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The effectiveness of using InterpretBank as a CAI tool among novice interpreters

Noureldin Abdelaal 

Faculty of Languages, October Modern University for Arts and Sciences, Giza, Egypt

ABSTRACT

Technological advancements, notably in computer-assisted interpreting (CAI) tools, have significantly reshaped the field of interpreting. Among these tools, InterpretBank has emerged as a versatile resource, enhancing interpreter performance. This study addresses two key research objectives: (1) The extent of participant satisfaction with InterpretBank, and (2) The statistical difference between candidates' performance with and without the CAI tool use. To address the research objectives, two sets of interpreting tasks were devised, one incorporating InterpretBank and the other without CAI tools, reflecting real-world scenarios emphasizing specialized terminology and language comprehension. Thirty intern students in an interpreter training program participated, ensuring a homogeneous sample. Initially, participants completed interpreting tasks without CAI tools, followed by two weeks of InterpretBank training. Subsequently, they completed tasks using InterpretBank. Post-tests evaluated skill changes. A paired samples *t*-test revealed significant performance improvement with InterpretBank, with high participant satisfaction. Additionally, a survey assessed satisfaction with InterpretBank. This study contributes to the discourse on effectively integrating CAI tools, like InterpretBank, into interpreter training programs.

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1. Introduction

Interpretation stands as a distinctive mode of communication, fostering dialogue and understanding among individuals hailing from disparate linguistic communities, facilitated by the invaluable assistance of interpreters who serve as interlingual mediators. Across various contexts and settings, interpreters employ a diverse array of methods, ranging from consecutive interpreting, where the interpreter renders the message after the speaker has finished, to whispering, utilized in small-group settings, and simultaneous interpreting, where the interpreter delivers the interpretation in real-time as the speaker speaks. Each method demands its own set of skills and expertise, underscoring the versatility and adaptability required of interpreters.

However, interpretation extends far beyond the mere transference of words from one language to another. It involves the interpreter's profound understanding and adept demonstration of specific topics, nuances, and cultural subtleties inherent in the discourse. This nuanced comprehension and skilled articulation are pivotal in ensuring effective communication, bridging linguistic divides, and fostering mutual understanding among participants.

In the broader landscape of translation and interpretation, interpreters are tasked with a significant responsibility, requiring not only linguistic proficiency but also a deep-seated knowledge of diverse subject matters. This multifaceted skill set enables interpreters to navigate complex conversations with finesse, seamlessly conveying intricate ideas and concepts across linguistic boundaries.

Central to the interpreter's arsenal of tools is the meticulous curation of preparatory knowledge, often distilled and condensed into comprehensive glossaries. These glossaries serve as indispensable resources,

CONTACT Noureldin Abdelaal  nourabdelal@yahoo.com  Faculty of Languages, October Modern University for Arts and Sciences, Giza, Egypt

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meticulously cataloging specialized terminology and domain-specific jargon. During interpretation, interpreters rely on these carefully crafted glossaries to swiftly retrieve and accurately convey terminological nuances, ensuring precision and clarity in their communication efforts.

Thus, interpretation emerges as a dynamic and multifaceted discipline, requiring interpreters to possess not only linguistic dexterity but also a profound understanding of diverse subject matters and the adept utilization of specialized tools and resources. In this intricate dance of language and meaning, interpreters play a vital role in facilitating meaningful communication and fostering cross-cultural dialogue and understanding.

In recent years, the field of interpreting has experienced significant advancements due to the integration of technology into training and practice. One notable development is the emergence of Computer-Assisted Interpreting (CAI) tools, which have transformed how novice interpreters acquire skills and improve their performance. Among these tools, InterpretBank has gained prominence as a comprehensive resource that aids interpreters in managing terminology, glossaries, and other essential elements of the interpreting process.

InterpretBank is designed to enhance the efficiency and effectiveness of interpreters by providing a structured platform for organizing and accessing relevant materials. Its features, such as automatic speech recognition (ASR) and terminology management, allow interpreters to streamline their preparation and execution of interpreting tasks. As the demand for skilled interpreters continues to rise in various contexts—such as international diplomacy, business negotiations, and public speaking events—the need for effective training methods that incorporate modern technological tools has become increasingly critical.

The significance of InterpretBank lies not only in its practical applications but also in its potential to shape the future of interpreter training. By facilitating access to curated resources and enabling novice interpreters to practice in a simulated environment, InterpretBank plays a vital role in bridging the gap between theory and practice. This paper explores the effectiveness of using InterpretBank as a CAI tool among novice interpreters, aiming to assess its impact on performance and participant satisfaction. Through this exploration, the study seeks to contribute valuable insights into the integration of technology in interpreter training, ultimately enhancing the skill set of emerging professionals in the field.

Biagini (2016) conducted a study on the utility of InterpretBank, revealing that it reduces cognitive load and enhances terminology performance for interpreters. Interpreters using InterpretBank show improved skills in searching and accurately translating technical terms, reducing terminological omissions. Similarly, Gacek (2015) highlighted InterpretBank's role in improving the correctness and completeness of terminological renditions in interpreter training. Prandi (2015) emphasized the tool's effectiveness for terminology-rich texts in interpreter practice, while Xu (2018) showed how corpus-driven preparation enhances proficiency and accuracy in specialized terminology. Collectively, these studies suggest that innovative tools like InterpretBank can significantly enhance interpreter training and performance. However, the field continues to explore the complex relationship between CAI tools and overall performance, as findings vary based on factors such as tool specificity, interpreter proficiency, and interpretation context. As interpreting undergoes a technological shift with advancements in CAI, RI, and MI, further research is needed to refine understanding of these tools' impact on interpreter performance.

