Note-taking in court interpreting: Interpreter perceptions and practices in a simulated trial

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Abstract: Note-taking for interpreting is a specialist skill originally developed to assist conference interpreters to remember the contents of long speeches when interpreting consecutively in a unidirectional mode. The bulk of the research into note-taking has been in relation to the classic consecutive interpreting mode in international settings, with little research into the use of note-taking in legal interpreting settings. This paper presents the results of a study on note-taking by 13 court interpreters in a simulated criminal trial in Sydney, Australia. It reports the results of interpreters' note-taking practices, taking into account their language combination, their own perceptions of mental effort and the usefulness of notes as well as their overall interpreting performance.

Keywords: Court interpreting; consecutive interpreting; simultaneous interpreting; Mandarin; Spanish.

1. Introduction

Note-taking for interpreting is a specialist skill originally developed to assist conference interpreters to remember the contents of long speeches when interpreting consecutively (Abuín González, 2012; Ahrens & Orlando, 2022) in a unidirectional mode. This skill was crucial in international settings in particular, before the advent of simultaneous interpreting equipment, when all interpreting was conducted in the consecutive mode. To avoid constant interruptions, interpreters waited for the whole speech or long segments of it to end before commencing their interpreting. This is known as long consecutive or classic consecutive interpreting (Pöchhacker, 2004). Although long consecutive interpreting is no longer the norm in international settings (Viezzi, 2013), it is still used for occasions such as dinner speeches or small meetings with no equipment, where note-taking is essential.

Unlike interpreting in conference settings, simultaneous interpreting equipment is rarely if ever available or even desirable in community interpreting settings, therefore the consecutive mode tends to be the default mode. Nevertheless, note-taking is not as essential in community settings as it is in the instances of long formal speeches in international settings. This is due to two reasons: first, because the segments used in dialogic bi-directional exchanges are relatively short, and second, because the interpreter has more control over the management of the turns (Hale, 2007; Hale et al., 2020). For the most part, interpreters seem to rely on their memory and take minimal notes, usually only for numbers and names (Jacobsen, 2012), although other types of notes to mark features such as tone, emotion, rapport, pragmatic force or the level of certainty in the source message are also used by some who have been trained to do so in legal settings (Hale & Gonzalez, 2017).

The bulk of the research into note-taking has been in relation to the classic consecutive interpreting mode in international settings (Albl-Mikasa, 2020; Mellinger, 2022), with little research into the use of note-taking in legal interpreting settings (Jacobsen, 2012). This paper presents the results of a study of note-taking by Mandarin-English and Spanish-English court interpreters in a simulated criminal trial in Sydney, Australia. It reports the results of interpreters' perceptions of mental effort and the usefulness of notes to aid interpreting accuracy and compares different interpreters' practices in relation to their interpreting performance and language combination.

1.1. Note-taking as a specialist skill

Interpreters' notes have been described as "a network of adjacent and intertwined meanings replete with cross-references (arrows pointing in all directions, linkages, connecting lines)" (Ilg & Lambert, 1996, p. 82), a description that reflects the complexity of the task. As such, it is one of the main skills taught in formal interpreting courses around the world (Russell & Takeda, 2015). Pöchhacker (2011) traces the introduction of note-taking in interpreter training to the onset of international conference interpreting in the early twentieth century. The first didactic handbooks on note-taking were produced by experienced Geneva conference interpreters Herbert and Rozan (Pöchhacker, 2004), whose methods are largely still being taught today (Chen, 2020).

There are seven principles included in what is commonly known as the Rozan (1956) method: (1) Noting ideas rather than individual words; (2) Using abbreviations; (3) Linking and sequencing ideas and concepts; (4) Crossing out terms to indicate negation; (5) Underlying words and concepts to indicate emphasis; (6) Taking notes down the page in a vertical fashion; and (7) Indenting each new concept ('shifting'). Over the years, these principles have been expanded and published in updated didactic handbooks to provide further advice and tips to reduce the time involved in taking notes while increasing their effectiveness in achieving interpreting accuracy (Pöchhacker, 2011; Russell & Takeda, 2015). Some of the other principles include dividing the page in half to force the note-taking to be done in a vertical rather than a horizontal way, or using the left margin to write the connecting words while leaving the main part of the page for the main concepts (Gillies, 2017). Although it is acknowledged that students and interpreters will develop their own individualized note-taking styles to suit their needs and inclinations (Schweda Nicholson, 1990; Stern, 2011), training on note-taking remains fairly consistent and prescriptive (Chen, 2020).

While there is consensus on most of the general principles, there is also controversy over some. The amount of note-taking needed, the balance between symbols and words, the language in which the notes are taken, the best way and the

best time to teach note-taking in training programs, are some of the issues that continue to be debated (Ahrens & Orlando, 2022).

Interpreter training around the world has been described as fragmented (Stern, 2011). This is because there is no minimum standard for training programs, ranging from short informal courses comprising a few hours, to formal graduate and postgraduate degrees. Due to this disparity, the development of note-taking skills has received different amounts of attention. Even though Ilg and Lambert (1996) refer to the technique of note-taking as "no more than a means to help overcome memory's shortcomings" (p. 78) it seems to be among the most difficult skills for students to master. It is not uncommon for notes to have the opposite effect to the one intended if not adequately mastered (Russell & Takeda, 2015). Instead of aiding the memory, the notes can distract interpreters' concentration, add to their cognitive load and lead to less accurate renditions (Doherty et al., 2022; Gile, 1995). The best way to teach note-taking remains unknown (Chen, 2020).

1.2. Research on note-taking

Various research studies have been conducted to answer the different questions that surround the training, development and effectiveness of note-taking for interpreting.

Dam's (2004a) experimental study focused on interpreters' choice of form and choice of language in note-taking. Five professional conference interpreters interpreted a 7.5 minute speech in Spanish into their native tongue, Danish. In her analysis of the notes, Dam identified three groups of note forms produced, namely words, abbreviations and symbols (i.e. "anything not language" (p. 253)). Overall, interpreters preferred using symbols (41% of all units), followed by words (35%) and then abbreviations (25%). Yet across the five interpreters, these patterns differed, showing what Dam labels "a bipolar pattern" of preferences in terms of note form choices. Though interpreters had similar proportions across the three groups of word forms, they did not necessarily reflect the groups as the overall pattern above; for example, some interpreters had higher proportions of symbols and others had more evidence of words. Dam suggests this may be due to differences in interpreter background, experience, training and personality. Another finding Dam highlighted was a link between the number of symbols and the total number of units represented in the notes, suggesting that the fewer the symbols used, the fewer the notes, and conversely, the more symbols, the more notes.

