Students' Note-Taking Patterns and Interpreting Accuracy: An Empirical Study at a University in Vietnam

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Abstract

Grounded in interpreter training research and cognitive load theory, this study examines how different note-taking patterns influence interpreting accuracy. It focuses on three types of notation including full words, abbreviations, and symbols and identifies the note-related difficulties commonly experienced by learners. Using a mixed-methods design, data were collected from 48 undergraduates at the Diplomatic Academy of Vietnam through live consecutive interpreting tasks, retrospective interviews (n = 7), and an online survey (n = 41). The findings show that full-word notation is negatively associated with accuracy, whereas abbreviations and symbols correlate positively with accuracy. Students also reported challenges linked to information overload, limited familiarity with notation systems, and inconsistently structured notes. These results underscore the pedagogical importance of cognitively informed, strategy-focused note-taking instruction and call for more systematic integration of notation training into interpreter education.

Keywords: note-taking strategies, interpreting accuracy, abbreviations and symbols, interpreter training, cognitive load theory

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Introduction

Consecutive interpreting (CI) remains a central modality of mediated communication in multilingual settings. Its prominence is particularly evident in Asian institutional and diplomatic contexts, where flexibility, confidentiality, and cost-efficiency are prioritized (Gillies, 2017). In CI, interpreters process the source speech in segments and reproduce its content immediately after each pause. Because these segments frequently exceed working-memory capacity, interpreters rely on note-taking as an external cognitive scaffold that helps manage processing load and maintain accurate recall (Gile, 1995; Pöchhacker, 2015; Seleskovitch, 1978).

Note-taking in CI is not a passive act of transcription but a selective, strategic, and cognitively demanding process. It unfolds under strict time pressure while competing with listening, analysis, memory operations, and coordination, which makes it fundamentally different from general-purpose note-taking (Gile, 1995; Gillies, 2017). Previous research shows that strategic note-taking enhances both accuracy and fluency, especially when interpreters employ reduced forms such as symbols and abbreviations to encode meaning efficiently (Rozan, 1956; Setton & Dawrant, 2016). These systems also become increasingly personalized, as interpreters combine symbols, abbreviations, and full words in ways shaped by cognitive preferences and training backgrounds (Chen, 2020).

Despite its central role in CI, empirical research that examines how specific note-taking strategies affect interpreting performance remains limited. Most existing studies focus on professional interpreters or advanced trainees, leaving early-stage learners systematically underexamined (Dai & Xu, 2007; Dam, 2021). There is still limited knowledge about how undergraduate interpreters, especially those trained in English-as-a-foreign-language (EFL) settings, construct and use their note-taking systems. Even less is known about how their use of full words, abbreviations, and symbols relates to accuracy and fluency in CI performance. This gap is particularly salient in the Vietnamese context, where interpreter training is expanding rapidly, but remains underrepresented in international scholarship.

The Diplomatic Academy of Vietnam (DAV), with its established translation and interpreting program, offers a representative EFL-based environment for examining note-taking practices among novice interpreters. Understanding how these learners deploy different note-taking forms, and identifying recurring problems in their notes, can generate insights for improving CI training and supporting the development of effective note-taking skills. Such insights are essential, as note-taking functions as a central cognitive mechanism that mediates memory processes and shapes interpreting output (Pöchhacker, 2015; Setton & Dawrant, 2016).

Guided by these considerations, the present study addresses two questions:

RQ 1. How does the use of full words, abbreviations, and symbols in students' notes influence the accuracy of their consecutive interpreting performance?

RQ 2. What types of note-taking difficulties are most commonly associated with decreased accuracy in students' consecutive interpreting?

To address these questions, the study adopts a mixed-methods design combining content analysis of students' notes, standardized performance assessment, and retrospective interviews. By examining how different note-taking strategies function as memory aids for novice interpreters, the study contributes to a more nuanced understanding of note-taking as both a

cognitive and pedagogical tool in early-stage CI training. It also offers implications for curriculum design in EFL interpreter-education contexts.

Literature Review

Theoretical Foundations of Note-Taking in Consecutive Interpretating

Historically, a number of influential studies have been conducted on the conceptualization and development of note-taking systems in consecutive interpreting. Consecutive notes serve as memory prompts, supporting rather than replacing understanding (Seleskovitch, 1978), and represent the “skeleton structure” of the original discourse rather than verbatim transcription (Gillies, 2017). Effective note-taking enables interpreters to focus on comprehension while listening and later analyze their notes to produce accurate and coherent output. Ilg and Lambert (1996) and Jones (2014) highlight the importance of visual structuring and symbolic efficiency, noting that well-structured notes aid both memory and delivery.

