



Hacettepe University Graduate School Of Social Sciences
Department of Translation and Interpreting

EFFECT OF COMPUTER ASSISTED INTERPRETING TOOL ON SIMULTANEOUS INTERPRETING PERFORMANCE

Sevim Sinem BÖYÜKBAŞ

Master's Thesis

Ankara, 2023

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ACCEPTANCE AND APPROVAL

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16/06/2023

Sevim Sinem BÖYÜKBAŞ

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Sevim Sinem BÖYÜKBAŞ

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Interpreting studies is a distinctive academic discipline that delves into practical matters concerning the profession of interpreting and the training of aspiring interpreters. Its primary objective is not only to describe the act of interpreting but also to find solutions for real-life challenges encountered within the field, making it a specialized area of study. Thus, I consider myself incredibly privileged to have had the opportunity to explore a specific branch of interpreting-oriented technologies as a practical issue within the broader field of interpreting studies. This research endeavor has not only deepened my understanding of the discipline but also has fueled my passion for taking a scientific look at the real-life challenges faced by interpreters and interpreting trainees.

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ÖZET

BÖYÜKBAŞ, SEVİM SİNEM. *Bilgisayar Destekli Sözlü Çeviri Aracının Andaş Çeviri Performansına Etkisi*, Yüksek Lisans Tezi, Ankara, 2023.

Konferans çevirisi sırasında kullanılan teknolojilerin sayısı ve kapsamı, yazılı çevirmenler için tasarlanmış olan Bilgisayar Destekli Çeviri (BDÇ) araçlarına kıyasla sınırlıdır. Bilgisayar Destekli Sözlü Çeviri (BDSÇ) araçları, tercümanların sözlükçe hazırlama ve sözlükçede aradıkları terimi bulma gibi ihtiyaçlarını dikkate alarak çeviri sürecinin her aşamasında onlara yardımcı olur. Bu çalışma, tercümanların terminoloji yönetimi için tasarlanmış BDSÇ araçlarının genel bir değerlendirmesini sunmakta ve Interpreters' Help adlı bir aracın kullanımının, geleneksel MS Excel formatında elektronik bir sözlükçeyle karşılaştırıldığında yeni mezun tercüman grubunun andaş çeviri performansına etkisini değerlendirmektedir. Bu çalışmaya Hacettepe Üniversitesi İngilizce Mütercim ve Tercümanlık Bölümünden mezun olan on iki kişi katılmıştır. Tekrarlı ölçümler deneysel deseni kullanılmıştır. Katılımcılardan başlangıçta BDSÇ araçları gibi sözlü çeviriye yönelik teknolojilerle ilgili deneyimleri hakkında görüş alınmıştır. Ardından katılımcılar, ön test sırasında Excel formatında bir sözlükçeden yardım alarak andaş çeviri yapmışlardır ve daha sonra BDSÇ araçları eğitimi almışlardır. Katılımcılar son test sırasında Interpreters' Help ile oluşturulan bir sözlükçe kullanmışlardır. Her iki testten sonra katılımcılar dokuz ifade ve bir açık uçlu soruyu içeren beş puanlık bir Likert anketine yanıt vermişlerdir. Andaş çeviri performansları, terminoloji performansları ve anket yanıtları hem nicel hem de nitel yöntemler kullanılarak analiz edilmiştir. Andaş çeviri performansı puanlarını karşılaştırmak için parametrik olmayan Wilcoxon işaretli sıralar testi kullanılmıştır. Katılımcıların terminoloji performansları, kaydedilen veriler kullanılarak sözlükçe yöntemlerine ve sözcük düzeyinde uygulanan stratejilere göre doğruluk açısından değerlendirilmiştir. Bu tez, BDSÇ araçlarının avantajlarına ve dezavantajlarına ışık tutarak sözlü çeviri çalışmaları alanında yapılan araştırmalara katkıda bulunmayı amaçlamaktadır.

Anahtar Kelimeler

Bilgisayar Destekli Sözlü Çeviri, BDSÇ Araçları, Terminoloji.

ABSTRACT

BÖYÜKBAŞ, SEVİM SİNEM. *Effect of Computer Assisted Interpreting Tool on Simultaneous Interpreting Performance*, MA Thesis, Ankara, 2023.