The controversy surrounding the issue of which language to take notes in has been discussed widely. Advocates for taking notes in the target language, including Rozan (1956), argue that the interpreter is better positioned for the processing and production of speech in the target language (p. 256). Opponents (see Alexieva, 1994; Gile, 1995) attest to the additional task of language conversion during note-taking if taking notes in the target language, increasing the number of functions that interpreters must perform (Dam, 2004b, p. 4).

In the same study above, Dam (2004a) also looked at choice of language, grouping the words and abbreviations (but not symbols) from the notes of the five interpreters into *target language*, *source language* and *a third language*. This analysis of language choice showed a strong pattern of note-taking in the target language. A third analysis looked at the shifts between target and source language in the notes. A pattern was found that generally suggested that where the source text material was more difficult to interpret, subjects tended to make notes in the source language, and in contrast, where the task was easier to interpret, subjects tended to make notes in the target language.

In a subsequent project, Dam (2004b) sought to further investigate the choice of language in notes by conference interpreters. In this study, four Master's

interpreting students with note-taking training interpreted consecutively two tasks: Task 1 from Spanish into Danish, and Task 2 from Danish into Spanish. It was found that the three interpreters with Danish as their A language wrote Task 1 notes mainly in the target language, which was Danish, whereas the pattern was the opposite for the one interpreter whose A language was Spanish. The reverse was the case for Task 2, for which Danish dominated the notes by the three Danish native interpreters, where none made notes in the target language, Spanish. Conversely, the Spanish native speaker took the notes in Spanish, the target language. Dam's results of both tasks suggest that "note-taking language preference correlates more strongly with the status of the language in the interpreter's language combination (A or B) than with the source-target-language status" (p. 10). In other words, it appears interpreters tend to make notes in their A-language, rather than the language direction of the interpretation (source or target language). It must be noted that the study only looked at the practice of four interpreting students, with only one being a native speaker of Spanish and no statistical analyses were possible.

Szabó's (2006) study sought to find evidence to support or disprove Dam's (2004b) study regarding language choice, using twice as many students. Eight interpreter trainees (with international conference interpreting experience) with a Hungarian A– English B combination, interpreted four texts (two from English and two from Hungarian). A total of 16 sets of notes across two settings (examination and classroom) was produced for analysis. A questionnaire was also administered to participants. Drawing from Dam's (2004b) categories, Szabó also applied to her data analysis the categories of note-units (words, abbreviations, symbols), source language vs target language, A vs B language, and a category for a third language or "non-identifiable" language (p. 134).

Contrary to Dam's (2004b) findings, Szabó found that seven of the eight participants tended to take notes in English regardless of whether it was the source or the target language. In terms of the interpreters' A or B language, the participants took more notes in their B language (English) than their A language (Hungarian), regardless of whether English was the source or the target language. Szabó speculates that the reason for preferring English is that it is a more economical language than Hungarian. This was also corroborated by several of the participant questionnaire responses. Szabó acknowledged that although this can be concluded for the English-Hungarian combination, it may not necessarily be the same for other language combinations. Another interesting result from some participant responses was that they used English because they had been trained in English.

Like Dam (2004a, 2004b) and Szabó (2006), Błaszczyk and Hanusiak (2010) also provide some insight into the choice of language in which notes are taken in consecutive interpreting. Examining this from a Polish-English/English-Polish perspective, they found evidence of the presence of a third language – "non-symbolic expressions from neither source nor target language" (p. 3) – which in their study was Swedish. The reasons for the third language could be attributed to the nature of inflections and word lengths in Polish as opposed to the shorter equivalents in English and Swedish, thus making note-taking in the latter two languages a simpler and more economical technique.

A slightly larger study (Chmiel, 2010) aimed to examine the effectiveness of teaching note-taking to student interpreters who had completed a 30-hour note-taking course as part of a Master's program in conference interpreting. Chmiel's study consisted of a note analysis and a questionnaire administered to 14 participants. First, the participants completed a course evaluation questionnaire. Then, the participants were asked to consecutively interpret a 10-minute presentation comprising three spoken texts from Polish into their B language (English or German). An analysis of the students' notes showed which features of

the training (such as the layout, symbols and use of visualizations) were transferable to the individual students' note-taking styles. The results demonstrated that the "layout and visualization techniques were more readily transferable to the students' individual note-taking systems", but this was not the same for symbols and their combinations (Chmiel, 2010, p. 248). While participants reported knowing the easily associated symbols and many claimed to have used them in their own note-taking systems, the results of the analysis did not support this. A similar trend was noted for more difficult symbols. Chmiel found that while there was some success to the note-taking training in terms of application of most techniques, disappointingly, participants fell short when it came to using and applying symbols.

A larger study exploring the language of notes in consecutive interpreting looked at different levels of interpreter training and experience (Abuín González, 2012). Using three groups of ten participants each (beginner students, advanced students, practicing interpreters, $N = 30$), the study compared the note-taking language produced from an English speech into Spanish in the long consecutive mode. Considering aspects analysed in previous studies, Abuín González focused her analysis predominantly on the source language/target language perspective. Her corpus analysis showed that the source language (English) was used more frequently than the target language (Spanish) in the two groups of students, but for the third group, the practising interpreters, the findings showed the opposite. She also found that the higher the qualifications and experience of the interpreters, the more the target language was used for note-taking. This may indicate that qualifications and experience are an important factor in following the recommendation to take notes in the target language. Indeed, Abuín González suggests further studies should consider the interpreter's level of expertise in consecutive interpreting.

A study of university interpretation courses (Yamada, 2018) sought to ascertain the usefulness of taking notes by comparing the performance of two groups of English-major students (18 and 17 students, $N = 35$) enrolled in an introductory English-to-Japanese interpreting course, who interpreted up to four source language sentences consecutively with and without notes. The results showed no significant differences between the two conditions regardless of the use of notes and language directionality.

