory, the guarantee of information integrity, and a more coherent and communicative rendition:

> Note-taking has three valuable functions: as an activity that enhances analysis and therefore, memory; to provide a record of items (or cues to them) that may escape our short or medium-term memory, ensuring completeness; and as a speaking plan of what we are going to say and how, perhaps including some target language elements, to make our rendition more coherent and communicative (Setton & Dawrant, 2016, p. 143).

The contribution of note-taking to the quality of interpretation is also recognized by Liu and Zhang (2009, p. 77) who designed a table exclusively for evaluating the interpreting performance of English course graduates in which the sub-parameter – notes, included in the higher-level parameter – interpretation techniques, represents 5% of the total assessment on a scale from 0 to 100. Other remaining five parameters include, Transfer of information accounting for 35%; Interpretation expression for another 15%; Linguistic use for 30%; Quality in general for 10% and Time control with ±2% are also related to note-taking. These percentages allocated to the note-taking indicate that it is an essential and relevant factor to the performance of consecutive interpretation, rendering it an inseparable element in the assessment of interpretation performance.

Recent studies (Cai et al., 2015; Yu & Dong, 2021) also indicate that consecutive interpreting proficiency is conditioned and predicted by language competence as well as by memory capacity, partly as a result of the self-organization of the interpreting competence system of unbalanced individuals. Since note-taking and note-reading are efforts to aid working memory as an integral part of the interpreting competence system, its measurement contributes to the study of interpreting proficiency. As the level of proficiency in note-taking is usually not assessed directly with the final products of the notes taken during interpreting, and the note-taking skill is idiosyncratic with many individual traits of the interpreter, the metric table of note-taking fluency, developed by Zhou and Dong in 2019, could serve to effectively measure note-taking proficiency.

The metric scale of note-taking fluency, entitled "self-description of note-taking in interpretation (in Chinese: 口译笔记自我描述) ", is the outcome of a study by Zhou and Dong (2019) based on the notes from interpreters, records of trainees and follow-up interviews with interpreters and several sessions of group discussions, with the intention to measure precisely the fluency of note-taking in consecutive interpretation. The scale consists of a total of 21 questions that fall into four categories, namely, the coordination between listening and note-taking, the timing of notes, the systematic nature of notes, and the use of notes. According to Zhou and Dong (2019), with data statistics in their study, the metric scale has a high level of internal consistency, high validity (also reviewed by experts in the field), and convergent validity with other factors (e.g., number of note-taking exercises, interpreters' learning motivation, and interpreter performance). The results of the study by the two authors point to the potential link between note-taking fluency and interpreting proficiency. That is to say, interpreters' fluency in note-taking may allow us to predict the performance of interpreters, which in turn reflects their proficiency in interpretation.

When teaching note-taking principles and methods, interpreting trainers should pay attention to the development of trainees' note-taking skills to improve their interpreting skills. Moreover, trainers should also know what aspects of note-taking skills can be improved through training and what aspects may not develop as expected even after intensive training. This metric scale of note-taking fluency can serve as a useful tool to further explore its reliability and validity in terms of research replication and generalization, longitudinal effect, as well as other aspects such as skill improvement after training. These became the motivation for the current study in the first place.

The present study aims to confirm the validity and reliability of this metric scale of note-taking among a group of Chinese-Portuguese interpretation students, through a diachronic analysis of the results of two tests administered to the same group of MTI students in the two phases of note-taking during consecutive interpreting, with a view to better understanding the dynamic interactions between interpretation proficiency and note-taking proficiency. More specifically, in this study, we aim to answer two research questions:

1) Are the previous results of the note-taking fluency scale replicable? That is to say when the scale works among the note-taking by Chinese-English interpreting students, will it be equally effective among the Chinese-Portuguese students?

2) What are the longitudinal effects with this fluency scale? In other words, which aspect(s) of the scale will improve and which will not after intensive training for a longer period of time (e.g., one semester)?

III. RESEARCH DESIGN AND METHODOLOGY

A. Participants

We conducted the survey among a group of first-year bilingual students (N=8) specialized in interpreting from the Master's program in the Chinese-Portuguese Translation and Interpretation concentration in the academic year 2020/2021 at the Macao Polytechnic University (MPU), a tertiary education institution located in the Macao Special Administrative Regions (SAR), China. All these students have passed the interpreting aptitude test organized by MPU and Directorate General of Interpretation (DGI)[1] before they entered the 2nd semester of year one. In the 1st semester of the course, students have learned all the foundational subjects in translation and interpretation. Starting from the 2nd semester of the course, those who passed the interpreting aptitude test could begin to take specialized classes in interpreting. Among the eight bilingual students, three are coming from Chinese Mainland whose mother tongue is Mandarin Chinese, and four are from Macao locally whose mother tongue is Cantonese, while the remaining one is from Timor-Leste whose mother tongue is Portuguese. Instead of the heterogeneous mother tongues, all of them have Chinese (Mandarin/Cantonese) and Portuguese as their A or B languages in interpreting. Three of them are males and 5 are females.