Notably, Gile’s Effort Models (1995) provide a valuable framework for understanding how note-taking influences interpreter performance by conceptualizing consecutive interpreting as a process involving two interrelated phases. In the first phase, listening and note-taking, interpreters simultaneously engage in listening and analysis (L), note-taking (N), short-term memory management (M), and coordination of these activities (C). The second phase, target speech production, involves remembering the source content (Rem), reading and retrieving notes (Read), and producing the target speech (P). Within this framework, note-taking (N) directly competes with listening and memory for cognitive resources, such that inefficient notes increase cognitive load during both listening and production, ultimately reducing output quality. Conversely, when symbols are internalized and applied efficiently, they decrease cognitive demands in both phases by minimizing the time and effort required for note production and retrieval, thereby supporting more accurate and fluent interpretation.

Gile and Chai (2009) argue that properly recorded notes serve as a strong memory aid, making it easier to recall speech units and produce fluent interpretations. As approved by Zhou and Dong (2019), note-taking significantly enhances the accuracy and fluency of consecutive interpreters' recall of source texts, with a facilitative effect increasing as interpreting training experience accumulates. In practice, the interpreter who can use compact, meaningful symbols during listening has more mental bandwidth to allocate to short-term memory and analysis. This suggests that symbolic systems, when well-learned, enhance both processing efficiency and interpretive accuracy.

Numerous researchers have utilized the Effort Models in their work. For instance, G. Wu and Wang (2009) introduced a supplementary approach called discourse transformation to address capacity limitations, building on Gile’s Effort Models. Later, C. Wang (2023) emphasizes the cognitive limitations of interpreters, highlighting that effective note-taking in consecutive interpreting must structure ideas coherently. Similarly, Kuang and Zheng (2022) examine how the effort model is reflected in the interpreters' note-taking effort, note-taking product, and note-reading effort. To enhance the pedagogical relevance of the concept, Gile (2021) redefined the Effort Models as a practical teaching tool, highlighting their role in illustrating high cognitive demands, identifying core challenges, and forecasting developments in translation and interpreting studies.

Interpreters must distill complex utterances into cognitively manageable forms while maintaining the logical structure and semantic integrity of the source speech. To achieve this, interpreters rely on a repertoire of notational elements, typically grouped into three main categories: symbols, abbreviations, and full words. “A symbol represents a concept, not a word” (Gillies, 2017); therefore, when interpreters use symbols in note-taking, the focus is on the underlying meaning of a term, not on the actual word or expression used by the speaker. Regarding abbreviations, a general rule of thumb is to shorten all words longer than four or five letters (Rozan, 1956). Writing out full words is discouraged in note-taking, as it can slow down the interpreter, except for some proper names.

Rozan’s (1956) system is based on efficiency and simplicity. He introduces 10 basic signs (such as plus, minus, brackets) and 10 additional symbols divided into three categories. This minimalist approach is language-independent and aimed at maximizing speed and comprehension (Albl-Mikasa, 2008). However, Matyssek (1989) adopts a contrasting view. While he supports Rozan’s seven principles, he advocates for the extensive use of symbols. Matyssek argues that symbols are more efficient than words or abbreviations, as they are quicker to write and easier to read. He has developed a comprehensive system of categorized symbols that interpreters can adapt to their personal style. Opinions remain divided on the use of symbols. Chen (2020) supports symbols for their speed and clarity. On the other hand, Bowen & Bowen (1984) caution that if a symbol requires more strokes than an abbreviation, it is less efficient and should not be used just for the sake of being a symbol. They emphasize practicality and suggest that note-taking systems (NTS) need not be overly systematic, since both handwriting and spoken language are inherently inconsistent.

In terms of language choice, it remains a contested issue in interpreting studies. Dam (2021) emphasized the influence of the language’s status within the interpreter’s language combination, rather than its functional role in the task. Particularly, Y. Wu (2010) observed that while taking notes in the source language (Chinese) can reduce cognitive load, students who used the target language (English) performed better, indicating enhanced comprehension and processing. Additionally, González (2012) and Zhan (2019) argued that the interpreter's expertise level plays a crucial role in determining language choice. Furthermore, Zhan (2019) expanded this view by suggesting that language choice is also shaped by practical factors such as handwriting efficiency with interpreters often relying on language-based note forms.