The number and scope of technologies used during conference interpreting are limited in comparison with Computer Assisted Translation (CAT) tools designed for translation practitioners. Computer Assisted Interpreting (CAI) tools aid interpreters throughout their assignments, taking into account their needs like glossary drafting and terminology retrieval. This study provides an overview of the CAI tools designed for interpreters' terminology management and evaluates the impact of using one such tool, Interpreters' Help, on novice interpreters' simultaneous interpreting (SI) performance, compared to a traditional electronic glossary in MS Excel format. Twelve recent graduates from Hacettepe University's Department of Translation and Interpretation participated in this study. A repeated-measures experimental design was used. Initially, participants were interviewed about their experience with interpreting-oriented technologies like CAI tools. They then performed a pre-test SI using an Excel glossary, followed by CAI tool training. Subsequently, participants completed a post-test SI using a glossary created with Interpreters' Help. After both tests, participants responded to a 5-point Likert questionnaire containing nine statements and one open-ended question. Simultaneous interpreting performances, terminological performances, and questionnaire responses were analysed and compared using both quantitative and qualitative methods. The Wilcoxon signed-rank test, a non-parametric method, was employed to compare the SI performance scores. Participants' terminological performances were assessed for accuracy based on their glossary method and applied lexical strategies, using recorded data. This thesis seeks to contribute to the body of knowledge on interpreting studies by highlighting advantages and disadvantages of CAI tools.

Keywords

Computer Assisted Interpreting, CAI Tools, Terminology.

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INTRODUCTION

Simultaneous interpreting (SI) is an interpreting mode that arose due to technological advancements. Over time, the technology that initially enabled its development has evolved considerably and new technologies supporting interpreters have emerged gradually. According to Diriker (2010), "As SI became more widespread, the related technology experienced rapid changes. Bulky headsets were refined, wired systems transitioned to wireless, and booths were soundproofed. Nowadays, international standards govern simultaneous interpreting systems and booths" (p.329).

Initially, interpreters did not perform SI as it is understood today. Instead, the Hushaphone system was predominantly employed for the "simultaneous reading of pre-translated texts" until the Nuremberg Trials of 1945-1946 (Gaiba, 1998, p.31). Following World War II, the trials of war criminals needed to be conducted efficiently and quickly, and all proceedings had to be translated into a language comprehensible to the defendants, as mandated by the Charter of the International Military Tribunal (Gaiba, 1998, p.32). Consequently, the Filene-Findlay system was adapted to suit the trials' requirements, and interpreters performed SI for the first time, marking a significant milestone in the history of conference interpreting.

Another major turning point that shaped the way interpreters work, was the invention of the internet in the 1990s, which was followed by integration of new technologies into the workflow of interpreters. The emergence of the Internet, personal computers and tablets have all changed the way interpreters work including their habits in terms of preparation and terminology management.

Before the internet became widespread, interpreters primarily depended on printed materials, usually supplied by conference organizers, to prepare for specialized conference assignments. Today, interpreters have access to the internet, an incredibly diverse resource containing materials in various languages. Furthermore, there has been a surge in specific technologies tailored to the work processes of conference interpreters. These technologies encompass those that expand the delivery and accessibility of interpreting services, those that support or enhance interpreters' preparation and performance, and those designed to eventually supplant human interpreters (O'Hagan, 2020, p.271).

Despite the recent interest in interpreting-oriented technologies, interpreters have still not enjoyed the exact level of access to technology as translators so far (Costa et. al., 2014). Translation technologies such as CAT (Computer Aided Translation) tools and web-based resources including glossaries, dictionaries, corpora, concordancers, terminology management systems have already been improved and widely adopted by the translation industry. A majority of the universities that offer translation programs have also integrated CAT tools with their curriculums as a response to the increasing demand for localization as well as to the technologization of the translation industry. Conversely, computer aided or assisted interpreting (CAI) tools have followed a much slower growth curve, because interpreters have different needs and requirements in terms of technological support.