B. Measures

The present study uses the metric scale of note-taking fluency, entitled "self-description of note-taking in interpretation (in Chinese: 口译笔记自我描述) ", designed and constructed by Zhou and Dong (2019). The detailed content of the metric scale in question is in Table 1 as follows:

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[1] Directorate General of Interpretation has been providing pedagogical support to the Master's Program in Chinese-Portuguese Translation and Interpretation of Macao Polytechnic University since 2019.

TABLE 1
METRIC TABLE OF FLUENCY IN NOTE-TAKING

Dimension	N.°	Self-description
Coordination of listening and note-taking	3	I am not able to follow the speaker's logic while concentrating on taking notes.
	6	It is difficult for me to listen and take notes at the same time.
	8	My notes are not good while concentrating on listening to speeches.
	9	It is very difficult for me to listen and take notes.
	17	I can listen and take notes at the same time and I don't feel uncomfortable.
Timing of notes	1	My notes can keep up with the speaker's rhythm on the whole.
	4	After the speech ends, I need some time to continue writing my notes.
	13	I take notes very slowly, not being able to keep up with the speaker's speech rhythm.
	20	I almost finish the notes when the speech ends.
Systematic nature of notes	2	I do not know what should be written in the notes.
	5	My notes are confusing.
	10	I have to think while using symbols in note-taking.
	12	I have some symbols that I use proficiently.
	15	I do not know how to use symbols for note-taking.
Use of notes	7	I know what the symbols in my notes mean.
	11	I understand what the notes mean when I look at them.
	14	I can read my notes.
	16	Looking at the notes, I can recall the content of the original speech.
	18	Looking at the notes, I can recall the logic of the original speech.
	19	Looking at the notes, I can easily recall the content of the original speech.
	21	I can easily identify my notes.

In this metric scale, there are a total of 21 self-descriptions, with the 3rd, 6th, 8th, 9th, and 17th items belonging to the dimension of the coordination between listening comprehension and note-taking; the 1st, 4th, 13th, and 20th items related to the punctuality of notes; the 2nd, 5th, 10th, 12th, and 15th self-descriptions related to the systematization of notes; and the 7th, 11th, 14th, 16th, 18th, 19th, and 21st related to the use of notes. Among them, there are descriptions of positive scores (including 1st, 7th, 11th, 12th, 14th, 16th, 17th, 18th, 19th, 20th, 21st) and negative scores (2nd, 3rd, 4th, 5th, 6th, 8th, 9th, 10th, 13th, 15th). In our study, we administered the scales two times in the form of a survey, in which participants needed to respond to all these 21 items.

The first survey was carried out in the 3rd week of the Consecutive Interpreting course (which lasted a total of 15 weeks of class sessions), in which the way how to take notes had been systematically introduced in the first two weeks of classes. The second time was done in the penultimate class of another course in the same class, called "Consecutive Interpretation Practices" (which also has, in its entirety, 15 weeks of classes), in which students put into practice what they have learned throughout the semester.

The survey comprised 21 descriptions contained in the metric table mentioned above, which are organized, however, in numerical order, with no indication of the dimension to which each description belongs. The eight students were asked to rate, according to their actual situation, each of the descriptions on a scale of 1 to 6, in which "1" indicates "completely does not match (to the real situation of the respondent)", "2" indicates "relatively does not match", "3" indicates "somewhat does not match", "4" indicates "somewhat matches", "5" indicates "relatively matches", and "6" indicates "completely matches". Therefore, on this scale, there are 3 classifications whose own sense is negative ("completely doesn't match", "relatively does not match", and "does not match a little") and another 3 whose sense is positive ("somewhat matches", "relatively matches ", and "completely matches"). In addition, to facilitate the comparison of responses given in the two surveys, students are required to indicate their names and the date of completion on the two surveys.

Having obtained the data from the two surveys, we carried out statistical analyses on the number of students with various answers to each of the 21 descriptions in both surveys, and we elaborated four column graphs on the results of the 1st survey in each one of the four dimensions in the metric scale in question, as well as four homologous graphs for the 2nd survey. In addition, to observe the respective general situation more directly and straightforward, we calculated the average points and standard deviation (SD) of the eight students at the four dimensions in the two surveys. For the average points, we resorted to the 6 points Likert scale indicated by Zhou and Dong (2019), in which, concerning responses to descriptions with negative sense (such as the 6th description: "It is difficult for me to listen and take notes at the same time"), the points calculation is contrary to the one intended for answers to the descriptions with a positive sense (such as the 1st description: "My notes can keep up with the speaker's rhythm on the whole."), with the choice "completely does not correspond" getting 6 points, "relatively does not match" 5 points, then the "completely matches" choice 1 point (Zhou & Dong, 2019, p. 930). As for the SD, it is calculated by the excel tool (STDEV) to verify the statistical dispersion of the self-evaluation ratings at the four dimensions among the eight students in the two surveys.