Using a different hybrid mode, Chen (2020) analysed the performance of 26 NAATI[1] credentialed professional interpreters with the Chinese-English language combination using a digital pen to record the speech. Most of the interpreters had received tertiary interpreting education and had an average of 5.7 years' experience. The participants were asked to interpret one English speech into Chinese and one Chinese speech into English. The results showed that numbers, names and lists predominated in the notes for both directions, confirming the usefulness of taking notes for this type of content, using the Rozan method. Similarly, the majority used more abbreviations than full words, although they preferred words to symbols. In terms of language preference, the participants preferred to use English regardless of which was the source or target language, corroborating Szabó's (2006) findings. This study also compared the interpreting performance in relation to the taking of notes. Interestingly, the direction of the speech impacted on the performance. When the interpreting was from Chinese into English, the more notes the better was the performance. However, when the interpreting was from English into Chinese, the more notes the worse the performance. The reasons for these results are yet to be discovered. Although these studies have shed some light on the many issues that

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[1] NAATI is the National Accreditation Authority for Translators and Interpreters in Australia.

surround note-taking, the results are inconsistent and further research is needed, especially in contexts other than conference interpreting.

1.3. Note-taking for short consecutive interpreting in community settings

Very few studies of note-taking in community settings have been conducted. An early study by Russell (2002) of note-taking by signed language interpreters working in court disclosed that not all interpreters used note-taking effectively. When ineffective techniques were used, the notes were detrimental to interpreted proceedings, normally increasing the time lag between the source message and the interpretation, and increasing the number of interruptions by interpreters seeking clarifications. An empirical study of court interpreting in Denmark (Jacobsen, 2012) revealed that interpreters admitted avoiding note-taking for consecutive interpreting as they considered it "a very difficult technique to master" (p. 225).

A separate question was whether there was a connection between court interpreters' lack of notes and their choice of interpreting mode. Survey responses of 73 Danish court interpreter participants showed that many avoided the officially recommended use of the short consecutive mode for questions and answers, or used it in a combination with the simultaneous (whispered) mode. When asked who decides which interpreting mode must be used for interpreting questions, answers, and all other interactions in court, almost 70% of the participants stated that they made the choice themselves. Finally, their responses showed that just over half did use a note-taking technique. Of the 30 participants who did not use a note-taking technique, explanations included comments such as: "never learnt a note-taking technique", "never managed to develop a proper technique", "never used note-taking", "note-taking was unnecessary" and "there was not time for taking notes" (Jacobsen, 2012, p. 233). What is interesting to highlight from these responses is that more than half of the 30 respondents were considered 'authorized interpreters', although Jacobsen (2012) stated that this did not necessarily mean formally trained.

Little is written about the way note-taking is taught in courses that train interpreters to work in domestic settings, including legal settings. Stern states that "while conference interpreting programmes traditionally start teaching note-taking immediately, community interpreting programmes allow a period of time to exercise memory before introducing note-taking" (2011, p. 504). Additionally, interactional management is another important skill taught to community interpreting students (Hale et al., 2020). In order to manage the interaction effectively, interpreters need to maintain eye contact and not be fully immersed in taking notes. Albl-Mikasa comments that "[t]he specifics of note-taking are yet to be worked out in view of the particular demands of – often bidirectional and interactive – medical, legal and other community interpreting settings, before they can be integrated into regular and specialized training courses" (Albl-Mikasa, 2020, p. 384). A different type of note-taking technique is therefore needed for these settings, where only minimal notes are taken (e.g., numbers and names) as well as annotations on style, tone and pragmatic force (Hale & Gonzalez, 2017), which are so important for the accurate renditions of turns in legal settings (Liu, 2020).

2. The study

Using a mixed-method approach, this study analysed Mandarin-English and Spanish-English interpreters' perceptions and practices of note-taking in consecutive interpreting in a mock criminal trial. The study aimed to describe interpreters' note-taking practices and to ascertain whether these were associated with the interpreters' language combination, their own perceptions of the usefulness

and mental effort of note-taking and their overall interpreting performance. This study is part of a larger experimental study of court interpreting in consecutive and simultaneous modes funded by the Australia Research Council (ARC) Discovery Project grant DP170100634.

2.1. Methodology

A call for study participants was sent via AUSIT[2] and NAATI for practising Mandarin and Spanish interpreters. The interpreters were asked to interpret in a simulated criminal trial involving charges of purchasing cocaine with the intent to sell it for profit. A trial script was written in English, based on a real case, and the accused's sections were later translated into Mandarin and Spanish by NAATI certified, university trained translators. The original monolingual script in English contained questions and answers ranging from very short segments (of 1 word) to longer segments (of up to 45 words).

Each trial was presented in a real courtroom and lasted 59 minutes on average ($M = 59.25, SD = 11.14$). The trial was repeated for each partipating interpreter. For consistency of delivery, the roles of the judge, the lawyers and the accused were performed by actors who were familiar with the gist of the script, but who did not perform by rote. Rather than recite the script verbatim, they were trained to speak naturally to convey the meaning of the scripted information and to be responsive to each interpreter's rendition of the speakers' turns.

Interpreters were randomly assigned to interpret in the consecutive mode and the simultaneous mode. This paper is concerned only with the consecutive mode. Consecutive interpreters sat comfortably at a desk just below the judge, where the judge's associate normally sits, which was approximately one metre from the witness box, where the witness was seated. Each interpreter worked alone in their allocated trial. Interpreters were told they were permitted to take notes and seek clarification or ask for repetition at any time, in the same way they would normally perform in a real interpreting assignment. Interpreters were not told at the commencement of the experiment that their notes would be collected. At the conclusion of the experiment, they were invited to leave their notes for analysis. Telling the interpreters beforehand that we wanted to analyse their notes would have changed their note-taking practice and interfered with the ability to uncover usual note-taking practices. Those who did not submit their notes did not have to give an explanation. We can only speculate why some did not want to leave their notes behind. A few voluntarily explained that they considered it would be against their requirement for confidentiality to do so in a real life situation. This study reports on their note-taking practices during the examination-in-chief and cross-examination of the accused, who gave the central evidence in either Mandarin or Spanish.