Empirical Studies on Note-Taking and Interpreting Quality

Empirical investigations into note-taking in consecutive interpreting (CI) have consistently sought to understand how specific note-taking practices relate to interpreting performance. Early studies, such as Her (2001), examined Chinese-English student interpreters with varying training levels and found a positive correlation between overall note quality and interpreting outcomes. This finding indicates that well-structured and meaningful notes do not merely record information but actively support cognitive processing, enabling interpreters to manage memory load and maintain accuracy during production. Chen (2021) further confirmed this association in a sample of both students and professional interpreters, demonstrating that experience and proficiency in note-taking jointly enhance CI performance. Collectively, these studies suggest that note quality, including clarity, organization, and symbolic representation, serves as a fundamental mediator between source-text comprehension and target-text production, aligning with theoretical perspectives that frame notes as external memory aids (Gile & Chai, 2009; Gillies, 2017; Seleskovitch, 1978).

Beyond overall note quality, researchers have examined the effects of specific note-taking features, such as note quantity, symbol use, abbreviations, and reliance on full words. Cardoen (2018) found that, for Dutch-Spanish interpreters, note quantity generally facilitated both accuracy and fluency, yet the impact of symbols varied according to task complexity, and overuse of abbreviations sometimes hindered fluency. J. Wang and Wu (2022) observed that the use of incomplete Chinese characters and symbols enhanced interpreting outcomes among Chinese-English students, reinforcing the notion that cognitive efficiency in encoding and retrieving information is crucial for CI performance. In contrast, Y. Liu et al. (2023) reported no significant relationships between note-taking features and interpreting quality, a result likely influenced by small sample sizes and variability in participants' training and proficiency.

These mixed results highlight several critical points. First, note-taking effects are inherently context-dependent, influenced by factors including the language pair, interpreting direction, task complexity, and the interpreter's level of expertise (González, 2012; Zhan, 2019). Second, empirical studies often focus on a narrow set of participants or on isolated features of note-taking, leaving the holistic effect of note-taking on both accuracy and fluency underexplored. Third, most prior research has concentrated on well-established language pairs and professional contexts, with little attention to emerging or understudied combinations such as English-Vietnamese CI.

This study addresses these gaps by examining how note-taking strategies – full words, abbreviations, and symbols – relate to interpreting performance among undergraduates at the Diplomatic Academy of Vietnam (DAV). As a national institution for training diplomats and multilingual communication professionals, DAV represents interpreter education within emerging EFL contexts in Southeast Asia and provides an appropriate setting for investigating note-taking under authentic cognitive and institutional demands.

Within this context, the study explores the cognitive and practical implications of note-taking features and their effects on interpreting quality, particularly accuracy. By generating context-sensitive evidence, it offers pedagogical insights for undergraduate CI training and helps bridge the gap between cognitive load theories (Gile, 1995; Ilg & Lambert, 1996) and classroom-based learning outcomes.

Methodology

Research Design

This study adopts a mixed-method design integrating quantitative and qualitative data to examine the relationship between three note-taking strategies – full words, abbreviations, and symbols and consecutive interpreting (CI) quality among undergraduate learners. Combining data types enables cross-checking and enhances validity (Turner et al., 2017).

The design is grounded in Gile's Effort Models (1995), which conceptualize CI as the coordination of Listening, Note-taking, Memory, and Production Efforts. Within this framework, full words support retrieval but increase processing time; abbreviations reduce time costs but risk ambiguity; and symbols maximize speed but require stable internal conventions. These distinctions inform the operationalization of note-taking variables and their hypothesized effects on interpreting quality.

The study is situated at the Diplomatic Academy of Vietnam (DAV), a leading institution for training diplomats, interpreters, and language professionals. As interpreter education in Vietnam is developing within a broader EFL context, DAV provides a representative setting for examining cognitive load management in CI and the effectiveness of note-taking instruction.

The study pursues two aims: (1) to examine statistical relationships between note-taking features and interpreting quality, and (2) to explore learners' note-taking difficulties. Accordingly, the research was conducted in two stages: a controlled interpreting experiment with retrospective interviews, followed by a survey of a larger student cohort.