Based on these data, we were able to make a comparison between the two surveys at the level of number of students with different answers, average points and standard deviation points, thus allowing us to reveal the developmental trajectories of note-taking skills of these students in terms of four dimensions.

IV. RESULTS

In this part, we present the column graphs which show the number of respondents with each of the six choices ("completely does not match", "relatively does not match", "somewhat does not match", "somewhat matches", "relatively matches" and "completely matches") in every description in each dimension. Statistics on averages and SD of each dimension are also presented, followed by discussion.

A. *Comparison of Statistics of the Coordination of Listening and Note-Taking*

Figure 1 and Figure 2 show the statistics of responses to each description in the dimension of the coordination of listening and note-taking, respectively from survey 1 and from survey 2.

Figure 1 1ˢᵗ Survey's Results

Figure 2 2ⁿᵈ Survey's Results
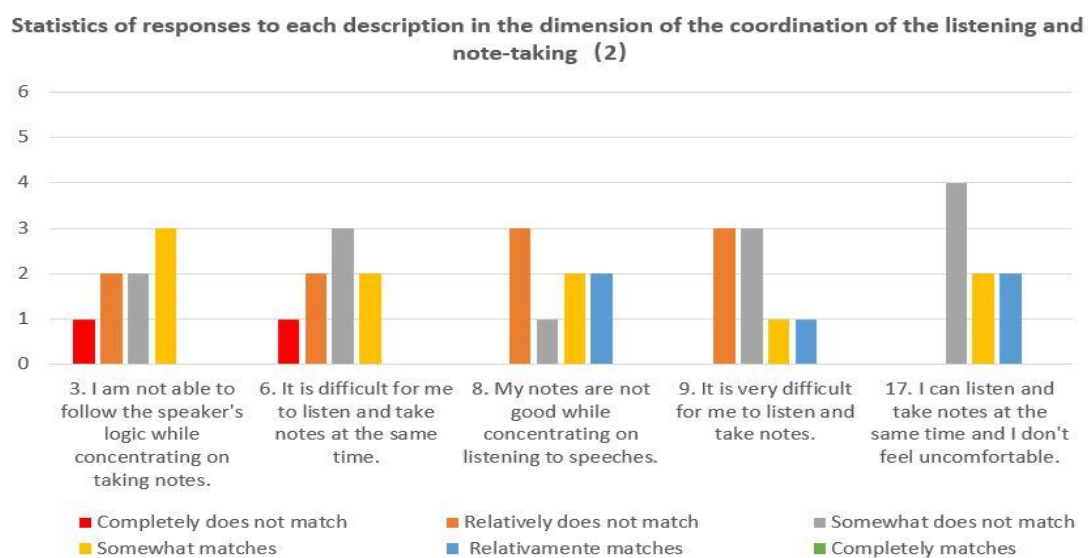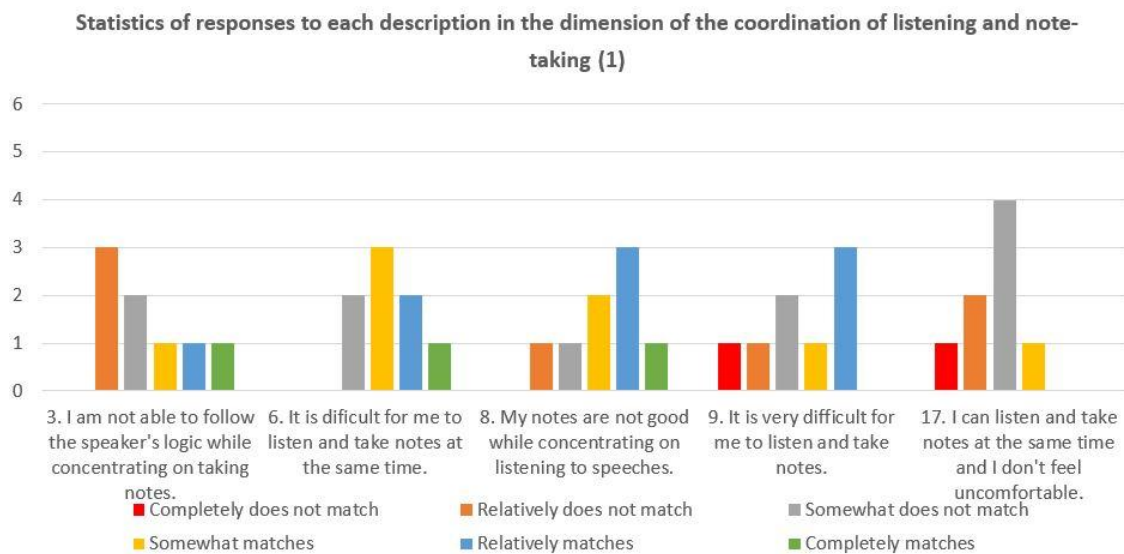
Comparing the data of the two surveys, it is obvious that, for the 6th, 8th, 9th and 17th descriptions, the number of respondents with the respective problems and difficulties in the 2nd survey is reduced. Regarding the 3rd description, the number of students with negative self-evaluations (with the answers "relatively matches" and "completely matches") decreased. This situation can be further contended in Table 2.