The exchange of the testimony between the barristers and the accused was on average 860 words in the Mandarin trials (15.1% of the entire jury trial script) and 879 words in the Spanish trials (15.3% of the entire jury trial script). Each trial lasted 59 minutes on average ($M = 58.63, SD = 9.38$, Range: 45–81 minutes); the testimony of the accused lasted 25 minutes on average ($M = 24.81, SD = 3.33$, Range: 20–32 minutes; see Table 1 below).

One week before the trial, demographic information and formal interpreting training and credentials of the participant interpreters were collected online. After the trial finished, the participant interpreters completed a post-trial questionnaire. The interpreters were compensated for their time with a $200 gift voucher.

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[2] AUSIT is the Australian Institute of Interpreters and Translators, the national professional association.

2.1.1. The participants
Participants who interpreted in the consecutive mode comprised 12 Mandarin and 13 Spanish interpreters. The use of note-taking was voluntary, to represent what the

Table 1. Background and qualifications of interpreters who provided notes and those who took no notes, and length of testimony and trial

Interpreter	A-language	Interpreting education	NAATI accredited/certified[3]	Length of accused's testimony (min)	Trial length (min)
Interpreters who took and provided notes					
M02	Mandarin	Yes	Professional or certified	24	52
M12	Mandarin	Yes	Professional or certified	21	51
M29	Mandarin	Yes	Paraprofessional or certified provisional	25	61
M30	Mandarin and English[4]	No	Professional or certified	29	60
M34	Mandarin	Yes	No	27	57
M35	English	Yes	Professional or certified	20	45
M38	Mandarin	Yes	No	32	81
S42	English	No	Professional or certified	24	52
S47	Spanish	Yes	Professional or certified	23	59
S49	English	Yes	Professional or certified	23	49
S50	Spanish	Not given	Yes (level not specified)	26	58
S53	Spanish	Yes	Not given	26	52
S55	Spanish and English	Yes	Professional or certified	27	72
Interpreters who took no notes					
M05	Mandarin	Yes	Professional or certified	28	65
S17	Spanish and English	No	Paraprofessional or certified provisional	21	69
S46	Spanish	Not given	Not given	21	55

participants normally do in their professional work. The majority of the interpreters reported that they had taken notes (88.0%, $n = 22$), and only 3 did not (1 Mandarin, 2 Spanish). Of the group who took notes, 13 provided their notes to the researchers (7 x Mandarin, 6 x Spanish), while the others took their notes with them, as

[3] NAATI made changes to its system of accreditation of translators and interpreters in 2018. The term 'accreditation' was replaced with 'certification'. The Professional/Certified interpreter level was the highest level at the time of the study for court interpreters.
[4] When asked to report on their A language, three reported being truly bilingual, with two A languages.

explained above. The background and qualifications of all consecutive interpreters who volunteered their notes are displayed in Table 1. As shown in Table 1, the majority of the interpreters were NAATI credentialed and had received some type of interpreting training.

2.1.2. Procedure for assessing interpreters' performance

The interpreters' performance was audio recorded and later transcribed by professional transcriptionists for analysis and assessment. Raters for each language with formal translation and interpreting qualifications and NAATI certification were trained by the researchers on how to code the transcripts and assess the interpreters' performance following a set of marking criteria (Table 2) used in previous studies by the same researchers (Hale et al., 2021). Each transcription was rated by two raters, and pilot marking was conducted until inter-rater reliability was achieved.

Table 2. Marking criteria for interpreting performance assessment

Criteria	Descriptors
1. Accuracy of propositional content	The interpreter maintains the content of the utterance, 'what' the speaker said.
2. Accuracy of style	The interpreter maintains stylistic features, the 'how' of the utterance. This includes pragmatic force (tone, intonation, stress, hesitations, fillers, hedges, repetitions, etc.). It also includes register (formal/informal, technical/colloquial).
3. Maintenance of verbal rapport features	The interpreter maintains the rapport features of the original. These include: use of first name, acknowledgement features such as 'OK' at the start of a response, politeness markers such as 'please' and 'thank you', expressions of solidarity and comfort.
4. Use of correct interpreting protocols	This includes the use of the direct approach (1st person), interpreting everything that is said regardless of what it is, seeking repetitions when needed in the right way, transparency (keeping everyone informed if repetition or clarification is required).
5. Legal discourse and terminology	This includes maintaining institutional phrases and grammatical structures, correct use of strategic question types, legal formulas and correct legal terminology.
6. Management and coordination skills	This includes setting the contract by establishing the interpreter's role and modus operandi, switching to simultaneous mode to keep up when speakers' speech overlaps, knowing when to interpret and how to manage the interaction.
7. Bilingual competence	Grammatical correctness, correct pronunciation, fluency in both languages.

2.1.3. The interpreters' notes

At the completion of the trial, 13 interpreters submitted their notes for further analysis. Their notes were scanned and matched to their performance scores and survey responses for closer analysis. Because the notes were taken by some participants for the whole trial, sections of the notes that related specifically to the evidence of the accused, the major witness, in his examination-in-chief and cross-examination, were identified by cross-checking the notes with corresponding sections of the trial transcripts. These sections were then examined to provide a description of their main characteristics, including: length, language choice,

purpose of the notes (numbers, proper names, content, terminology and emotion), and structure. The notes were ranked according to their use of the seven principles espoused by Rozan (2004) specified in section 1.1. The rankings were then checked with the interpreters' self-evaluations of their note-taking practice from the post-trial questionnaire (Section 3.2), and also compared with the independent assessments of their interpreting performance (see Section 2.1.2 and Table 3). In addition, we compared the performance of the interpreters who took notes with that of the similarly-situated consecutive interpreters who did not take notes (see Section 2.1.1 for details).

## 3. Results

3.1. Analysis of notes
The study sample consisting of 111 pages of notes by 13 interpreters was analysed for the features outlined above: length, language, purpose and structure.

3.1.1. Length of notes
The average number of pages of notes taken in approximately one hour of interpreting for the accused was 5.85 pages per interpreter. Overall, Spanish interpreters used more pages ($M = 7.5$ pages) than the Mandarin interpreters ($M = 4.6$ pages) for the accused's testimony. The same trend was observed for overall pages of notes taken for the entire trial interpretation: Mandarin interpreters wrote an average of 5.8 pages of notes, whereas Spanish interpreters' full sets of notes averaged 10 pages. This difference could be attributed to the economy of space afforded by the logographic writing of Chinese characters as opposed to the Roman text used for English and Spanish.