Participants

Forty-eight students enrolled in the English Linguistics program at DAV participated in the study. All had completed introductory interpreting training and demonstrated at least IELTS 6.5 proficiency. A small subsample (n = 7) was selected for the experimental phase to generate in-depth, information-rich data on note-taking behaviours and cognitive decision-making during consecutive interpreting. In line with qualitative research guidelines, sample size was determined by data richness, research scope, and data collection methods rather than statistical considerations (Moser & Korstjens, 2018).

The remaining participants (n = 41) completed an online questionnaire to capture broader practices and perceptions of note-taking. This sample size is appropriate for exploratory survey research, which typically involves 20–150 participants (Daniel, 2012). All participants provided informed consent, and all data were anonymized to ensure confidentiality.

Data Collection Procedures

Stage 1: Interpreting Experiment and Retrospective Interviews

Seven students completed two CI tasks: Vietnamese-to-English (V-E) and English-to-Vietnamese (E-V). The recordings were selected for clarity, moderate speed, and general topics to avoid unnecessary technical load. The V-E passage (2:15, 244 wpm) discussed minimalism and electronic devices. The E-V passage (2:30, 109 wpm) described steps for filing a police report. Task order was counterbalanced.

Students took notes on paper during listening and delivered their interpretations immediately afterward. Note-taking competed with listening and memory, which made it possible to observe how note choices affected cognitive effort during CI. After the interpreting tasks, each student participated in a 20-minute retrospective interview. They explained why they chose certain forms (full words, abbreviations, symbols), discussed difficulties they experienced, and clarified unclear parts of their notes. All interviews were recorded and transcribed.

Stage 2: Online Survey

A survey was then administered to 41 additional students. It examined their note-taking strategies, challenges, and perceptions of how note-taking affects interpreting accuracy. The survey helped situate the experimental findings within a broader student context.

Data Analysis

Quantitative Analysis

Three note-taking features including full words, abbreviations, and symbols were counted for each participant's notes in both interpreting directions. Counting was performed at the unit-level of individual note items rather than lines or ideas, allowing consistent comparison across participants.

Interpreting accuracy was evaluated using an adapted version of Lee's (2008) rubric. Accuracy was defined based on the widely accepted criterion of *sense consistency* between source speech and target rendition (Gile, 1995; Kurz, 2003). Following Pöchhacker's (2015) notions of "accurate rendition" and "equivalent intended effect," accuracy was operationalized as the degree to which meaning was preserved. Errors included unjustified omissions, additions, and distortions of intended meaning.

Two trained raters independently assessed all CI recordings. Inter-rater reliability was calculated using Cohen's kappa in SPSS 27. The coefficient ($\kappa = 0.78$) indicated substantial agreement. Disagreements were resolved through discussion.

Data were analyzed in SPSS 27. Pearson correlation tested associations between note-taking patterns and accuracy. Multiple regression examined how each note-taking feature predicted accuracy while controlling for language direction and individual differences.

Qualitative Analysis

Interview transcripts and scanned notes were coded in NVivo 12. Open coding identified common problems such as incomplete information, unclear symbols, ineffective abbreviations, and disorganized note layout. Axial coding then grouped these issues into broader themes. The qualitative findings contextualized the statistical patterns, explaining why certain note-taking strategies supported or hindered accurate interpretation.

Collectively, quantitative and qualitative strands were integrated at the interpretation stage. Examining behavioural patterns (from notes and accuracy scores) alongside learners' metacognitive accounts (from interviews and surveys) provided a multidimensional understanding of how note-taking choices shape cognitive load and CI performance. This design thus aligns empirical evidence with the theoretical assumptions of Effort Models, allowing the study to draw practice-oriented implications for interpreter training in EFL contexts.

Results

Assumptions Check

Prior to analysis, data were inspected for normality and homoscedasticity. Residuals were approximately centered around zero with no systematic pattern, supporting the use of parametric tests. Minor deviations from normality were observed but deemed negligible. (see Appendix 3, Table 3.1, Figures 3.1–3.3)

Note-taking Patterns in EV and VE Tasks

Experimental Task (n = 7)

Participants' note-taking in English-Vietnamese (EV) tasks consisted mainly of full words (M = 0.54, SD = 0.10), abbreviations (M = 0.27, SD = 0.07), and symbols (M = 0.19, SD = 0.07). In Vietnamese-English (VE), full words decreased slightly (M = 0.49, SD = 0.11) and symbols increased (M = 0.28, SD = 0.13).