TABLE 2
AVERAGE AND SD OF THE COORDINATION OF LISTENING AND NOTE-TAKING

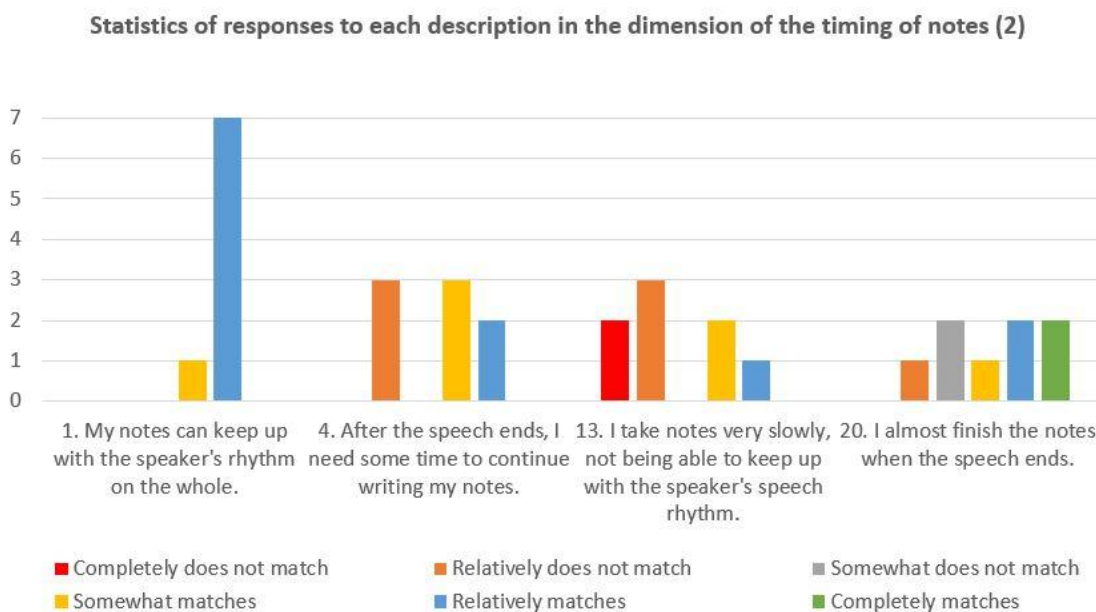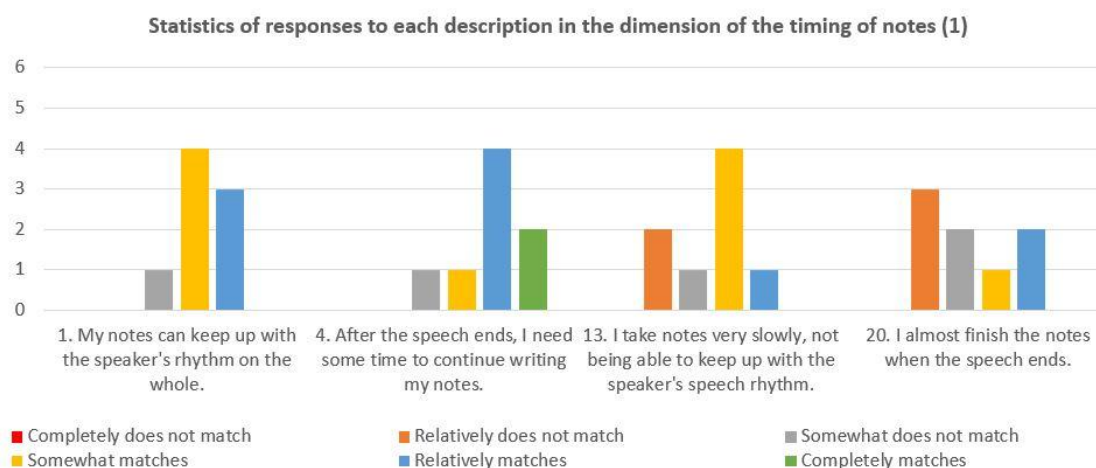| Dimension	Description	Average				SD		
coordination of listening and note-taking		1st survey	2nd survey	Difference		1st survey	2nd survey	Difference
	3	3.63	4.13	+0.50		1.51	1.13	-0.38
	6	2.75	4.25	+1.50		1.04	1.04	0
	8	2.75	3.63	+0.88		1.28	1.30	+0.02
	9	3.50	4.00	+0.50		1.51	1.07	-0.44
	17	2.63	3.75	+1.12		0.92	0.89	+0.03
	Overall	3.05	3.95	+0.90		5.39	4.20	-1.19

Based on averages, there is improvement in all of the abilities after training, especially the two abilities to listen and take notes at the same time (6th description) and to listen and take notes at the same time without feeling uncomfortable (17th description). However, the self-evaluation remains relatively unsatisfactory after training (3.95 points out of 6).