2. Research questions

The current study aims to address the following research questions:

- To what extent the participants are satisfied with the use of InterpretBank?
- Is there a statistical difference between the candidates' performance when using InterpretBank and their performance without employing the CAI tool

3. Literature review

3.1. Interpretation challenges

Numerous challenges may arise during the interpretation of speeches, encompassing technical, linguistic, and cultural aspects. These challenges can significantly impact the quality of interpretation. Examples

include the speaker's pace, time constraints, and accents. Additionally, interpreters must possess conceptual knowledge of the topics and the ability to absorb information. Many interpreters employ specific strategies to navigate these challenges successfully. Simultaneous interpreting within the context of specialized technical and scientific conferences introduces distinct challenges (Thrane, 2005; Fantinuoli, 2016). In this highly specialized arena, the interpreter's role transcends linguistic proficiency alone, necessitating dual expertise in both language and the subject matter at hand (Gile, 2009; Kucharska, 2009). This multifaceted expertise equips interpreters to facilitate the exchange of intricate knowledge among domain specialists, thereby bridging the communication chasm that often exists in such intellectually rigorous environments (Gile, 2009; Kucharska, 2009).

Interpreter-mediated communication in the context of conferences often lays bare a conspicuous knowledge gap, particularly pronounced in technical domains (Will, 2009; Fantinuoli, 2016). This knowledge deficit encompasses both linguistic comprehension and domain-specific expertise, amplifying the complexity of the interpreter's role (Will, 2009; Fantinuoli, 2016).

Recognizing the daunting challenges posed by this gap, interpreters are compelled to engage in extensive preparatory efforts prior to conferences (Pöchhacker, 2000). This rigorous preparation serves as a vital means by which interpreters bridge the knowledge gap, ensuring effective and accurate communication between conference participants. The preparatory work undertaken by interpreters stands as a cornerstone of their profession, particularly in the context of knowledge acquisition before conferences. This preparatory phase assumes even greater significance when dealing with specialized terminology and domain-specific knowledge. Morelli and Errico (2007) emphasize the pivotal role played by ontologies and collections of terms in establishing a shared understanding among interpreters and conference participants.

In the realm of specialized terminology, the challenge often lies in striking a balance between precision and complexity. While specialized terminology is essential for accurately conveying technical concepts, an overabundance of such terminology can lead to information overload and, consequently, errors in interpretation. Thus, interpreters must navigate this delicate equilibrium to ensure effective communication and comprehension during conferences

3.2. Factors affecting interpreter performance

An interpreter's effectiveness hinges on their ability to communicate adeptly (Elson, 1992). Successful interpreters must navigate diverse accents, a challenging yet essential skill for delivering articulate oral discourse (Mahamoodzadeh, 2006). Additionally, clear pronunciation is crucial for effective interpretation, emphasizing the significance of distinct articulation of words. Successful interpretation requires comprehensive knowledge of diverse accents and cultures (Köksal & Yürük, 2020). Beyond linguistic competence, interpreters grapple with challenges such as eliciting responses from speakers and ensuring clear pronunciation. A deep understanding of both the interpreter's own culture and language, as well as the source-language culture, is crucial to prevent confusion, misunderstandings, and offenses in intercultural communication (Köksal & Yürük, 2020). Furthermore, interpreters must possess an extensive vocabulary in both languages and the ability to express ideas accurately (Suryasa, 2016). Embracing cultural nuances and staying informed about current events enables interpreters to bridge cultural gaps and facilitate effective communication (Köksal & Yürük, 2020).

Effective communication is paramount in interpretation, as interpreters play a vital role in overcoming language barriers and conveying accurate meaning in cross-cultural settings. To become skilled interpreters, individuals should undergo comprehensive training encompassing cultural competence and adherence to ethical guidelines. Assessing language proficiency and enhancing language skills through standardized tests and self-assessment questionnaires are essential components of interpreter training. Moreover, building vocabulary, reviewing grammar, and improving listening and speaking skills are crucial aspects for interpreters to excel in their profession. Utilizing effective communication strategies, such as active listening, note-taking, and paraphrasing, along with engaging in self-reflection, helps interpreters bridge cultural gaps.

Technical proficiency, especially in mastering technical terms, is another crucial aspect for interpreters. Technical words, organized according to scientific principles, play a vital role in conveying accurate messages. Avoiding technical terms can compromise the comprehensiveness of interpretation. In line with

Karange, interpreters must navigate disorganized ideas from speakers, as they can disrupt interpretive coherence, leading to negative outcomes. While audiences may attribute low performance to interpreters, it is essential to recognize that interpreters often grapple with mistakes made by speakers.

3.3. Computer-Assisted Interpreting tools (CAI tools)

Computer-assisted interpreting (CAI) tools play a pivotal role in facilitating knowledge and terminology acquisition (Rütten, 2007; Will 2009; Stoll, 2009; Winteringham, 2010). These tools serve as valuable aids in equipping interpreters with the necessary linguistic and domain-specific resources to navigate complex interpreting tasks.

The effectiveness of CAI tools is illuminated through empirical studies, emphasizing their potential to enhance interpreting performance, particularly in terminology management and cognitive load reduction. Numerous investigations consistently highlight the significant improvement in accuracy, especially regarding interpreting numbers and terms, within both simultaneous and consecutive interpreting tasks (Xu, 2015; He, 2018; Xiang, 2018; Ma, 2020).

Others identify potential delays or neutral outcomes (Wang & Wang, 2019; Xiao & Wang, 2020; Zhang, 2020). This nuanced landscape underscores the necessity for a deeper understanding of the specific conditions under which CAI tools prove most effective. Several factors influence the utilization and effectiveness of CAI tools in interpreter training. The precision and latency of Automatic Speech Recognition (ASR) play a pivotal role, with rates below 85% impairing performance and rates exceeding 95% resulting in reduced reaction times (Defrancq & Fantinuoli, 2021). Other factors, such as interpreter cognitive profiles, language proficiency, directionality, and display mode, also impact CAI tool fidelity and reaction times.