Table 1
Descriptive Statistics of Note-Taking Patterns (n = 7)

Strategy	EV Mean	EV SD	VE Mean	VE SD
Full words	0.54	0.10	0.49	0.11
Abbreviations	0.27	0.07	0.23	0.05
Symbols	0.19	0.07	0.28	0.13

Pearson correlations indicated a negative association between full words and accuracy (EV: r = -0.84; VE: r = -0.89) and a positive association between symbols and VE accuracy (r = 0.88). Abbreviations showed inconsistent patterns. These results are exploratory due to the small sample. (see Appendix 4, Table 4.1)

Survey Findings (n = 41)

Survey responses reflected frequent use of full words (M = 3.10, SD = 0.94), symbols (M = 2.71, SD = 0.81), and abbreviations (M = 2.27, SD = 0.84). Correlations with self-reported accuracy were negative for full words ($r = -0.42$, $p = .003$) and positive for symbols ($r = 0.59$, $p < .001$) and abbreviations ($r = 0.36$, $p = .010$). (see Appendix 4, Table 4.24.3)

Multiple regression indicated that symbols predicted accuracy most strongly ($\beta = 0.49$, $p < .001$), full words had a negative effect ($\beta = -0.30$, $p = .022$), and abbreviations contributed positively but non-significantly ($\beta = 0.10$, $p = .457$; $R^2 = 0.451$). (see full data on Appendix 5, Table 5.1–5.3)

Table 2
Linear Regression Results Predicting Interpreting Accuracy From Note-Taking Patterns

Predictor	β	t	p
Full words	−0.30	−2.39	0.022
Abbreviations	0.10	0.75	0.457
Symbols	0.49	3.71	< 0.001

Consistently across experimental and survey data, symbol use is positively associated with interpreting accuracy, whereas heavy reliance on full words is negatively associated.

Common Challenges Affecting Interpreting Quality

To investigate challenges in interpreting note-taking, a structured questionnaire based on three thematic areas was developed with seven pilot participants and administered to 41 students. Over 83% of respondents agreed that note-taking positively influences interpreting performance, 14.6% were neutral, and 2.4% disagreed, indicating a strong perceived value of note-taking and warranting further exploration of specific difficulties.

Challenges Related to Capturing Information

Nine coded interview references highlighted difficulties in efficiently capturing spoken information. Students often relied on full-word notation when uncertain about abbreviations or symbols, which increased cognitive load:

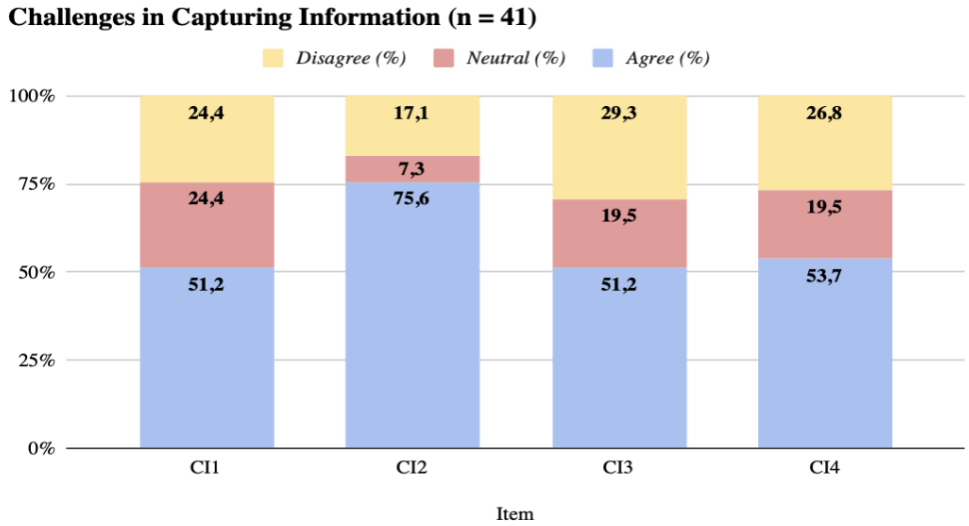
"I just focus too much on writing and miss the next part of the message." (Participant No. 6)