3.1.2. Language choice
The choice of language in the notes varied across participants. Just over half ($n = 5$) of the seven Mandarin interpreters took notes using a mix of their A and B languages, as can be seen in Example 1.
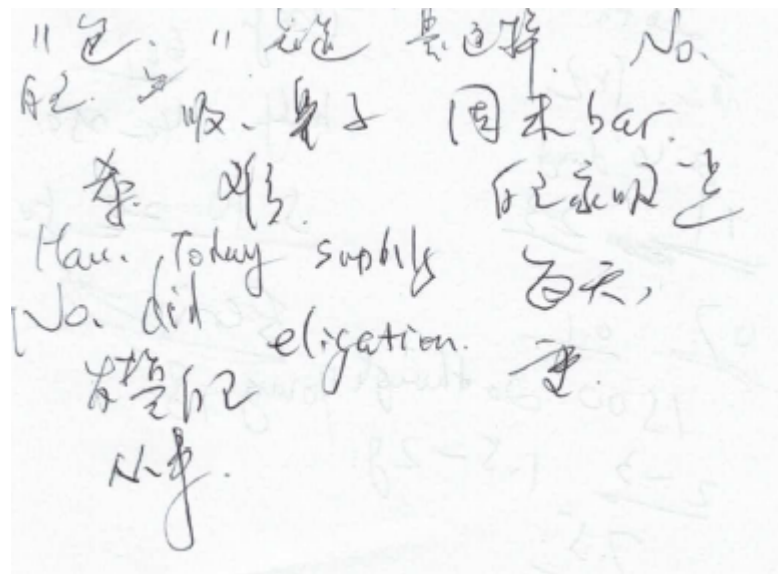
Example 1: Mandarin Interpreter (M38)

Similarly, of the six Spanish interpreters whose notes were examined, half (*n* = 3) used a combination of A and B languages in their notes. Only one Spanish interpreter (S49) took notes in their A-language (English). Conversely, only one Mandarin interpreter (M34) took notes solely in their B language (English). One AA Spanish/English interpreter (S55) took notes in Spanish, while one AA Mandarin/English interpreter (M30) took notes in both languages. No clear pattern was found with regard to the choice of language (A or B) and there was no evidence of use of a third language in the notes.

3.1.3. Purpose of notes
3.1.3.1. Numbers and proper names
Inspection of the notes showed that recording numbers was the most common type of note to help interpreters remember currency amounts, percentages, fractions, dates, and units of measure. Inspection also revealed that names (proper nouns) were the next most popular category of notes. People's names (e.g. 'Robert', 'Scott'), business names (e.g. 'NAB'), place names (e.g. 'South Duke St') or workplace names (e.g. 'Prestige') are examples in this category.

3.1.3.2. Content
A close examination of the interpreters' notes revealed that content other than numbers and names was presented in the form of abbreviations, and that the layout of the notes, including columns and/or arrows, helped to indicate relationships between interpreted content, such as people, places and sequence of events.

The notes taken by Spanish Interpreter S47, who is NAATI certified and has an interpreting degree, demonstrated the use of abbreviations (e.g. 'dep … earn' for 'depended on how much I earned'; 'co.' for 'company'; 'w-end' for 'weekend') and symbols, such as the double forward slash to mark sections, the 'w' for the interjection 'well…', and the 'ð', possibly to mean 'think' (see Gillies, 2017, p. 110), as seen in Example 2
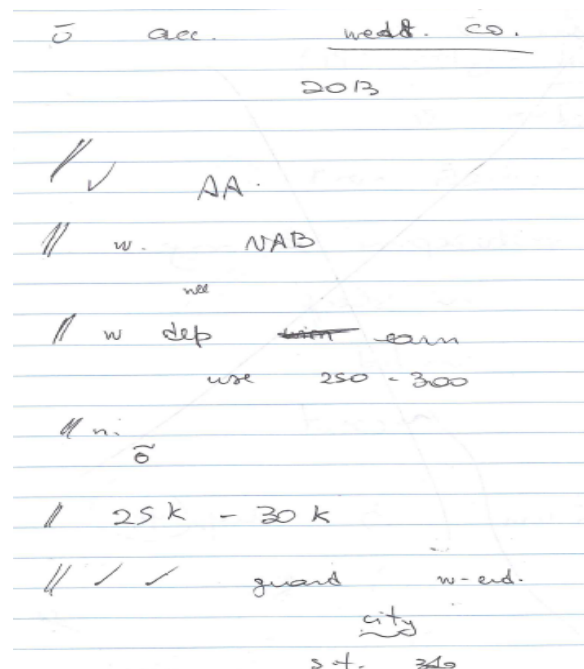
Example 2: Use of abbreviations (Spanish Interpreter S47)

3.1.3.3. Terminology

Specialised terminology was associated with evidence of drug purchases and possession in the testimony of the accused.

3.1.3.4. Emotion

Taking notes to capture emotion is one particular type of note taught to legal interpreters in some Australian programs (Hale & Gonzalez, 2017). Inspection of the notes taken by interpreters (M02, M12, M35, S53, S55), at the point when the accused shows emotion when rejecting suggestions that he is a drug supplier and pleads for the prosecutor to believe him, revealed some features used by interpreters to indicate emotion and emotive language.

For example, in one Mandarin trial, emotion was annotated by an exclamation mark as in "What!" to correspond with the Transcript Line 235: "h, what? No. Everything I say is the truth. I promise!" (M35). The utterance is also sectioned off from the rest of the notes on the page with horizontal lines drawn both above and below the emotive text, as displayed in Example 3.

232.   CROWN: ((To A)) And it seems like you're really not sure about anything you're telling us today, are you? (.) And I suggest because that's because you're being untruthful with us. (.)
233.   INT: ((To A)) 而且，你看上去好像所有对我们说的都不是非常确定，韩先生，我觉得你是对我们来说没有说真话。
234.   ACCUSED: ((To I)) 什么啊！我说的可都是实话。我发誓
235.   INT: ((To PC)) ↑ A: |: h, what? No. Everything I say is the truth. I promise. (.)