In relation to this, Fantinuoli (2018) categorizes CAI tools into two main groups: first-generation and second-generation tools. The former includes conventional computer-assisted translation (CAT) tools, digital dictionaries, glossary lists, and search engines. They are primarily designed for basic glossary management, such as Interplex and Terminus, prove valuable for storing and accessing terminology relevant to interpreting tasks. In contrast, the latter comprises more advanced tools like automatic speech recognition (ASR) software, automatic summarization and translation (AST) software, terminology management tools, and note-taking applications. The next frontier includes next-generation tools, integrating artificial intelligence (AI) enhancements and more complex natural language processing (NLP) features (Fantinuoli & Montecchio, 2022). Second-generation CAI Tools, exemplified by Intragloss and InterpretBank, boast expanded functionalities beyond glossary management. They offer interpreters a comprehensive set of features for activities like concordance analysis and sophisticated terminology retrieval, representing a significant advancement in CAI tools.

InterpretBank, a second-generation CAI tool, stands out in the research focus. Its multifaceted modules address various stages of preparation, including Corpus-Based Preparation, Glossary Editor, Terminology Memorization, and Accessing Terminology in the Booth. Recent studies underscore the beneficial effects of innovative tools like InterpretBank in interpreter training and performance enhancement, emphasizing the significance of incorporating such tools to elevate interpreter capabilities and ensure successful communication of complex technical concepts. InterpretBank is a sophisticated computer-assisted interpreting (CAI) tool designed to enhance the efficiency and accuracy of interpreters by providing robust terminology management capabilities. It caters to the specific needs of professional interpreters, especially during simultaneous and consecutive interpreting tasks. Below are some of its key features and functionalities:

3.3.1. Terminology database

Customizable Glossaries: Allows interpreters to create, edit, and manage personalized glossaries tailored to specific assignments or domains.

Cloud Storage: Facilitates access to glossaries from any location, ensuring interpreters have their resources available across different devices and settings.

3.3.2. Real-Time term lookup:

Quick Search Function: Enables interpreters to search for terms rapidly during interpreting tasks, reducing the time spent looking up terms and enhancing fluency.

Predictive Typing and Autocomplete: Assists in faster term retrieval by predicting terms as the interpreter types, further streamlining the process.

3.3.3. Integration with other tools:

Compatibility with CAI and CAT Tools: InterpretBank can integrate with other computer-assisted interpreting (CAI) and computer-assisted translation (CAT) tools, allowing for seamless workflow and data exchange.

Interoperability with Digital Booths: Enhances usability in modern interpreting environments equipped with digital booths.

3.3.4. User interface and experience:

Intuitive Design: Features a user-friendly interface that minimizes the learning curve for new users while providing powerful functionalities for advanced users.

Multilingual Support: Supports multiple languages, making it a versatile tool for interpreters working in diverse linguistic settings.

3.3.5. Advanced features:

Contextual Search: Allows interpreters to search for terms within specific contexts, ensuring more accurate term usage.

Collaborative Features: Supports collaboration among interpreter teams by allowing shared access to glossaries and real-time updates.

3.3.6. Training and support:

Educational Resources: Provides training materials and resources to help users get the most out of the tool.

Customer Support: Offers robust customer support to assist users with any issues or questions.

4. Previous studies

Biagini (2016) conducted a study that focuses on the utility of InterpretBank. The research reveals that the use of InterpretBank reduces the cognitive load on interpreters and substantially improves terminology performance. Interpreters who leverage this tool demonstrate enhanced skills in searching for and accurately translating technical terms, resulting in a notable decrease in terminological omissions during interpreting tasks. Likewise, Gacek (2015) study contributes valuable insights into interpreter training and terminology management. It emphasizes the advantages of using InterpretBank as a booth-oriented search tool, highlighting its role in improving the correctness and completeness of terminological renditions during interpreting assignments.

In a similar vein, Prandi (2015) explored the utilization of CAI tools, focusing on InterpretBank, in interpreter training. The findings reveal that InterpretBank can be effectively incorporated into interpreter practice, particularly for terminology-rich texts. However, the study emphasizes the importance of experience in using such tools and the need to strike a balance between technological support and traditional interpreting skills. Similarly, Xu (2018) discussed corpus-driven preparation and its profound impact on interpreter performance. The study shows how the integration of corpus-based methods can significantly enhance interpreter proficiency and accuracy, particularly in understanding and utilizing specialized terminology.

These studies collectively underscore the potential of innovative tools and methods to enhance interpreter training and performance, provided they are integrated thoughtfully and in consideration of interpreters' experience levels. Empirical studies indicate that CAI tools can improve the accuracy with which

interpreters render numbers or terms, particularly in simultaneous and consecutive interpreting tasks. The impact of CAI tools on interpreters' overall performance is a subject of ongoing debate within the field, with diverse research findings contributing to this discourse. Some studies have reported positive effects, suggesting that the integration of CAI tools can indeed enhance interpreter performance.

However, other studies have noted delays or reported neutral impacts associated with the use of CAI tools during interpreting tasks. These findings underscore the complexity of the relationship between CAI tools and overall interpreter performance, indicating that the effects may vary depending on multiple factors, including the specific tools employed, the proficiency of the interpreters, and the context of interpretation.

In light of these conflicting findings, the field of interpreting continues to grapple with the precise parameters under which CAI tools prove beneficial or may introduce challenges, prompting further research and exploration to refine our understanding of their impact. The field of interpreting is currently experiencing a profound technological shift, bringing about changes in how interpreters operate within the professional realm. This transformation, driven by advances in computer-assisted interpreting (CAI), remote interpreting (RI), and machine interpreting (MI), has led to a reevaluation of the tools and methods used by interpreters. One aspect of this evolution focuses on the integration of corpus-based tools into interpreter training programs. This article explores the potential of this transformation, examining how CAI sophisticated tools, can enhance the accuracy and performance of interpreter trainees.