"One common problem I have to deal with is not being able to write fast enough, which sometimes leads to missing the next piece of information." (Participant No. 3)

Quantitative data supported these observations. The four-item scale demonstrated good internal reliability (α = .781; standardized α = .780). As shown in Table 8, 75.6% reported difficulty capturing enough information during complex content (CI2). Over half frequently missed key information (CI1, 51.2%) or struggled to record numbers, names, or units accurately (CI3, 51.2%). Additionally, 53.7% indicated their notes were often dense or overloaded (CI4). These results suggest students face consistent challenges in balancing completeness and clarity under cognitive pressure.

Figure 1

Capturing Information Problems in Interpreting Note-Taking Strategies Encountered by Students (n = 41)



Note. CI1: I often miss key information when taking notes during interpreting tasks.
CI2: When interpreting dense or complex content, I often fail to capture enough useful information in my notes.
CI3: I struggle to write down numbers, names, or units in a complete and accurate way.
CI4: My notes are often too dense or overloaded with too much information.

Unfamiliarity With Symbols and Abbreviations

Ten coded references revealed inconsistent or limited use of symbols and abbreviations. Students avoided symbolic notation due to insufficient training or lack of a personal system:

"I don't have a consistent symbol or abbreviation. So sometimes I forget what I meant or misunderstand my own notes." (Participant No. 4)

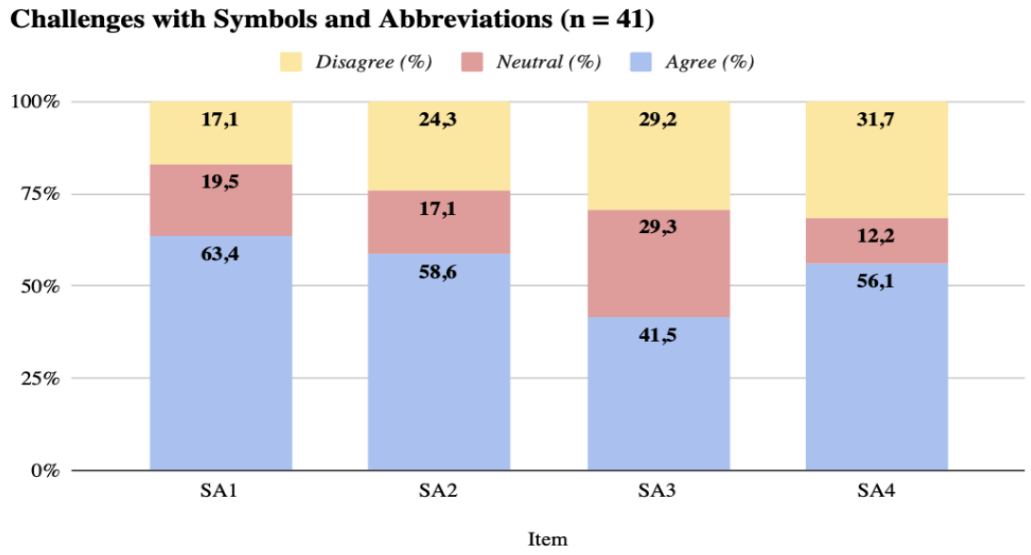
"If I use abbreviations or symbols I am not familiar with, or that just pop up in the moment, I sometimes get confused by them while interpreting." (Participant No. 1)

"I know symbols can be faster, but I don't have a system. I just use arrows or maybe some simple signs." (Participant No. 2)

The four-item scale showed acceptable reliability (α = .715; standardized α = .718). Inconsistent abbreviation use (SA1) was most common, reported by 63.4% of students. Underuse of symbols (SA2) was noted by 58.6%, while 41.5% reported occasional symbol overload (SA3). Over half (56.1%) tended to write full words instead of abbreviations (SA4). These findings indicate recognition of the efficiency benefits of symbolic notation but insufficient consistency in application.

Figure 2

Symbols and Abbreviations' Challenges in Interpreting Note-Taking Strategies Encountered by Students (n = 41)



Note. SA1: I use abbreviations inconsistently (e.g., I write the same word differently at different times).
SA2: I do not use enough symbols to make my notes more visual or efficient.
SA3: I use too many symbols in my notes, and sometimes I forget what they mean.
SA4: I tend to write full words even when abbreviations could save time.