Based on SD, the self-evaluation regarding the abilities to follow the speaker's logic while concentrating on taking notes (3rd description) and to listen and take notes with ease (9th description) becomes more homogeneous.

Combing the averages with SD, the training benefits more students regarding the ability to follow the speaker's logic while concentrating on taking notes (3rd description) and the one to listen while taking notes at the same time (6th description).

B. Comparison of Statistics of the Timing of Notes

Figure 3 and Figure 4 show the statistics of responses to each description in the dimension of the timing of notes, respectively from survey 1 and from survey 2.

Figure 3. 1st survey's results

Figure 4. 2nd Survey's Results

Comparing the data of the two surveys, it is found that after training, there is an increase of students with positive self-evaluations in all of the descriptions. This finding is further observed in Table 3.

TABLE 3
AVERAGES AND SD OF THE TIMING OF NOTES

Dimension	Description	Average			SD		
timing of notes		1st survey	2nd survey	Difference	1st survey	2nd survey	Difference
	1	4.25	4.88	+0.63	0.71	0.35	-0.36
	4	2.13	3.50	+1.37	0.99	1.31	+0.32
	13	3.50	4.38	+0.88	1.07	1.51	+0.44
	20	3.25	4.25	+1.00	1.28	1.49	+0.21
	Overall	3.28	4.25	+0.97	2.64	4.04	+1.40

Based on averages, there is an improvement in all of the abilities after training, especially the two abilities to reduce the time needed for finishing the notes after the speech ends (4th description) and to almost finish the notes when the speech ends (20th description).

Based on SD, after training, students' self-evaluation regarding the abilities of this dimension becomes more heterogeneous, except the ability to keep up the speaker's rhythm when taking notes (1st description).

Combining averages with SD, the training benefits more students regarding the ability to keep up the speaker's rhythm when taking notes (1st description).

C. Comparison of the Systematic Nature of Notes

Figure 5 and Figure 6 show the statistics of responses to each description in the dimension of the systematic nature of notes, respectively from survey 1 and from survey 2.
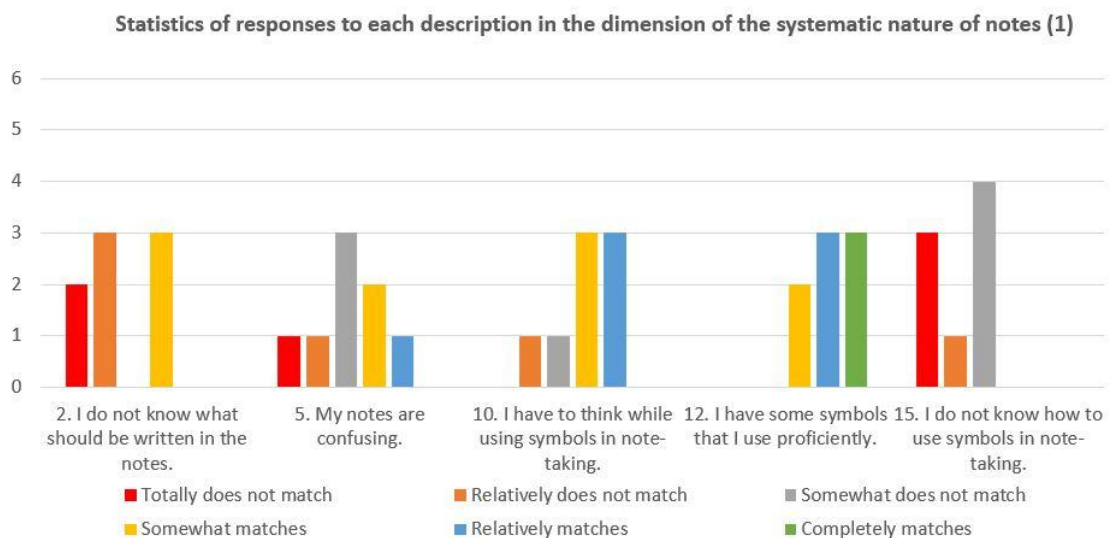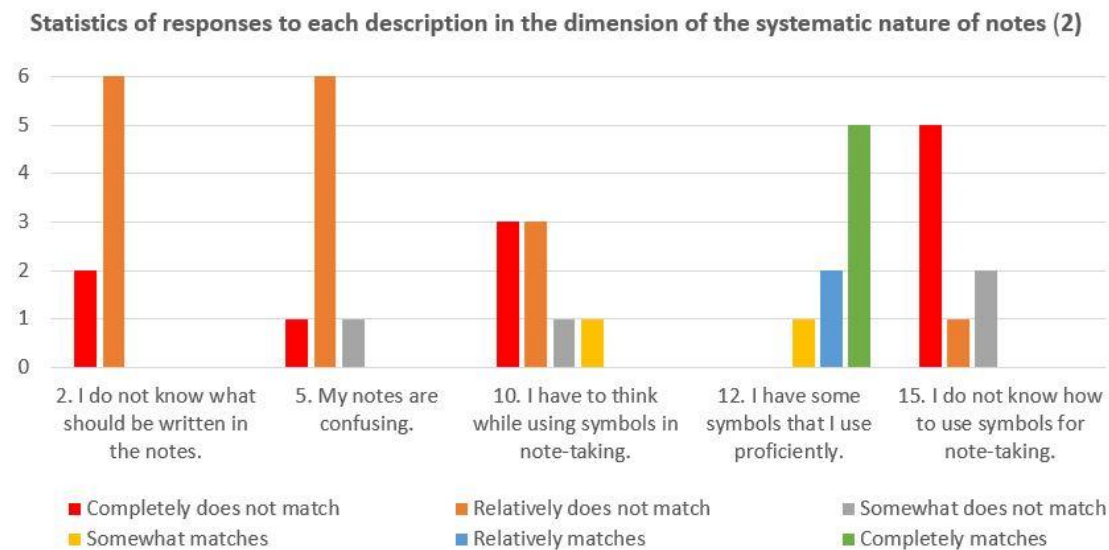