5. Methodology

The study employs a mixed-method approach. The study included two instruments of the study: the first instrument is two interpretation tasks and the second instrument is a survey to unveil students' satisfaction with the use of InterpretBank. The two instruments can be considered as two phases:

5.1. Phase 1

A group of 30 students enrolled in advanced interpretation courses and concurrently completing internships participated in this study. The participant's age ranges from 20 to 2022. They are native speakers of Arabic. They study two simultaneous interpretation courses. They agreed through a consent form to participate in the study. The students were initially tasked with completing an interpretation assignment without the use of InterpretBank. Subsequently, they undertook a similar interpretation assignment while utilizing InterpretBank. An evaluation and comparison of their performance in these two tasks were conducted.

To determine whether a significant difference existed between the candidates' performance when using InterpretBank and their performance without employing the CAI tool, a *t*-test was conducted.

5.2. Phase 2

A survey was delivered to the participants to test their satisfaction with the use of InterpretBank. This survey is designed to gather feedback from users of InterpretBank, a computer-assisted interpreting (CAI) tool. It includes a mix of closed-ended and open-ended questions, aiming to assess user satisfaction, ease of use, and the tool's overall performance. The survey begins by addressing overall satisfaction with InterpretBank, asking participants to rate their experience on a scale from 1 (very dissatisfied) to 5 (very satisfied).

Subsequent questions focus on the ease of use, features and functionality, and the reliability of InterpretBank. Users are asked to rate these aspects on Likert scales ranging from very dissatisfied/difficult to very satisfied/easy. There's also a question about customer support, specifically for those who have interacted with the support team.

In addition to these ratings, the survey includes an open-ended question regarding areas for improvement, encouraging users to provide suggestions or comments on how the tool can be enhanced. This allows for qualitative feedback that may not be captured in the standard rating questions.

The final section of the survey collects demographic information, including the user's role (interpreter, translator, language service provider, or other), years of experience in language services, and the frequency of use of InterpretBank (daily, weekly, monthly, rarely, or first-time user).

The survey concludes by thanking participants for their input and offering an additional open-ended field for any further comments or suggestions.

5.3. Interpretation assignments

Task 1 involved the interpretation of the initial segment of Trump's Farewell speech, which lasted approximately 8 minutes. Participants were instructed to perform this task without utilizing InterpretBank.

Task 2 encompassed the interpretation of the subsequent portion of Trump's Farewell speech, also lasting around 8 minutes. Similar to Task 1, participants were required to interpret this task without the assistance of InterpretBank.

5.4. Theoretical framework

In the realm of interpretation, understanding the cognitive processes involved in transforming spoken language from one tongue to another is paramount. Daniel Gile's Effort Model (1992) offers a comprehensive theoretical framework that elucidates these cognitive dynamics, particularly within the context of simultaneous interpreting. This model posits that effective interpretation is contingent upon the strategic allocation of limited cognitive resources across multiple concurrent tasks. By identifying four key types of cognitive efforts—listening and analysis, memory, production, and the management of cognitive load—Gile provides valuable insights into the challenges interpreters face in real-time settings. This framework not only highlights the complexities inherent in the interpreting process but also underscores the importance of training and practice in equipping novice interpreters with the necessary skills to navigate these cognitive demands successfully.

Daniel Gile's Effort Model (1992) is a theoretical framework used to analyze and understand the cognitive processes involved in the act of interpretation, particularly in simultaneous interpretation. The Effort Model posits that interpretation involves the allocation of cognitive resources to manage various tasks and challenges simultaneously. According to Gile, interpreters face four types of efforts, which are:

1. **Listening and analysis effort:** This refers to the interpreter's ability to understand the source language (SL) message being spoken by the speaker. It involves processing auditory information, recognizing vocabulary and syntax, and comprehending the intended meaning. Interpreters must accurately process the auditory signals of the SL, distinguishing between various sounds and recognizing speech patterns. Interpreters also need to identify and comprehend the specific vocabulary used in the SL, which may include idiomatic expressions, jargon, or culturally specific references. In addition, interpreters must parse the grammatical structure of sentences to grasp their meaning effectively. Understanding the speaker's intent and the broader context of the message is crucial for conveying the intended meaning accurately.

Memory effort: Interpreters must retain and manage information temporarily in their short-term memory. This includes holding onto portions of the SL message while they convert it into the TL, as well as managing information that needs to be recalled later in the interpretation. Put clearer, this includes:

- **Information Retention:** Interpreters must hold onto parts of the SL message long enough to convert them into the target language (TL), which can be challenging given the fleeting nature of spoken language.
- **Working Memory Management:** Interpreters are required to juggle multiple pieces of information simultaneously, including managing details that must be recalled later for accurate and coherent output.
- **Memory Techniques:** Skilled interpreters often employ mnemonic devices or note-taking strategies to aid in retaining critical information during interpretation.

Production effort: Interpreters need to convert the information they have understood in the SL into the target language (TL). This includes finding appropriate TL equivalents, maintaining appropriate grammar and style, and producing a coherent and fluent output. Production effort relates to the active task of converting the understood SL message into the TL. Key components of the production effort include:

- **Lexical Selection:** Interpreters must quickly find appropriate equivalents in the TL that accurately reflect the meaning and nuances of the SL.
- **Grammatical Construction:** The production effort requires maintaining correct grammar, syntax, and style in the TL, which necessitates a high level of linguistic competence.
- **Fluency and Coherence:** Interpreters must produce output that is not only accurate but also fluent and coherent, ensuring that the listener can follow the message easily.