Problems With Logical Organization and Layout

Seventeen coded references highlighted difficulties in structuring notes coherently. Students reported content-rich notes lacking logical arrangement, affecting recall during delivery:

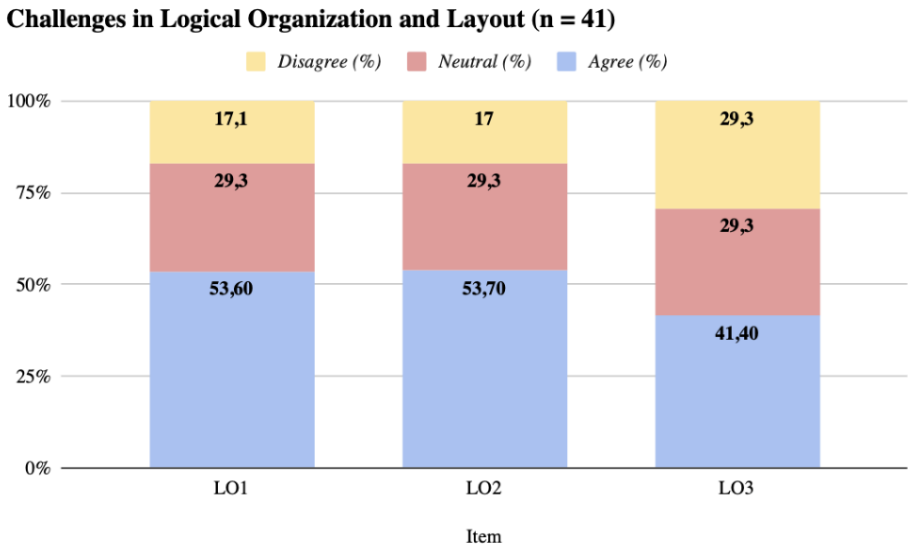
"I try to note down as much information as possible, so I forget to organize my note-taking. Even though I have a lot of information, the logic of my interpretation is not high quality." (Participant No. 7)

"I don't always organize my notes clearly. So when I look at them, it's hard for me to follow the logic." (Participant No. 6)

The three-item scale demonstrated strong reliability (α = .784; standardized α = .785). Over half of participants reported unclear note structure (LO1, 53.6%) and lack of visual hierarchy (LO2, 53.7%). Additionally, 41.4% indicated their notes did not reflect the speech's logic (LO3). These results suggest that challenges in visual and logical organization are common and may hinder accurate interpretation.

Figure 3

Logic and Layout's Challenges in Interpreting Note-Taking Strategies Encountered by Students (n = 41)



Note. LO1: The structure of my notes is sometimes unclear, making it hard to follow the speaker's ideas.
LO2: I do not organize my notes with clear layout or visual hierarchy (e.g., indentation, columns).
LO3: My notes do not reflect the logic or structure of the original speech.

Discussion

The Relationship Between Note-Taking Patterns and Interpreting Quality

The findings confirm that note-taking patterns exert a measurable influence on interpreting accuracy. Across survey and task data, full-word note-taking was consistently associated with lower accuracy, whereas abbreviations and symbols supported more efficient processing and higher-quality output, particularly in the VE direction. These results align with Rozan's (1956) principle of cognitive economy and Gillies's (2017) emphasis on compact visual cues, and are well explained by Gile's (1995) Effort Models: full-word notation increases coordination and memory effort, reducing resources available for listening and analysis.

The negative impact of full-word notes is consistent with prior research showing that transcript-like notation slows processing and disrupts attention (Aminifard and Aminifard, 2012; Chen,

2020). Their higher frequency in the EV direction reflects learners' tendency to over-write in their L1 for perceived lexical precision, often at the cost of propositional accuracy.

By contrast, symbols and abbreviations facilitate faster encoding and retrieval. The strong association between symbolic notation and VE accuracy extends earlier training-based findings (Chen, 2020) and aligns with evidence for dual-coding and compression effects.

Importantly, this study contributes context-sensitive evidence from Vietnamese undergraduate interpreter training, where formal notation instruction is limited. The robust advantage of symbols—especially in VE—suggests that their cognitive efficiency holds even outside standardized European training traditions and can partially offset increased processing demands when working into a less dominant language. Differences from M. Liu (2008) may be explained by task length and note density, which allowed symbols here to function as genuine compression devices.