Example 3: Annotation of emotion (Mandarin Interpreter M35)

In one of the Spanish trials, emotion was also captured by using the exclamation mark to indicate the "drugs were for me" (S53):

199.   ACCUSED: ((To I)) Que eso es falso. Yo- yo nunca vendí esas drogas. E::eh, e::::eh, esas drogas eran para mi propio uso, ¿me entiende? Yo no- iyo nunca las vendí! Lo prometo. De verdad. Nunca.

200.   INT: ((To DC)) A: : : h, I'll say that's false. I've never supplied any drugs. A: : h, those drugs were for me. (.) I: : : didn't sell them I promise. I promise that I, I never did. (.)
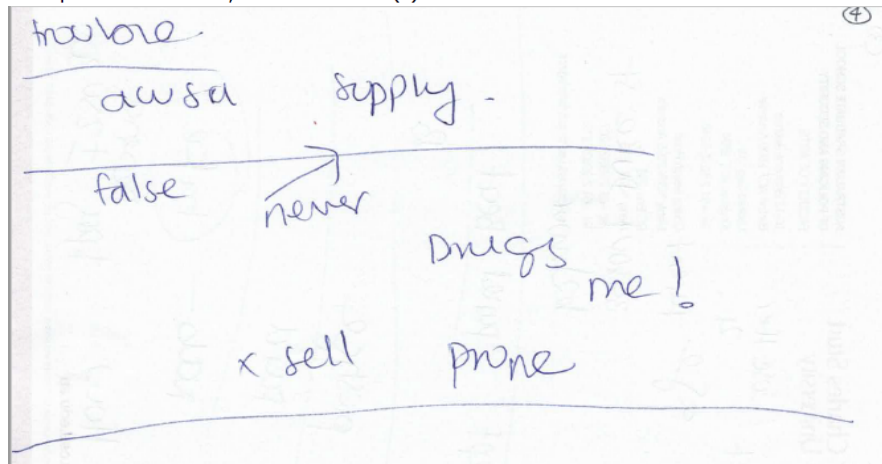
Example 4: Annotation of emotion (Spanish Interpreter S53)

3.1.4 Structure of notes

More than half of the total of 13 sets of notes (Mandarin: $n = 5$, Spanish: $n = 5$) showed evidence of the participants' note-taking skills, as the notes appeared logically and neatly organized, using many of the features recommended in note-taking training (Gillies, 2017). Some systematically use symbols (Mandarin: $n = 6$, Spanish: $n = 5$) and other notational devices such as circling (Mandarin: $n = 3$, Spanish: $n = 3$), boxing (Mandarin: $n = 0$, Spanish: $n = 3$) or underlining items (Mandarin: $n = 3$, Spanish: $n = 3$); in others, a clear demarcation of sections on pages was achieved by the use of horizontal lines (Mandarin: $n = 6$, Spanish: $n = 4$) columns (Mandarin: $n = 3$, Spanish: $n = 2$), or indented text (Mandarin: $n = 5$, Spanish: $n = 5$) as shown in Example 5, by a trained Mandarin Interpreter M34).
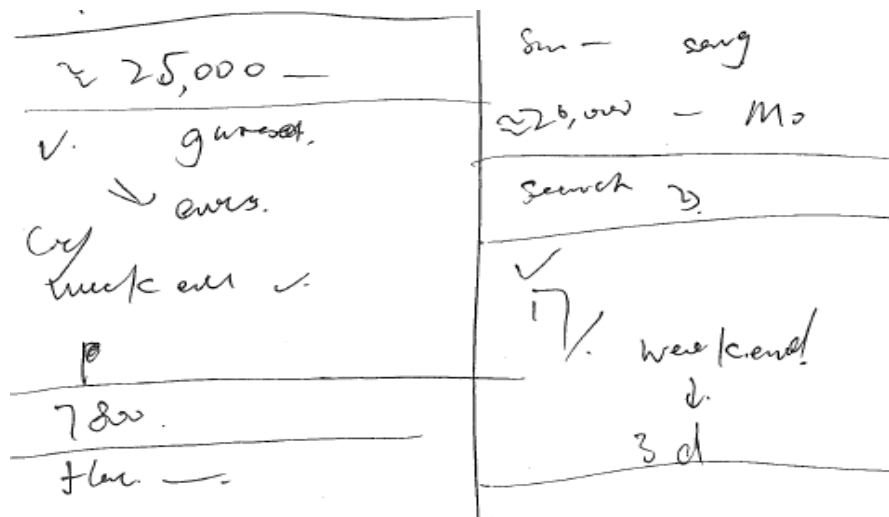
Example 5: Trained Mandarin Interpreter M34

3.1.4.1 Ranking of notes according to the Rozan method
The note sets were assessed using the seven principles espoused by the Rozan method to rank them as low, moderate or high in their structure. Those reflecting use of three principles or fewer were ranked as low, those using at least four principles were ranked as moderate, and those presenting all seven principles were ranked as high. Only one set of notes was ranked as low, nine sets of notes were ranked as moderate, and three as high in structure. While all these interpreters had been trained in note-taking, only the two with the highest rank of all seven principles had a university degree in Interpreting.

Every set of notes reflected adherence to the first two principles: noting the idea rather than the words, and using abbreviations. Eleven used indenting, 11 used underlining and boxing for emphasis, and nine used arrows and lines to connect concepts. Seven used verticality to take notes, some with a clear line dividing the page, and only four used crosses for negation. Overall, however, all followed note-taking principles and demonstrated mastery of note-taking skills.

There was a positive association between the ranking of note-taking mastery and the interpreters' performances; that is, the higher the rank, the higher the assessed performance ($r = .33$, $p = .278$). Further analyses disclosed, however, that the ranking of notes was not significantly correlated with overall interpreting performance. Interpreters' performance between those who took notes ($M = 65.76$, $SD = 9.40$) and those who did not take notes ($M = 63.97$, $SD = 5.11$) seemed equivalent, although the numbers of participants are uneven and too small to conduct statistical comparisons, with only three participants choosing not to take notes (S46, M05 & S17). This may suggest that the default for court interpreters seems to be to take notes.