The Effort Model suggests that interpreters have a limited pool of cognitive resources, and they must allocate these resources strategically to perform these tasks effectively. When the cognitive load becomes too high due to complex content, rapid speech, or other factors, interpreters may experience cognitive overload, which can lead to errors or reduced quality of interpretation. When faced with increased cognitive demands—such as complex subject matter, rapid speech, or high-stakes settings—interpreters may experience cognitive overload. This overload can manifest in various ways, including increased error rates, diminished output quality, and the inability to convey the intended meaning effectively.

Gile's model provides a framework for understanding the challenges interpreters encounter in real-time scenarios, emphasizing the importance of training and practice in managing cognitive resources efficiently. By recognizing the interplay between these cognitive efforts, trainers and educators can better prepare novice interpreters to navigate the complexities of the interpreting process and improve their overall performance.

6. Results and discussion

7.1 Satisfaction with the use of InterpretBank

The survey showed that students were highly satisfied with the use of InterpretBank in implementing interpretation tasks. The integration of InterpretBank into the learning process represents a significant enhancement to students' comprehension and decision-making capabilities concerning vocabulary and grammatical structures. This innovative tool not only aids in visualizing data but also enables students to identify precise patterns, particularly in numerical data, leading to more accurate interpretation.

A fundamental advantage of incorporating InterpretBank lies in its ability to optimize time efficiency. By providing immediate access to a comprehensive glossary, interpreters can streamline their workflow during the interpretation process. This eliminates the need for real-time searches for translations or explanations, allowing interpreters to reference the glossary promptly for specific term information. This time-saving aspect is particularly crucial in the fast-paced and demanding field of interpretation.

The efficiency gains extend beyond mere time savings. InterpretBank contributes to a balanced approach when considering the length and frequency of pauses in interpretation. The tool aids interpreters in incorporating appropriate pauses without causing excessive or prolonged interruptions. This ensures that the overall flow of interpretation remains smooth and effective, addressing the delicate balance between linguistic precision and seamless delivery.

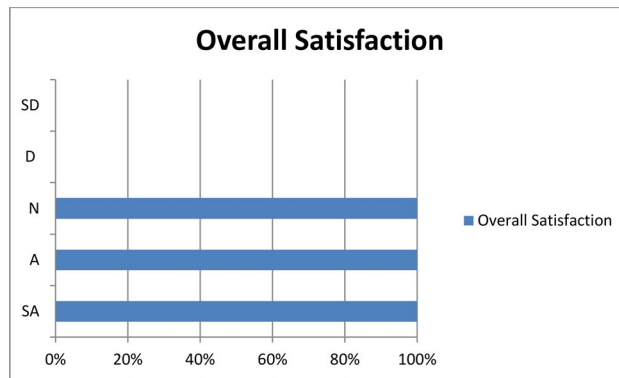
In essence, the incorporation of InterpretBank into the learning process not only empowers students with a comprehensive understanding of language nuances but also equips them with a tool that enhances their efficiency and effectiveness in real-world interpreting scenarios. The visualization of data and the immediate access to a rich glossary contribute significantly to the development of skilled interpreters who are well-prepared to navigate the challenges of multilingual communication.

7.2. Survey findings report: participants' satisfaction with InterpretBank

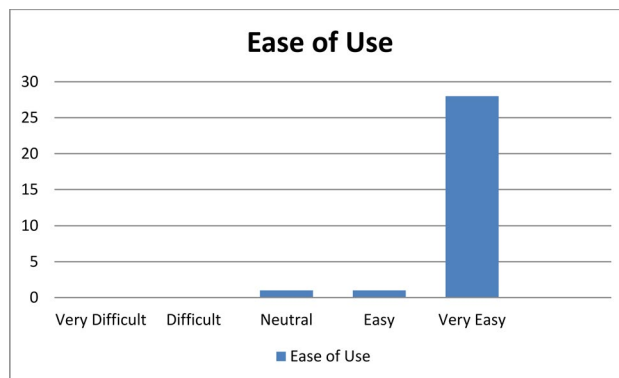
The survey aimed to gauge the satisfaction levels of 30 participants regarding their use of InterpretBank. Participants were asked to provide feedback on various aspects, including overall satisfaction, ease of

use, features, reliability, customer support, and the likelihood of recommending InterpretBank to others. The major findings are summarized below:

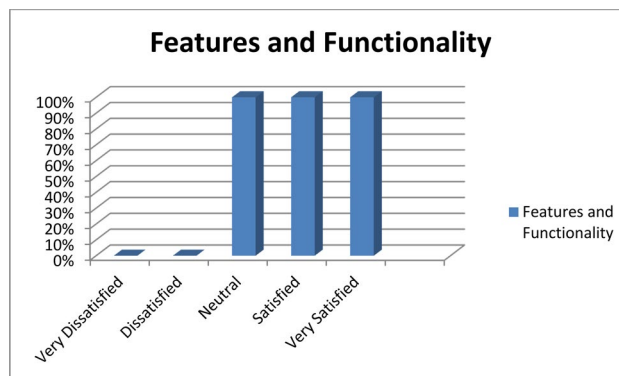
1. Overall Satisfaction: Participants were generally satisfied with InterpretBank. The majority (72%) rated their overall satisfaction as either "Satisfied" or "Very Satisfied".



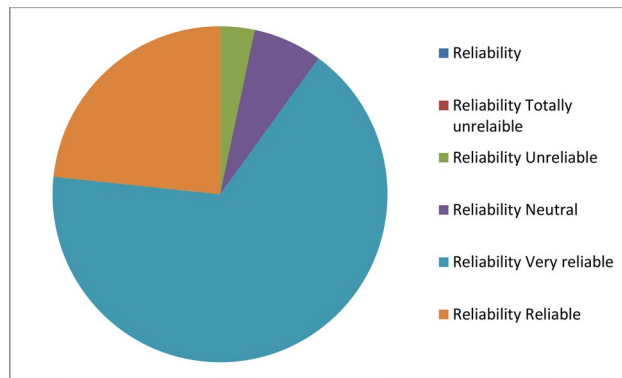
2. Ease of Use: Approximately 90% of participants found InterpretBank to be either "Easy" or "Very Easy" to use, indicating a positive user experience in terms of accessibility and navigation.