Figure 5. 1st Survey's Results

Figure 6. 2nd Survey's Results

With the comparison of the data from the two surveys, there is an increase of students with positive self-evaluations in all of the descriptions after training, especially in the 2nd, 5th, and 10th descriptions, which is evidenced in Table 4 as follows.

TABLE 4
AVERAGES AND SD OF THE SYSTEMATIC NATURE OF NOTES

| Dimension	Description	Average			SD		
systematic nature of notes		1st survey	2nd survey	Difference	1st survey	2nd survey	Difference
	2	4.50	5.25	+0.75	1.31	0.46	-0.85
	5	3.88	5.00	+1.12	1.25	0.53	-0.72
	10	3.00	5.00	+2.00	1.07	1.07	0
	12	5.13	5.50	+0.37	0.83	0.76	-0.07
	15	4.88	5.38	+0.50	0.99	0.92	-0.07
	Overall	4.28	5.23	+0.95	3.20	2.80	-0.40

Based on averages, there is improvement in all of the abilities after training, especially the two abilities to take organized notes (5th description) and to reduce the time of thinking while using symbols in note-taking (10th description).

Based on SD, it is found that, after training, the self-evaluation regarding all the abilities of this dimension becomes more homogeneous, except the one to reduce the time of thinking while using symbols in note-taking (10th description).

Combining the averages with SD, it is shown that the training benefits more students regarding all of the abilities of this dimension, especially the ones to take organized notes (5th description) and to reduce the time of thinking while using symbols in note-taking (10th description).

D. Comparison of Statistics of the Use of Notes

Figure 7 and Figure 8 show the statistics of responses to each description in the dimension of the use of notes, respectively from survey 1 and from survey 2.