Overall, abbreviations and symbols confer clear cognitive and performance benefits, while full-word notation increases load and reduces accuracy, with directionality amplifying these effects.

Common Note-Taking Problems

Three recurring problems emerged from survey responses and qualitative analysis: inconsistent abbreviation systems, limited and sometimes ineffective symbol use, and disorganized or overly dense layouts. These issues reflect deeper challenges in multitasking and prioritization that align closely with Gile's (1995) Effort Models. When excessive effort is consumed by writing or by searching for unstructured notes, listening and memory operations are compromised.

Linking these issues directly to RQ2, disorganized layouts showed the strongest association with reduced accuracy. Students whose notes lacked visual hierarchy including unclear segmentation, inconsistent indentation, or crowding tended to omit major propositions or misrepresent logical relations during delivery. Inconsistent abbreviations produced a similar effect: when students forgot what their own abbreviations meant, reconstruction became slower and less accurate. Limited symbol use, while less damaging on its own, often compounded the problem by forcing students to record more full words, thereby increasing cognitive load.

These patterns parallel findings from Chen (2020), who observed that novice interpreters often prioritize quantity over clarity. In this study, many students showed discomfort with structured notation, reflecting limited exposure to systematic training and limited metacognitive awareness of their own processing constraints. The result mirrors Rozan's (1956) caution: ineffective note-taking can impede performance as much as it is meant to support it.

Collectively, disorganization, inconsistent abbreviation use, and limited symbol use are the difficulties most associated with decreased accuracy, with structural disorganization posing the greatest risk.

Conclusion

This study demonstrates a clear relationship between note-taking strategies and interpreting performance. Consistent with cognitive load theory and established interpreter training models, students who relied on symbols and abbreviations achieved higher accuracy, whereas extensive

use of full words tended to hinder performance. Survey responses further indicated recurring challenges in managing complex information, maintaining consistent abbreviations, and organizing notes effectively. These patterns reinforce that note-taking is not merely a technical skill but a cognitive strategy shaped by task demands, language direction, and individual experience.

The difficulties documented in this study including overly detailed notes, limited or inconsistent symbolic notation, and disorganized layouts reflect broader issues of cognitive overload and insufficient strategic awareness. Addressing these problems requires training that helps learners prioritize key information, develop structured personal systems, and balance listening and writing efforts. Direction-specific effects were evident: symbols proved especially effective in Vietnamese-English interpreting, while abbreviations were more helpful in the English-Vietnamese direction. This suggests that instruction should account for asymmetries in processing load across language directions.

For practical implications, interpreter education should integrate early, structured instruction in symbolic and abbreviated note-taking, along with exercises that balance listening, processing, and writing. Such training can enhance efficiency, reduce cognitive load, and foster strategic awareness.

This study is limited by its small task-based sample, the reliance on self-reported data, and the use of moderately complex passages drawn from a restricted topical range. These factors may limit the generalizability of the results. Future research should employ larger and more diverse cohorts, track development longitudinally, and incorporate a wider range of task types and cognitive demands. Future research should examine larger and more diverse samples, include longitudinal designs to track skill development over time, and explore a broader range of task types, language pairs, and cognitive loads. Integrating corpus-based analysis with complementary cognitive measures would further clarify how note-taking strategies evolve and operate in real-time. Taken together, the findings highlight efficient note-taking as a core competency in consecutive interpreting, contributing to both theoretical understanding and the refinement of interpreter education.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

In the development and revision of this manuscript, I utilized both Grammarly and ChatGPT as AI-assisted tools to support the writing process. Grammarly was employed primarily for proofreading, including correcting grammatical and punctuation errors, enhancing clarity, improving sentence structure, and ensuring coherence across sections. ChatGPT was used to support paraphrasing, refining academic tone, and enhancing the overall clarity and flow of the text, particularly in the abstract, introduction, and literature review sections.

I affirm that the use of AI tools was strictly limited to language improvement and editorial support. No AI technologies were used for generating research ideas or questions, designing the methodology, collecting or analyzing data, interpreting findings, constructing arguments, or synthesizing literature. All intellectual contributions, including research design, data analysis, interpretation, and the formulation of conclusions, are entirely my own and reflect my original scholarly work.

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Appendix

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