In comparison to translators, interpreters face with unique challenges which are related to the immediate nature of the work. Interpreters work under extreme time pressure and deal with the spoken language rather than written texts, thus their terminological needs differ from those of translators. In addition to this, conference interpreters usually work at technically demanding conferences where they come across with various special terms and specialized topics. Therefore, for them preparation is key to acquire the necessary linguistic and extralinguistic knowledge related to an upcoming interpreting assignment. In contrast to translation where translators can inform themselves on the subject of the text while translating; interpreters need to get ready for an upcoming interpreting assignment. This leads to a difference in terms of preparation and learning strategies of interpreters (Gile, 2009).

Moser-Mercer (1992) underscored this distinction in her research, which sought to explore the methods that conference interpreters used to record and look for terminology. She collected data on interpreters' terminological requirements through a questionnaire distributed to members of the International Association of Conference Interpreters (AIIC). Her study's findings revealed that a majority of the participating interpreters were receptive to utilizing terminology management systems, provided they were user-friendly and offered rapid search capabilities (Moser-Mercer, 1992). In a similar vein, Rodriguez and Schnell (2009) examined interpreters' needs concerning terminology and identified five characteristics that set apart interpreters' terminology databases from those designed for translators. These attributes encompassed swift consultation; intuitive search; the ability to update terminology records within the

interpretation booth; significant flexibility in determining the basic structure of glossaries; and multiple data filtering methods.

As a response to such observations, computer aided or assisted interpreting (CAI) tools have been designed by interpreting scholars and software developers as terminology management tools (see for example, Rutten, 2007; Stoll, 2009). The number of currently available CAI tools is very small and each of them generally reflects the habits and expectations of its' own developer. Since CAI is a relatively new concept, the advantages, and disadvantages of using such tools as glossary management tools before and/or during interpreting need to be investigated. Consequently, additional experimental research is required to obtain empirical findings that evaluate their practicality. As such, this study seeks to examine the effect of utilizing a web-based CAI tool on the SI performance of beginner interpreters.

To achieve this objective, this thesis initially outlines the subject's overall context by introducing the problem situation, research aim and significance, research questions, pertinent studies, limitations, and assumptions.

The first chapter dedicates itself to the theoretical underpinnings that establish the foundation for this study. Within this framework, the scope and evolution of interpreting as a research field are discussed. Additionally, the historical progression of the conference interpreting profession is presented. Afterwards, models and approaches in interpreting studies that shed light to cognitive dimensions of simultaneous interpreting while using CAI tools are summarized in general. In the following section, models and approaches elaborating on the preparatory work of conference interpreters are presented. Finally, the CAI tools i.e., Interpreters' Help, Interplex, and InterpretBank are presented.

The second chapter outlines the study's methodology. It presents the participants and the experimental design employed in the study. The test procedure is detailed, and the tests administered to participants, including speech texts, glossaries, and the questionnaire, are discussed under the Data Collection Tools section. The statistical methods utilized for analysing the collected data are also introduced.

In the third chapter, the pre-test and post-test outcomes, along with data from preliminary tests and participants' responses to the questionnaire, are presented and analysed. Charts and tables visually represent the numerical values of the results.

The next section concentrates on the conclusions that can be derived from this study. The research questions are re-examined in light of the findings. Lastly, recommendations for future research on similar subjects are offered.

i. PROBLEM SITUATION

Conference interpreters face with various specialized subjects throughout their careers. The meetings that they attend as interpreters are usually of technical nature. In general, participants of such meetings are experts in their respective fields, who use a common terminology that was once agreed upon. Interpreters need to understand the subject of the conference assigned to them, better than an ordinary educated person in order to analyse and reproduce what has been said; however, it cannot be expected from them to have the same depth of knowledge as the experts of a specific subject. Even so, interpreters still need to meet a certain threshold in line with the communication requirements of the conference delegates. Therefore, they need to carry out preparatory work which includes conducting research on the conference subject, consulting conference organizers, studying conference materials and drafting glossaries prior to an upcoming interpreting assignment in order to acquire the necessary linguistic and extralinguistic knowledge.

As put forward by a variety of studies carried out on quality in interpreting, using correct terminology can be an important indicator of quality in the ears of conference delegates. Thus, the use of inaccurate and inconsistent terminology may not only harm the source message but also the credibility of interpreters. Accordingly, preparing glossaries prior to interpreting assignments as well as having easy and swift access to the necessary terms in available glossaries can be assumed to support the quality of interpretation. In this regard, effective management of knowledge and terminology is important both for novice and professional interpreters.