Figure 7. 1st Survey's Results

Figure 8. 2nd Survey's Results
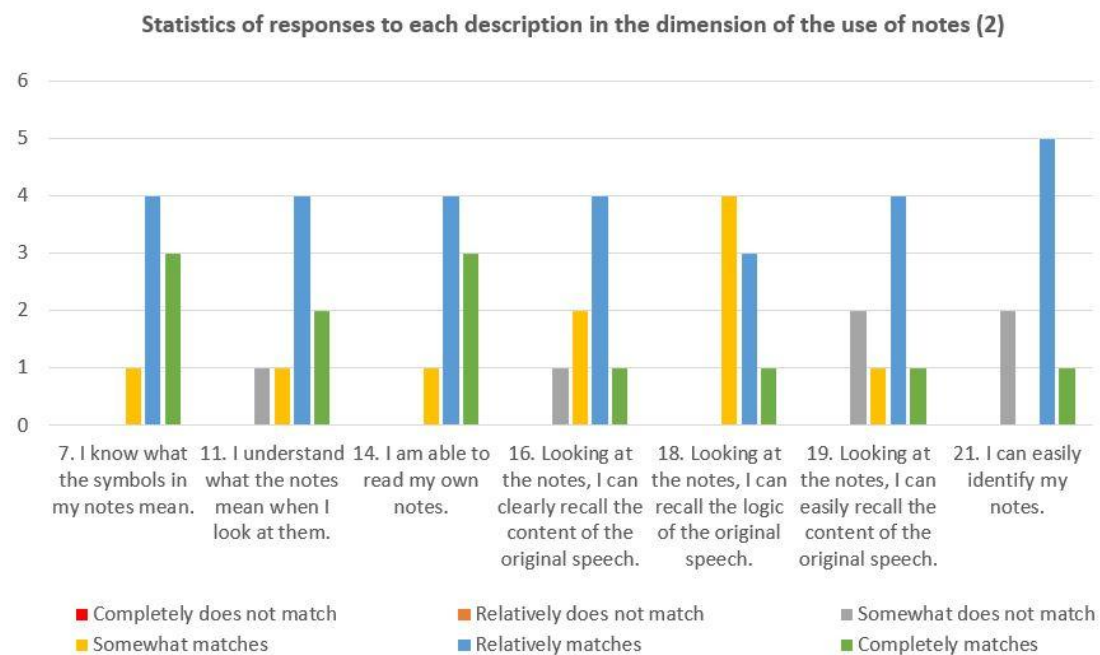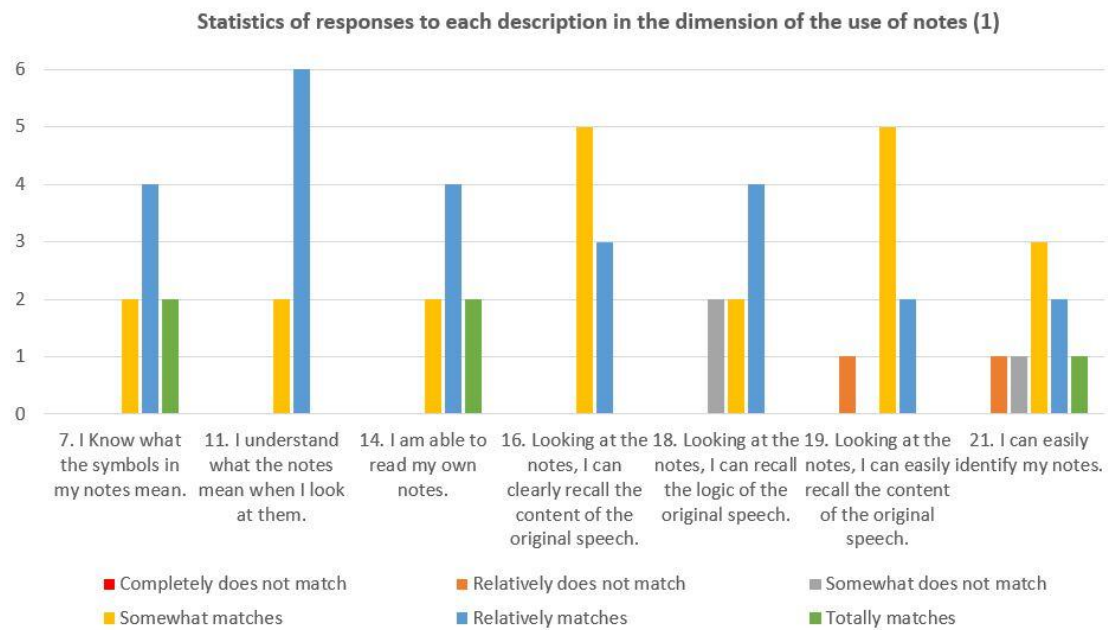
Comparing these data from the two surveys, there is an increase of students with positive self-evaluations after training in the 7th, 14th, 18th, 19th, and 21st descriptions. On the other hand, a phenomenon emerges that does not exist in the previous dimensions, that is, regarding the 11th and 16th descriptions, there is an increase of students with negative self-evaluations after training, which means that some students, despite having declared that they have no problem using notes in the 1st survey, start to consider that they have it after the training and practice of interpretation. Actually, after we verify the survey data, this unusual phenomenon comes from the same respondent. In addition, Table 5 illustrates more data that further explores this dimension.

TABLE 5
AVERAGES AND SD OF THE USE OF NOTES

Dimension	Description	Average			SD		
use of notes		1st survey	2nd survey	Difference	1st survey	2nd survey	Difference
	7	5.00	5.25	+0.25	0.76	0.71	-0.05
	11	4.75	4.88	+0.13	0.46	0.99	+0.53
	14	5.00	5.25	+0.25	0.76	0.71	-0.05
	16	4.38	4.63	+0.25	0.52	0.92	-0.40
	18	4.25	4.63	+0.38	0.89	0.74	-0.15
	19	3.50	4.50	+1.00	0.93	1.07	+0.14
	21	4.13	4.63	+0.50	1.25	1.06	-0.19
	Overall	4.43	4.82	+0.39	3.82	5.20	+1.38

Based on averages, there is improvement in all of the abilities after training, especially the ability to easily recall the content of the original speech when looking at notes (19th description). The comparison of SD of the two surveys show that after training, the self-evaluation regarding items 11 and 19 becomes more heterogeneous, while the self-evaluation regarding the other descriptions becomes more homogeneous. Combining the averages with SD, it is found that the training benefits more students regarding the ability to clearly recall the content of the original speech when looking at notes (16th description).

E. Discussion

From the comparison between the different choices of students, averages and SD of the two surveys, we arrive at the following observations.

1) After interpreting training and practices, students believe that their note-taking skills of all the four dimensions have improved.

2) Since the students evaluate more homogeneously their note-taking abilities at the dimensions of coordination of listening and note-taking as well as the systematic nature of notes after training, the training benefits more students at these two dimensions. On the other hand, the students evaluate more heterogeneously their abilities at the dimensions of timing as well as the use of notes after training, which implies an increased difference of abilities among students at these two dimensions.