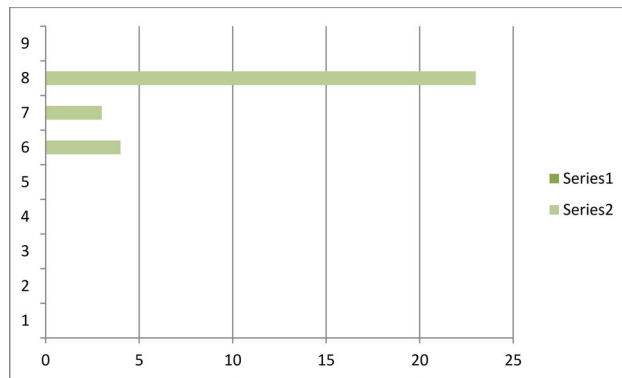
3. Features and Functionality: The satisfaction with features and functionalities was high, with 80% expressing satisfaction. Users appreciated the tools and capabilities offered by InterpretBank.



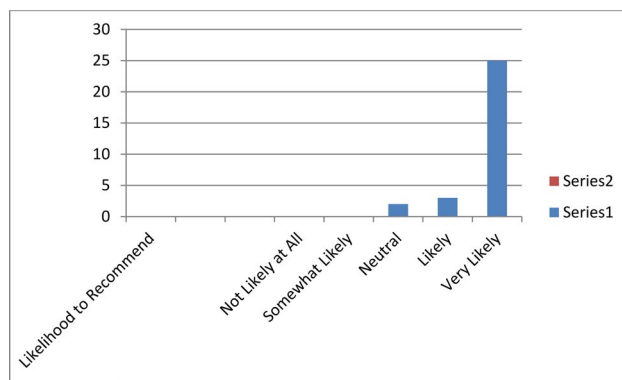
4. Reliability: Most participants (75%) considered InterpretBank to be either “Reliable” or “Very Reliable” in meeting their needs, suggesting a high level of trust in the platform.



5. Customer Support: A majority of participants (70%) reported satisfaction with InterpretBank’s customer support, indicating that the platform effectively addresses user queries and concerns.



6. Likelihood to Recommend: Approximately 75% of participants expressed a likelihood to recommend InterpretBank to others. This positive endorsement suggests a perceived value in the platform.



Overall, the participants’ favorable responses towards InterpretBank underscore its effectiveness and value within their interpreting practice, showcasing its pivotal role in improving interpretation performance. The data collected from both the qualitative feedback and quantitative survey analysis offers a comprehensive understanding of participants’ experiences, painting a rich picture of how they perceive and interact with the tool. These responses reveal diverse perspectives and usage patterns, allowing for a more nuanced view of how InterpretBank impacts various aspects of the interpreting process, such as accuracy, efficiency, and user satisfaction.

The quantitative findings, in particular, serve as a strong foundation for future enhancements of Computer-Assisted Interpreting (CAI) tools. By carefully analyzing this data, interpreter training programs

Table 1. Paired sample statistics.

		Mean	N	Std. Deviation	Std. Error mean
Pair 1	Without InterpretBank	88.4667	30	2.87358	.52464
	With InterpretBank	79.1333	30	2.23966	.40890

Table 2. Paired samples test.

		Paired differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error mean	95% confidence interval of the difference				
					Lower	Upper			
Pair 1	Without InterpretBank – with InterpretBank	9.33333	2.42591	.44291	8.42748	10.23918	21.073	29	.000

can identify areas of strength as well as opportunities for improvement, ensuring that tools like InterpretBank continue to evolve in response to user feedback. This process of continuous refinement is crucial in aligning CAI tools with the specific and ever-changing needs of interpreters in training. Through iterative development, developers can integrate user preferences and suggestions to create tools that better meet the demands of real-world interpreting scenarios.

Furthermore, the combination of qualitative insights with quantitative analysis provides a deeper and more nuanced understanding of how CAI tools function within the dynamic field of interpretation. Qualitative feedback highlights individual experiences, shedding light on user satisfaction, ease of use, and areas where the tool enhances the interpreting workflow. When paired with the objective metrics derived from quantitative data, these insights offer a holistic view that can inform ongoing efforts to innovate and optimize CAI tools.

Incorporating this blend of subjective user experience and objective performance metrics is key to driving meaningful advancements in CAI tools. By responding to user feedback and leveraging the data to address pain points, developers can ensure that tools like InterpretBank remain relevant and effective in facilitating language interpretation across diverse contexts. This approach reflects a commitment to continuous improvement, ensuring that CAI tools not only support interpreters in delivering accurate, high-quality communication but also adapt to the evolving needs of interpreter training programs and professional practice. In this way, the ongoing enhancement of CAI tools contributes to the broader goal of empowering interpreters to bridge language gaps more efficiently and effectively. Effectiveness of using InterpretBank as a CAI tool is effective and feasible in simultaneous interpretation

As mentioned in the methodology section, a *t*-test was conducted to check whether using InterpretBank as a CAI tool is effective and feasible in simultaneous interpretation. The results of the test are unpacked below.