Conference interpreters usually study the available preparatory materials and extract the relevant terminology and record them into bilingual or multilingual glossaries prior to an interpreting assignment. Once in the booth, they use such glossaries or glossaries provided by conference organizers to look up the terms whose equivalents they don't know or can't recall at the time of interpreting. In addition to conducting preparatory work before an interpreting assignment, conference interpreters also continue to learn new terms and concepts throughout the conference, thus they keep on refining and improving

their glossaries. Besides, it is also possible for them to receive glossaries or documents at the very last minute or during the conference. Computer aided or assisted interpreting (CAI) tools have been invented to automatize the processes mentioned above. The number of studies investigating the impact of using such tools is limited, thus more empirical research is needed to find out to what extent using CAI tools could aid interpreters or interpreting trainees in terms of glossary management in various scenarios both before and during simultaneous interpretation in the booth.

Consequently, the possibility of integrating CAI tools into the actual interpreting process of interpreting needs to be put to test in order to pave the way for giving direction to the future of interpreter training as well as interpreting-oriented technologies.

ii. AIM OF THE RESEARCH

This thesis aims (1) to describe briefly the functions of the available CAI tools specifically designed for interpreters as glossary management tools; (2) to evaluate the effect of using a CAI tool to look up terminology during SI on the overall SI performance of the participants compared to a traditional method, which is Excel, (3) to evaluate the effect of using a CAI tool to look up the equivalent term in the proper glossary during SI on the terminological performance of the participants compared to a traditional method, which is Excel; (4) to collect information about the experiences of the participants with the glossary tool following the SI tests through a questionnaire.

In this study, a pre-test post-test design will be employed to examine the impact of using a CAI tool on the simultaneous interpreting performance of the same cohort of novice interpreters. The scores from the pre-test and post-test will be subjected to statistical analysis.

iii. IMPORTANCE OF THE RESEARCH

Simultaneous interpreting has a unique workflow that is much more complex than that of translation. Therefore, interpreters need to be well prepared before any SI task by gaining both linguistic and extralinguistic knowledge related to the subject matter of an interpreting task and to find the terms that they are looking for while interpreting in the booth without being distracted.

Glossary management is a crucial aspect of conference interpreting, which can influence the overall interpreting performance. In an attempt to support interpreters before, during and even after an interpreting task, software developers started to design computer assisted terminology management tools around a decade ago after the emergence of CAT tools used in translation. Surprisingly, few terminology management tools were actually designed with interpreters in mind. Furthermore, as Bilgen (2009) found out in his survey, professional conference interpreters generally tend to shy away from using available terminology management tools, since they think that such tools often have a steep learning curve and are not user-friendly. Therefore, they develop their own habits based on individual experiences when it comes to creating and managing glossaries. CAI tools remain largely unexplored, with only a few studies examining the impact of incorporating these tools during the performance stage of simultaneous interpretation. Additional empirical findings can enhance our understanding of the effect of using such tools on SI performance and terminological precision. Consequently, this study is expected to make a contribution to the literature in this area and provide insights for SI instructors on incorporating CAI tools in the training of interpreting students.

iv. RESEARCH QUESTIONS AND SUBQUESTIONS

Research Question 1: Is there a significant difference in the simultaneous interpreting scores of the participants who used two separate glossary management programs (MS Excel and Interpreter's Help as a CAI tool)?

Research Question 2: Is there a significant difference in the terminological performances of the participants in terms of accuracy who used two separate glossary management programs (MS Excel and Interpreter's Help as a CAI tool)?

Sub questions:

1. Did the participants use any strategies (generalization, explaining and paraphrasing, using approximate meaning and naturalization or reproducing the sound, omission etc.) on the lexical level to interpret the terms included in the main tests according to the recordings of the participants?

2. Did the strategies used by the participants to interpret the terms placed in the main tests vary from one glossary management method to another?