3) The average points at the dimension of coordination of listening and note-taking is the lowest among those in the four dimensions both in the 1st and 2nd survey. Thus, the "stagnation/attractor" (Larsen, 1997, 2005; Dong, 2018; Liu, 2022) state seems to occur in this dimension, which implies that coordination of note-taking and listening presents the greatest difficulty to trainees among all the dimensions. This is because during note-taking and memorization, an interpreter also has to process the information heard from the original speech at the same time, which adds to the processing capacity requirements. The processing capacity requirements are increased with such factors as high information density in the source language, reordering of information and differences between the syntactic structures of the source language and the target language (Gile, 2006). Considering this, the coordination of note-taking and listening requires more cognitive efforts than the other three dimensions.

4) As for the dimension of the use of notes, respondents' self-evaluations are relatively positive both in the 1st and 2nd surveys. Nevertheless, we assume that this positive self-assessment does not necessarily imply a truly good level of use of notes among the respondents, especially in consideration of the special case in which the positive self-evaluation of one respondent becomes negative after training. It is possible that they do not correctly understand some descriptions in this dimension, or they fail to carry out a self-assessment objectively and rationally. So further investigations need to be conducted to clarify the findings about this dimension.

5) Considering the developmental paths of the note-taking capacities of the eight respondents, the metric scale is effective in testing the note-taking proficiency in Chinese-Portuguese consecutive interpretation and its effectiveness can be corroborated with longitudinal design.

V. CONCLUSION

The present study aims to further verify the validity and reliability of the metric scale of note taking during interpretation, focusing on the four dimensions elaborated by Zhou and Dong (2019), namely, the coordination between listening and note-taking, the timing of notes, the systematic nature of notes and the use of notes to better understand the dynamic interactions between interpretation proficiency and note-taking proficiency. To achieve this goal, we used the metric scale called "Self-Description of Note-Taking in Interpretation" designed and constructed by Zhou and Dong (2019), which composed of 21 descriptions related to various note-taking abilities revealing four dimensions mentioned above. We performed two surveys using the contents of this scale among a group of eight students specialized in Chinese-Portuguese interpretation at MPI. With the results obtained from these two surveys, we compared these data by drawing up eight statistical graphs and calculating the average points and the SD points of each description and each dimension, in order to reveal the developmental paths of the note-taking capacity of respondents in terms of four dimensions during interpretation.

With our diachronic analysis, we came to conclude that the metric scale in question serves as a useful and effective tool to analyze the various note-taking skills in Chinese-Portuguese consecutive interpretation and it has practical value for examining the note-taking ability of students of different language pair and different levels, thus providing specific teaching and learning orientation to diverse students. The interpretation training contributes to all the dimensions of note-taking proficiency, especially in the dimensions of coordination of listening and note-taking as well as the systematic nature of notes. We also found an inseparable relationship between note-taking proficiency and interpretation proficiency, with a good note-taking skill being the basis for a qualified interpretation, while the accumulation of interpretation practice contributes to the improvement of the ability to take notes.

Last but not least, as we realize that the dimension of coordination between listening and note-taking constitutes the greatest difficulty in training interpreters, it is necessary to pay more attention to this dimension not only during teaching and learning for student interpreters but also throughout the professional development, including continuing education. Thus, further investigation on "stagnation/attractor" would be necessary. In addition, it is also advisable to pay attention to the increased difference of the ability of the timing of notes as well as the use of notes among the students in the context of teaching and learning. On the other hand, concerning the special phenomena that arise in the dimension of the use of notes, especially the fact that the overall positive self-assessment in both surveys, more detailed interviews with these respondents may be carried out in the future to find out potential explanations for these developmental trends in their note-taking proficiency.

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Lili Han (Ph.D.) is Director/Dean and Associate Professor of the Faculty of Languages and Translation of Macao Polytechnic University, Macau. Over the last decade, Dr. Han has lectured and conducted research in interpreting studies, acting as trainer for the

Conference Interpreting (Chinese-Portuguese-English) course in partnership with the DG (SCIC) of the European Commission. Her research interests include interpreting studies, intercultural studies, language and translation policy studies, interpreting testing & assessment, and computer-aided interpreting. Email: hanlili@mpu.edu.mo

Jing Lu, is currently a Ph.D. candidate in Portuguese Studies at the Macao Polytechnic University. He holds a Bachelor's degree from Macao Polytechnic University as well as a Master's degree from the University of Lisbon. His research areas include translation and interpretation studies, foreign language education. Email: p1207613@mpu.edu.mo

Zhisheng (Edward) Wen, (Ph.D.) is an Associate Professor at Macao Polytechnic Institute, Macau. Dr. Wen has extensive teaching and research experience in applied linguistics, second language acquisition, and cognitive science and translation studies. He has authored and edited volumes and journal special issues on working memory and language aptitude with Cambridge University Press, Oxford University Press, Routledge, John Benjamins and Multilingual Matters. Email: edwardwen@mpu.edu.mo