Table 3. Interpreter performance and note-taking ranking

Interpreter	Interpreting education	NAATI accredited/ certified	Summative assessment	Note-taking ranking
S47	Yes	Yes	85.5	high
M35	Yes	Yes	79.4	high
M30	No	Yes	75.3	moderate
S49	Yes	Yes	70.5	low
S46	Not given	Not given	69.8	*no notes*
S42	No	Yes	66.4	moderate
M02	Yes	Yes	63.5	moderate
M34	Yes	No	63.3	high
S53	Yes	Not given	63.1	moderate
M05	Yes	Yes	61.8	*no notes*
M29	Yes	Yes	60.7	moderate
S17	No	Yes	60.3	*no notes*
M12	Yes	Yes	58.5	moderate
S50	Not given	Yes	57.1	moderate
M38	Yes	No	56.2	moderate
S55	Yes	Yes	55.4	moderate

3.2 Interpreters' perceptions

As part of the post-trial questionnaire (see Appendix), interpreters were asked about their note-taking during the trial, including the reasons for taking them, their perceived usefulness and the perceived mental effort exerted to take notes.

3.2.1 Interpreters' reasons for taking notes

In describing their reasons for taking notes, the category that received the highest number of responses from interpreters was 'numbers' (Mandarin: $n = 5$, Spanish: $n = 5$), followed by 'names' (Mandarin: $n = 1$, Spanish: $n = 4$), 'content' (Mandarin: $n = 3$, Spanish: $n = 2$); 'emotion' (Mandarin: $n = 3$, Spanish: $n = 2$), 'terminology' (Mandarin: $n = 1$, Spanish: $n = 1$), and 'other' (Mandarin: $n = 1$). The one Mandarin interpreter (Mandarin M35) who nominated the 'Other' category explained this was for 'repetitions and backtrackings' (See Table 4). Interpreter responses matched our analyses of their notes, as discussed above in Section 3.1, corroborating the main reasons for taking notes.

Table 4. Interpreters' reasons for taking notes

Interpreter	A-language	Interpreting education	NAATI accredited / certified	Summative assessment	Note-taking ranking	Note-taking purpose
M02	Mandarin	Yes	Yes	63.5	moderate	numbers, emotion
M12	Mandarin	Yes	Yes	58.5	moderate	numbers, content, emotion
M29	Mandarin	Yes	Yes	60.7	moderate	numbers, names, content
M30	Bilingual	No	Yes	75.3	moderate	numbers
M34	Mandarin	Yes	No	63.3	high	numbers, content
M35	English	Yes	Yes	79.4	high	emotion, other: repetition & backtracking
M38	Mandarin	Yes	No	56.2	moderate	content
S42	English	No	Yes	66.4	moderate	numbers, names, content
S47	Spanish	Yes	Yes	85.5	high	numbers, terminology
S49	English	Yes	Yes	70.5	low	numbers
S50	Spanish	Not given	Yes	57.1	moderate	numbers, names, content
S53	Spanish	Yes	Not given	63.1	moderate	numbers, names, emotion
S55	Bilingual	Yes	Yes	55.4	moderate	numbers, names, terminology, emotion

3.2.2 Perceived usefulness of notes

Using a 7-point Likert scale, the interpreters ranked the perceived usefulness of their notes. All but one interpreter responded to the question—a Spanish interpreter who answered that their note-taking was minimal, if they took notes at all (Interpreter S47). The results showed stable and similar responses from Mandarin ($M = 4.71$, $SD = 1.38$) and Spanish interpreters ($M = 5.00$, $SD = 2.00$) rating the usefulness of their notes in the mid- to high-range ($p > .10$).

Two Mandarin and two Spanish interpreters reported that their notes were moderately useful. One Spanish interpreter considered the notes useful at the mid-point of the scale. One Mandarin and four Spanish interpreters rated their notes as quite useful, and two Mandarin interpreters found them very useful (see Table 5).

Table 5. Interpreter assessments and self-evaluation of taking notes

Interpreter	A-language	Interpreting education	NAATI accredited / certified	Summative assessment (in %)	Note-taking ranking	Perceived usefulness of notes self-ranked*	Perceived mental effort of note-taking**
M02	Mandarin	Yes	Yes	63.5	moderate	5	4
M12	Mandarin	Yes	Yes	58.5	moderate	4	1
M29	Mandarin	Yes	Yes	60.7	moderate	3	5
M30	Bilingual	No	Yes	75.3	moderate	3	2
M34	Mandarin	Yes	No	63.3	high	6	2
M35	English	Yes	Yes	79.4	high	6	4
M38	Mandarin	Yes	No	56.2	moderate	6	4
S42	English	No	Yes	66.4	moderate	7	7
S47	Spanish	Yes	Yes	85.5	high	7	5
S49	English	Yes	Yes	70.5	low	3	1
S50	Spanish	Not given	Yes	57.1	moderate	3	3
S53	Spanish	Yes	Not given	63.1	moderate	7	2
S55	Bilingual	Yes	Yes	55.4	moderate	5	5

Note. *1 = not very useful, 7 = very useful; ** 1= very low, 7 = very high.

3.2.3 Perceived mental effort while taking notes

The interpreters rated their mental effort while taking notes on a 7-point Likert scale. The results suggested that their perceived mental effort was predominantly low to mid-ranging ($M = 3.46$, $SD = 1.81$). Almost half of the interpreters selected 3 or lower on the scale (Mandarin: $n = 3$, Spanish: $n = 3$). Three Mandarin interpreters indicated a mid-range degree of mental effort (Spanish: $n = 0$). Responses rating mental effort on the higher end of the scale (5 and above) were mostly from Spanish interpreters (Spanish $n = 3$, Mandarin: $n = 1$). However, the observed differences in perceived mental effort to take notes between Mandarin ($M = 3.14$, $SD = 1.46$) and Spanish interpreters ($M = 3.83$, $SD = 2.23$) did not reach statistical significance ($p > .10$).