Research Question 3: What is the general perception of the participants towards the use of a CAI tool for glossary management purposes based on their answers to the questionnaire?

v. LIMITATIONS

(1) This thesis focuses exclusively on the effect of using one particular CAI tool, which is Interpreters' Help during SI in comparison to using Excel as a traditional electronic glossary management program on SI performances and terminological performances of the participating novice interpreters.

(2) The directionality in this study is solely from B language to A language, meaning it is from English to Turkish.

(3) The use of the selected CAI tool "Interpreters' Help" is only limited to its conference or booth mode. In this study the free of charge version of the tool is used.

(4) This study was conducted remotely and it only managed to recruit 12 participants, who fulfilled the requirements of this study, particularly due to the fact that they had already graduated and moved to different cities. Therefore, findings of this research were preliminary and replication studies need to be carried out with samples of larger size in order to verify the findings of this study.

(5) The participants of this study took the same courses and recently graduated from the same department at the same university and none of them were highly experienced professional interpreters. However, their procedural skills such as multitasking might vary from one participant to another. In an attempt to control this variable, comments of the participants following each SI task were also considered within the scope of this study.

vi. ASSUMPTIONS

(1) It was assumed that participants were similarly affected by the conditions related to remote interpreting.

(2) The participants were assumed to have genuinely engaged in the experimental tasks, putting forth their maximum effort.

vii. ACRONYMS

SI: Simultaneous Interpreting

CAI: Computer Assisted or Aided Interpreting

AIIC: The International Association of Conference Interpreters

IATE: Interactive Terminology for Europe

UNTerm: United Nations' Multilingual Terminology Database

viii. DEFINITIONS

In this study, the following concepts and terms are employed within the context of their definitions.

INTERPRETERS' HELP: A web-based computer-assisted interpreting tool invented for interpreters' use in managing terminology. It also enables collaborative work on glossaries.

INTERPLEX: A computer-assisted interpreting tool developed for interpreters' use in managing terminology. It was created by Peter Sand and Eric Hartner.

INTERPRETBANK: A computer-assisted interpreting tool designed and programmed by Claudio Fantinuoli, a professional conference interpreter and PhD researcher specializing in interpreting-oriented technologies.

Traditional glossary methods: They include common office software including MS Word and MS Excel which are used by interpreters to draft and save glossaries as well as to look up terms in the glossaries that they have drafted when they need.

ix. RELEVANT RESEARCH

Computer aided or assisted translation tools seem to be a sought-after research topic in translation studies however, recently only a few papers, thesis and dissertations on conference interpreting examined the use and role of technologies including computer assisted or aided interpreting tools. Similarly, resources on interpreting-oriented technology are rather limited in comparison to those concerning technology use while translating. *Interpreting and Technology* edited by Claudio Fantinuoli is a book of articles focusing on the present and future role of technology in interpreting (Fantinuoli, 2018). With respect to the information and communication tools (ICTs) used in interpreting, an elaborate study was conducted from a broader perspective (Berber-Irabien et al., 2010). The author aimed to identify the ICTs that could be used in interpreting and to find out the perception of interpreters by looking at the responses from 267 subjects living in 47 different countries concerning the technologies that they can employ both as professionals and trainers of interpreting. According to the collected responses, most professionals and trainers of interpreting have positive attitudes toward ICTs in general, and they are more willing to integrate such tools with their work despite resistance among some practitioners.

One of the earliest investigations into the potential for developing terminology software specifically for interpreters was conducted by Barbara Moser-Mercer (Moser-Mercer, 2002). Her objective was to understand how conference interpreters handled terminology management in real life and to pave the way for the development of more interpreting specific innovations. The author collected data on interpreters' habits and needs regarding management of terminology by sending questionnaires to members of the International Association of Conference Interpreters (AIIC). According to the results of this study, participants were predominantly open to use technology both to record and share glossaries. Drawing on her results, the author provided suggestions and tips for developers to work on more realistic solutions that interpreters can rely on (Moser-Mercer, 1992). In a similar vein, Bilgen (2009) investigated terminology related needs and habits of professional interpreters working in Canada and developed a sample database for terminology management based on the guidelines formulated with the collected responses (Bilgen, 2009). After interpreting specific computer assisted terminology management tools became marketable at the end of 1990s, first attempts to describe and evaluate them followed. For instance, Costa et. al. (2014) carried out a

thorough analysis of seventeen terminology management systems (TMS) capable of aiding interpreters. They aimed to find out to which extent available terminology management systems can be useful for interpreters. They chose 15 measurable features for the assessment and classified the tools according to their functions, including navigating multiple glossaries, the number of working languages that can be added to glossaries, the ability of extracting terms from existing documents. The results demonstrate that none of the investigated tools had all these functions.