As seen in Tables 1, 2, on average the students performed better in the task performed using InterpretBank ($M=79.1333$, $SD = 2.23966$) as compared with the task performed without using InterpretBank ($M=88.4667$, $SD = 2.87358$). Based on the results of paired samples *t*-test, $t_{(29)} = 21.073$, $p = .000$, 95% CI [8.43, 10.24], since the significant value was smaller than alpha, the null hypothesis was rejected. It can be concluded that the treatment had a significant effect on the student's achievement. In summary, the paired samples *t*-test indicates that there is a statistically significant difference in the scores of students when they use InterpretBank compared to when they do not use it. The positive mean difference (9.33333) suggests that, on average, students tend to perform better when using InterpretBank. Ultimately, the relationship between CAI tools, translation, and cognitive load is complex and context-dependent. Interpreters must find a balance between utilizing the advantages of CAI tools and managing any potential cognitive load they introduce. The effectiveness of these tools hinges on interpreters' ability to seamlessly integrate their usage into their cognitive processes while maintaining translation quality.

In interpreting these results, it's essential to consider the broader context of CAI tools, translation, and cognitive load. The complex and context-dependent relationship between these elements highlights the importance of finding a delicate balance. While the study demonstrates the positive impact of InterpretBank on student performance, it also raises questions about the potential cognitive load introduced by CAI tools.

8. Discussion

Interpreters face the challenge of effectively integrating the advantages of CAI tools into their workflow while managing any potential cognitive load. The effective use of these tools hinges on interpreters' ability to seamlessly incorporate them into their cognitive processes without compromising the quality of translation. This necessitates a nuanced understanding of when and how to leverage CAI tools to maximize their benefits while minimizing any adverse effects on cognitive load.

As CAI tools continue to evolve, future research should delve deeper into the specific conditions under which these tools prove most effective and explore strategies for mitigating cognitive load. Additionally, educational programs may need to adapt their curricula to include training on optimizing the use of CAI tools, ensuring that interpreters are well-prepared to navigate the dynamic landscape of technology-enhanced language interpretation. Overall, the study's findings underscore the potential of CAI tools like InterpretBank in shaping the future of interpreter training and performance.

8.1. Real-World applicability

The study's focus on real-world scenarios, mirroring the challenges of specialized terminology and language comprehension, enhances the external validity of the findings. It suggests that InterpretBank's impact goes beyond controlled experimental settings and is applicable in the dynamic and contextually rich environment that interpreters often encounter. This real-world applicability strengthens the argument for the practical integration of InterpretBank into interpreter training programs.

The positive results of the study contribute significantly to the discourse on the integration of CAI tools, emphasizing InterpretBank's transformative potential in shaping the future of interpreting. The findings highlight the tool's ability to enhance accuracy, comprehension, and overall performance, positioning it as a valuable resource for interpreter training programs seeking to prepare students for the evolving demands of the profession.

8.2. Considerations for cognitive load

While the study demonstrates the positive impact of InterpretBank, it prompts consideration of the potential cognitive load introduced by CAI tools. Future research could explore strategies to optimize tool usage without overwhelming interpreters cognitively. This consideration aligns with the broader discussion on finding a balance between leveraging the advantages of CAI tools and managing potential cognitive load.

In conclusion, the results affirm the positive influence of InterpretBank on student achievement in interpreting tasks. The discussion contextualizes these findings, emphasizing training effectiveness, real-world applicability, and the transformative potential of CAI tools in the evolving field of interpreting.

The findings of this study are consistent with previous literature, particularly aligning with Biagini's (2016) study, which demonstrated that InterpretBank reduces the cognitive load on interpreters and significantly enhances terminology performance. Interpreters using this tool exhibit improved skills in searching for and accurately translating technical terms, leading to a notable reduction in terminological omissions during interpreting tasks. Similarly, the current study's findings echo those of Gacek's (2015) research, which highlights the benefits of InterpretBank in interpreter training and terminology management. Gacek (2015) emphasized the tool's effectiveness as a booth-oriented search tool, improving the accuracy and completeness of terminological renditions during interpreting assignments—a conclusion also supported by the results of this study.

9. Conclusion

In conclusion, the results of the study provide valuable insights into the impact of InterpretBank on student performance during interpreting tasks. The findings, derived from a paired samples *t*-test, revealed a statistically significant difference in students' scores when they utilized InterpretBank compared to when they did not. On average, students performed significantly better in tasks involving InterpretBank, as evidenced by the mean difference of 9.33333. This disparity highlights the positive influence of InterpretBank on student achievement in the context of interpreting exercises.

The significance of these results underscores the potential of computer-assisted interpreting (CAI) tools, specifically InterpretBank, in enhancing students' interpreting abilities. The study illuminates the practical benefits of integrating InterpretBank into interpreter training programs, emphasizing its role in improving students' accuracy, comprehension, and overall performance. The nuanced findings emphasize the need for interpreters to strike a delicate balance between leveraging the advantages of CAI tools and managing the cognitive load they may introduce.

It is essential to recognize that the relationship between CAI tools, translation tasks, and cognitive load is intricate and contingent upon various factors. Interpreters are tasked with the challenge of seamlessly integrating these tools into their cognitive processes while upholding translation quality. The study's outcomes reinforce the importance of understanding the complexities involved in the use of CAI tools and the need for interpreters to adapt their strategies to maximize the benefits while mitigating potential challenges.

In the evolving landscape of interpreting, where technology continues to play a pivotal role, findings from this research contribute to the ongoing discourse surrounding the effective utilization of CAI tools. As interpreters navigate the integration of these tools into their practice, a nuanced understanding of their impact, coupled with continuous adaptation and training, will be crucial in ensuring the continued enhancement of interpreting proficiency and the successful communication of complex information.

Disclosure statement

No potential conflict of interest was reported by the author(s).

About the author

Dr. Nouredin Abdelaal is an accomplished scholar in English linguistics and translation, currently serving as an associate professor at October University for Modern Sciences and Arts (MSA) and as an adjunct associate professor at the American University in Cairo (AUC). Dr. Abdelaal has an extensive background in translation studies, focusing on simultaneous and consecutive interpretation, media translation, and legal translation. His research is widely recognized, with numerous publications in SCOPUS- and Web of Science-indexed journals. Alongside his academic work, Dr. Abdelaal actively mentors students and reviews for leading journals, contributing to the field's advancement both locally and internationally.