3.3 Relationship between perception and performance

The perceived usefulness of the notes was significantly positively correlated with our ranking of the interpreters' notes: the higher the perceived usefulness, the higher the objective ranking of the notes ($r = .58$, $p = .047$). However, the perceived usefulness was not significantly correlated with interpreting performance overall (r

= .00, p = .992). The perceived mental effort to take notes was slightly correlated with the objective ranking of the notes (r = .38, p = .201) but not with interpreting performance (r = .07, p = .828). Perceived usefulness and mental effort were positively associated—the higher the usefulness, the greater the perceived effort to take notes. However, the correlation was not statistically significant (r = .37, p = .242).

4. Discussion

Little is known about the note-taking practices of court interpreters. The bulk of the research that has been conducted on note-taking has concentrated on conference interpreting, using the long consecutive mode with small numbers of participants. Our study adds to this body of knowledge in the context of court interpreting and mostly corroborates findings reported in previous studies on note-taking.

Our study analysed the note-taking practices, performance and perceptions of 13 court interpreters in Mandarin-English and Spanish-English who chose to take notes when interpreting in the consecutive mode for a witness in a simulated trial. Out of the 25 participants who interpreted in the mock trial in the consecutive mode, 22 interpreters reported having taken notes, 13 of whom provided us with their notes, while three reported that they had not taken any notes at all. This finding shows that the majority chose to take notes, unlike the Danish study (Jacobsen, 2012). The reason for this difference may be that the Australian sample consisted of mostly trained interpreters, whereas that was not necessarily the case with the Danish sample.

Our study addressed a number of the issues debated in the literature, including the language chosen to take the notes, the main reasons for taking notes, the perceived usefulness and mental effort exerted in taking notes, and the relationship between note-taking and interpreting performance. Our study revealed no clear pattern with regard to the language in which the notes were taken. The interpreters tended to take notes in both languages in addition to using symbols, with no evidence of a third language. Our analysis disclosed that the main reason for taking notes was to remember numbers and names, a finding that was corroborated by the interpreters themselves in responding to explicit questions about the purposes of taking notes.

Interesting notes which we observed included specialized terms relating to the trial, and the notation of emotions by means of exclamation marks. Recording emotions is particularly important in the interpretation of the testimony of witnesses at trial, as the manner of the delivery of the testimony can be as critical as its content. This specialized note-taking feature is taught to legal interpreters in some programs in Australia, and it is not a common feature among the general note-taking skills taught to conference interpreters.

The participants in our study were highly qualified, all having formal interpreter training and/or NAATI credentials. It was therefore unsurprising to find that their notes followed the recommended structure, and demonstrated competent mastery of established note-taking skills. Using Rozan's seven principles of note-taking to assess the notes recorded in practice, we found that all included at least the first two main principles: noting the idea of the utterance rather than the individual words, and using abbreviations to expedite the recording of the notes. We also found that the majority of interpreters organized their notes according to the principle of indentation and writing in a vertical rather than a horizontal fashion. Most also used underlining or boxing for emphasis, as well as connecting lines and arrows to visually link concepts. Clear line divisions between complete chunks were

also evident, as was crossing out words to indicate negation. In our ranking of the notes according to the Rozan principles, only one interpreter scored 'low', with the majority (nine participants) scoring 'moderate', and three scoring 'high'. The three who scored the highest were unsurprisingly the ones with the highest levels of formal tertiary interpreter education. We found no statistically significant differences between languages.

An interesting finding was that the interpreters' perceptions mostly matched their practices. Most interpreters perceived their notes to be useful, in the mid- to high levels of usefulness. Interestingly, the self-perceived usefulness correlated positively with our objective rankings of their note-taking skills: the higher their perception of usefulness, the higher the ranking they received for their notes. More interestingly, however, as noted in Section 3.3, this did not correlate with independent assessments of their overall interpreting performance. In other words, interpreters with more sophisticated notes did not necessarily perform statistically significantly better as interpreters. Similarly, the interpreters' perceived mental effort in the taking of notes, which was between low and moderate, did not correlate significantly with their overall performance. Since only three participants in the sample chose not to take notes, we were unable to conduct statistical comparisons between those who took notes and those who did not. Further research is needed to ascertain if there are statistically significant differences in performance between equivalent samples of interpreters who take notes and those who do not.

5. Conclusion

This paper presented results of a study of court interpreters' note-taking practices, interpreting performance and perceptions of note-taking in a simulated trial in two language combinations (Mandarin-English and Spanish-English). The study added to the small body of research on this topic in community interpreting, and in court interpreting specifically. Most research on note-taking has been conducted in relation to the long consecutive, unidirectional interpreting mode, using small samples, mostly using student participants. Our study examined the taking of notes by 13 professional, tertiary trained interpreters, in bidirectional, short consecutive interpreting in a court setting. The analysis of the notes taken by our sample of interpreters showed evidence of their training: their notes reflected most of the recommended features taught in standard courses, with some additional features used to indicate emotion, pertinent to court interpreting. The interpreters' own perceptions of the usefulness of note-taking to maintain accuracy matched our ranking of the quality of their notes. Unsurprisingly, interpreters with the highest qualifications ranked highest in their note-taking skills. However, no statistically significant findings emerged in performance based on independent assessments. This lack of significance may be due to the fact that all of the interpreters in the sample but one were rated as competent note-takers. The findings generally corroborate findings in previous studies of note-taking in conference settings in terms of the perceived usefulness of note-taking and the nature of the notes. However, this study was unable to adequately compare the performance of those who took notes with those who did not because only three interpreters in our sample did not take notes. Further research is needed to compare the accuracy of interpreting by those who take notes and those who do not in court settings, with larger samples and a wider range of languages.

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Appendix: Note-taking related questions in Questionnaire

Did you take notes while interpreting **for the accused**?	☐ Yes			☐ No		
	Not at all					**Very**
If yes, how useful were they?	1 2 3			4 5		6 7
If yes, for what purpose?	☐ numbers ☐ names ☐ terminology ☐ content		☐ emotion ☐ other, namely ———————			

Did you take notes while interpreting **for other speakers**?	☐ Yes			☐ No		
	Not at all					**Very**
If yes, how useful were they?	1 2 3			4 5		6 7
If yes, for what purpose?	☐ numbers ☐ names ☐ terminology ☐ content		☐ emotion ☐ other, namely ———————			

Circle the number that best represents your mental effort to…						
	Very low mental effort					**Very high mental effort**
take notes (if you did)	1	2 3	4	5	6	7