In 2016, a large-scale survey was carried out to find out the general sentiment of practitioners of interpreting about using such tools designed for interpreting. With this survey, Corpas (2016) aimed to identify interpreters' expectations as regards to interpreting oriented technologies, including Interplex, InterpretBank, LookUp and The Interpreter's Wizard, unit converters, note-taking applications among others (Corpas, 2016). The survey addressed interpreters who are affiliated with professional organizations such as AIIC. After analysing 133 responses, it was concluded that the majority of the respondents considered technology as a beneficial supplement to their existing work environment, however none of the known available tools could actually fulfil their expectations as such tools were not easy to learn and adopt. As part of his dissertation, Stoll (2009), who is an AIIC member conference interpreter and researcher, adopted a bottom-up approach and attempted to map out the terminology management process of the professional conference interpreters during actual simultaneous interpreting assignments by observing professional interpreters while working and by analysing their handwritten glossaries as well as alphabetically ordered term lists prepared on MS-Word or those term lists created via the earlier electronic terminology management systems such as MUltiTerm and DoITerm (Stoll, 2009). In doing so, he presented an elaborated micro-macro and meta data-oriented terminology entry model adapted to the workflow of interpreting using LookUp, a product which he developed in collaboration with Dr. Frank Austerhöhl and Sabine Meyer¹. The author believes that it is essential to determine what categories of information are found in hand-written glossaries and manually prepared manuscripts and how such information is reactivated during interpreting in order to develop a workflow-based terminology management system that serves well to the interpreters. Another pioneer in computer assisted terminology tools is Fantinuoli, who created InterpretBank (A computer assisted

¹ <http://www.lookup-web.de/philosophy/aboutus/index.html>

interpreting tool) as part of his doctoral dissertation. The researcher suggested a classification for CAI tools based on their structure and the range of functionalities they provide, dividing these tools into first- and second-generation categories (Fantinuoli, 2018). Accordingly, the first group of tools were designed to create and navigate glossaries but didn't offer additional functions such term extraction and automatic speech recognition. Some of these less advanced tools include Interpreter's Help and Interplex while more advanced ones include InterpretBank and Intragloss which can extract terms from corpora and other resources such as the internet in order to create both online and offline term lists. In addition to his attempts to develop terminology management tools both for translators and interpreters such as TranslatorBank and InterpretBank, Fantinuoli also worked on possibilities that glossary management tools can offer. In his article, Fantinuoli (2018) focuses on the implications of using technology for interpretation and briefly discusses how the future of the profession of interpreting will look like. The author argues that CAT tools used in the translation sector are much more evolved compared to the recently developed CAI tools and invites scholars to assess their feasibility and their adoption by interpreters as well as transferring the current knowledge to the new generation of interpreters (Corpas Pastor & Duran-Munoz, 2018). Several studies also focus on developing various criteria to evaluate terminology management tools in terms of aligning with the specific expectations of interpreters regarding managing glossaries (Costa et al., 2014; Will, 2015). On the other hand, some other studies focus on the use of CAI tools to extract and record term lists while preparing for an interpreting assignment (Fantinuoli, 2017; Xu, 2015).