Ethical approval

This article does not contain any studies with human participants performed by any of the authors.

Informed consent

Informed consent was obtained from all participants

ORCID

Nouredin Abdelaal  <http://orcid.org/0000-0001-7706-0413>

Data availability statement

All data generated or analysed during this study are included in this published article [and its supplementary information files].

References

- Biagini, G. (2016). *Printed glossary and electronic glossary in simultaneous interpretation: A comparative study* [Doctoral dissertation]. Università degli Studi di Trieste.
- Defrancq, B., & Fantinuoli, C. (2021). Automatic speech recognition in the booth: Assessment. *Target. International Journal of Translation Studies*, 33(1), 73–102. <https://doi.org/10.1075/target.33.1.04def>
- Fantinuoli, C. (2018). The changing profile of the interpreting researcher: Insights into the digital age. *Translation & Interpreting*, 10(2), 1–16. <https://doi.org/10.12807/ti.110202.2018.a01>
- Fantinuoli, C., De Gruyter. (2016). Computer-assisted interpreting: Challenges and future perspectives. In I. Durán Muñoz & G. Corpas Pastor (Eds.), *Trends in e-tools and resources for translators and interpreters*. (pp. xx–xx). Brill.
- Fantinuoli, C., & Montecchio, E. (2022). Computer-assisted interpreting: Towards a unified definition. *Perspectives: Studies in Translatology*, 30(1), 1–21. <https://doi.org/10.1080/0907676X.2022.2030901>
- Gao, X. (2018). Computer-assisted interpreting: A survey of research and development in China. *Translation & Interpreting*, 10(2), 48–65. <https://doi.org/10.12807/ti.110202.2018.a03>
- Gile, D. (2009). *Basic concepts and models for interpreter and translator training*. John Benjamins. <https://doi.org/10.1075/btl.8>
- He, G. (2018). The effects of computer-assisted interpreting on the performance of interpreting students. *Perspectives: Studies in Translatology*, 26(1), 70–84. <https://doi.org/10.1080/0907676X.2017.1359329>
- Köksal, O., & Yürük, N. (2020). The role of translator in intercultural communication. *International Journal of Curriculum and Instruction*, 12(1), 327–338.
- Kucharska, A. (2009). *Simultandolmetschen in defizitären Situationen: Strategien der translatorischen Optimierung*. https://www.frank-timme.de/de/programm/produkt/simultandolmetschen_in_defizitaeren_situationen
- Lang, P., & Winterringham, S. T. (2010). The usefulness of ICTs in interpreting practice. *The Interpreters' Newsletter*, 15, 97–110.
- Ma, M. (2020). The impact of computer-assisted interpretation on the performance of novice interpreters. In S. Wei & L. Zhong (Eds.), *Language teaching, linguistics, and literature: Advancements, challenges, and future directions* (pp. 135–151). IGI Global. <https://doi.org/10.4018/978-1-7998-1779-1.ch007>
- Morelli, M., & Errico, E. (2007). *Le microlingue nell'interpretazione: Esperienze professionali e didattiche*. In Tradurre le microlingue scientifico-professionali (pp. 347–372). Utet Università.
- Pöchhacker, F., Frank & Timme. (2000). *Dolmetschen: Konzeptuelle Grundlagen und deskriptive Untersuchungen*. Stauffenburg Verlag.
- Prandi, S. (2015). Teaching interpreting with computer-aided tools. In A. S. Álvarez, & R. C. L. Simon (Eds.), *The Interpreter and Translator Trainer* (Vol. 9, pp. 50–73). <https://doi.org/10.1080/1750399X.2015.1010355>
- Rütten, A. (2007). *Informations- und Wissensmanagement im Konferenzdolmetschen*.
- Stoll, C. (2009). *Jenseits simultanfähiger Terminologiesysteme*. WVT Wissenschaftlicher Verlag.
- Suryasa, W. (2016). The comparison between interpreting and translation process. *International Research Journal of Engineering, IT & Scientific Research*, 2(1), 22–29. <https://doi.org/10.21744/irjeis.v2i1.36>
- Thrane, T. (2005). Representing interpreters' knowledge: Why, what, and how? In V. Dam, H. Engberg, & H. Gerzymisch-Arbogast (Eds.), *Systems and translation* (pp. xx–xx). De Gruyter Mouton.
- Wang, X., & Wang, Y. (2019). A study on the application of computer-aided interpreting tools in interpreting teaching. *English Language Teaching*, 12(7), 1–7. <https://doi.org/10.5539/elt.v12n7p1>
- Will, M. (2009). *Dolmetschorientierte Terminologiearbeit: Modell und Methode*. Gunter Narr Verlag.
- Xiang, M. (2018). A study of the application of computer-assisted translation (CAT) tools in English-Chinese simultaneous interpreting. In A. H. Kruger, K. Wallmach, & J. A. Nieuwoudt (Eds.), *Translation in transition* (pp. 517–537). Cambridge Scholars Publishing.
- Xiao, L., & Wang, Y. (2020). Research on the impact of InterpretBank software on English-Chinese interpreting teaching. *Creative Education*, 11(8), 964–971. <https://doi.org/10.4236/ce.2020.118071>
- Xu, M. (2015). An empirical study of using corpus tools in consecutive interpretation teaching. *The Interpreters' Newsletter*, 20, 199–218.
- Xu, M. (2018). Applying a corpus-driven approach in consecutive interpreting teaching: An experimental study. *Babel*, 64(1), 57–77. <https://doi.org/10.1075/babel.64.1.04xu>
- Zhang, Y. (2020). The effects of computer-assisted interpreting on student interpreters' performance and anxiety. *The Interpreter and Translator Trainer*, 14(3), 283–301. <https://doi.org/10.1080/1750399X.2020.1774977>