Concerning the use of terminology management tools to carry out preparatory work prior to an interpreting assignment, Xu (2015) carried out experimental research in which students were provided with comparable corpora. In that study, the students made use of automatic term extractors and concordance tools to create term lists from preparatory documents. The findings show that test groups exhibited better terminology performance during simultaneous interpreting, indicating that they interpreted more terms accurately and made fewer term omissions. A similar study that attempts at empirically analysing CAI tools in terms of interpreting quality, was carried out by Gacek (2015). The author tested the use of terminology management tools in the booth and investigated whether their use can improve interpreters' performance with regard to terminological accuracy and completeness. His study demonstrates that the respondents found it more efficient to use InterpretBank compared to other solutions such as paper glossaries and

glossaries prepared in Word or Excel format. Another key study of similar nature was conducted by Prandi (2018) regarding the cognitive effect of using terminology management tools. The author's objective was to determine if the use of computer-assisted interpreting tools leads to saturation, or on the contrary, helps prevent saturation by decreasing the cognitive load during terminology search and delivery of the target text (Prandi, 2018). Her experiment indicates an enhancement in terminological rendition during interpretation of technical speeches when a CAI tool is employed. Regarding the integrating such tools into interpreter training, the same author (2020) sent a survey to 25 interpreting training institutions so as to determine whether the surveyed interpreter training institutions have integrated terminology management solutions in their curriculums (Prandi, 2020.) The results showed that the number of universities that integrated CAI tools in their curriculum was very small; furthermore, there is lack of information on such tools among trainers despite growing interest in the field. Recently, we have seen a number of studies aiming to evaluate terminology management solutions particularly in terms of creating, managing and consulting glossaries prior to interpreting and during delivery in the interpreting booth (Fantinuoli, 2017; Mellinger, 2019; Ortiz & Cavallo, 2018; Prandi, 2018; Will, 2015). Nevertheless, there is few empirical studies available which test the applicability, advantages and disadvantages of using such tools in real life before and during an interpreting task. However, as Prandi (2017) stated, some recent studies have illustrated that technological tools have already made their way into the booth (Bilgen, 2009; Berber Irabien, 2010; Corpas Pastor and May Fern, 2016). Therefore, investigating the possibilities of interpreting-oriented software tools will shed light to the future of interpreting and eventually will lead to more user-friendly innovations in the field.

CHAPTER 1

BACKGROUND INFORMATION AND THEORETICAL FRAMEWORK

This chapter will focus on the theoretical groundwork of this thesis. This chapter will first introduce general information about interpreting including evolution, settings, and modes pertaining to simultaneous conference interpreting. The preparation phase of conference interpreting, inclusive of terminological work and knowledge acquisition will also be introduced in the light of the related cognitive approaches to SI. Finally, the concept of CAI will be briefly explained, and the selected CAI tools will be presented.

1.1. AN OVERVIEW OF INTERPRETING

The term interpreting etymologically originates from the Latin word *interpres*, the second part of which is believed to stem from *partes* or *pretium*, signifying price (Pöchhacker, 2004, p. 10). Another potential etymological source for the Latin word is "between prices." This perspective suggests that the origin is linked to trade, where goods are exchanged, and an interpreter serves as a mediator between parties (Chesterman, 2006, p. 6). Vermeer (1992, as cited in Pöchhacker, 2004) noted that expressions in Germanic, Scandinavian, and Slavic languages referring to an individual performing interpreting can be traced back to Acadian, the ancient Semitic language of Assyria and Babylonia around 1900 BC. The Akkadian root *targumanu*, through an etymological sideline from Arabic, also gave rise to the English term for interpreter, *dragoman* (Pöchhacker, 2004, p. 9). This word was borrowed by Arabic (*tardjumān*) and then by Turkish (*tercüman*).

The Routledge Encyclopedia of Translation Studies characterizes interpreting as "the oral or signed rendition of oral or signed discourse, in contrast to the oral translation of written texts" (Gile, 2009, p. 51). Otto Kade (1968) characterizes interpreting as a type of translation where the source text is presented only once and the target language text is generated under time constraints with minimal opportunity for revision. Kade further classifies interpreting as "a real-time translational activity, carried out for immediate consumption" (Kade, 1968, as cited in Pöchhacker, 2004, pp. 10-11). Using Kade's criteria, Franz Pöchhacker devises the definition of interpreting as a type of translation in which a primary and final version in another language is created based on a one-time presentation of an utterance in a source language (Pöchhacker, 2004, p. 11). Initially,

translation theories had a significant impact on the evolution of interpreting studies. After Schleiermacher's 1813 essay "On the Different Methods of Translating," German translation scholars abandoned the conventional distinction between oral and written translation (Übersetzen and Dolmetschen) and, following Schleiermacher's suggestion, they divided translation into pragmatic and literary/philosophical translation, with the former encompassing interpreting (Garzone & Viezzi, 2002, p.21). But eventually, interpreting has been increasingly recognized as a cognitively, culturally, socially, and ideologically complex activity that needs to be investigated from a much broader perspective. At first, professional expertise developed through hands-on experience in a process of trial and error. But this collective experience and practical knowledge had to be described scientifically, further improved, and disseminated to future practitioners in order to meet an immediate market demand. Thus, emerging curiosity of both researchers and practitioners to understand the nature of interpreting led to research efforts in the field. As early as 1930 Jesús Sanz Poch, a Spanish educator got curious about the way interpreters worked in the international organizations in Geneva as he was fascinated with the psychological dimensions at play. Hence, he conducted a survey with the participation of around twenty practitioners. The study examined the abilities or aptitudes required for the task, which he listed as intelligence, concentration, intuition and memory, and affective and moral traits, including poise, dignity and discretion (Mikkelsen & Jourdenais, 2015, p.62). The earliest profession building book on conference interpreting with a pedagogic orientation which was named *The Interpreter's Handbook* by Jean Herbert, having appeared in 1952 and been dedicated to Paul Mantoux, the first conference interpreter. Initially, authors and researchers naturally focused on describing abilities and skills of conference interpreters as well as the task of interpreting. At the end of 1950s, practitioners started to reflect on and write about their thoughts and experiences in the field. The first master's thesis on interpreting was defended by Eva Paneth at the University of London in 1957. Paneth collected observational data on interpreting training at several interpreter schools in Europe (Paneth, 1957/2002). In the 1960s psychologists, neurologists and psycholinguists were intrigued by the cognitively complicated nature of interpreting and increasingly became interested in the cognitive dimensions of the practice. In particular, the simultaneity of listening and speaking became an interesting topic of psychological research. Their studies were mainly empirical and concerned with the effect of bilingualism, native language, source language, ear-voice span, long and short-term memory, pauses in delivery among others (Angelelli, 2004, p.15). One of the earliest studies was conducted

by Treisman in 1965 when he compared lag times in shadowing and simultaneous translation. As a result, he found that the response time required for simultaneous translation was longer than shadowing. Another study on the time lag between source speech and interpretation was conducted by Oleron and Nanpon in the same year (see Gerver, 1976). They asked three interpreters to produce renderings of paragraphs, sentences, and words in a controlled environment for measurement after analysing authentic recordings and they found that the average time lag values were two to three seconds with considerable variability. In 1969, Barik conducted the first doctoral research on simultaneous interpreting, which yielded a more complex set of experimental data. In his study, Barik asked three pairs of subjects with different levels of training and linguistic competence in English and French to interpret four different types of source material and measured the extent of simultaneity or overlap of the source speech and the interpreters' output. Based on the findings, Barik concluded that interpreters crammed as much of their output as they could into pauses in the original so as to avoid simultaneous speaking and listening (Mikkelsen & Jourdenais, 2015, p.63). In the early 1970s conference interpreter and interpreter trainer Danica Seleskovitch of the École Supérieure d'Interprètes et de Traducteurs in Paris was skeptical about the interest that psychologists took in the field and encouraged real practitioners to do research on interpreting under her leadership. Seleskovitch, who served as the executive secretary of AIIC in the early 1960s played a key role as an interpreter trainer at ESIT, the École Supérieure d'Interprètes et de Traducteurs, in Paris and established interpreting as a branch of scholarly study. She and Lederer formulated the *Théorie du sens* (also known as the Theory of Sense), which eventually became known as the 'Interpretive Theory'. This theory posits that interpreting discourse is a natural process where a combination of an utterance's semantics and external knowledge generates states of awareness that align with the conveyed message. (Seleskovitch, 1986, as cited in Setton, 1999, p.39). Accordingly, the source speech is first heard, analysed for sense and finally deverbilized; meaning that the interpreter focuses on the message and forgets the linguistic form in which the message was expressed in the source language. This description was later enriched by Lederer with further ideas about units of sense or meaning. Lederer explains 'units of sense' as intervals marking the moment when an idea (mental unit) is constituted, which are turned into deverbilized knowledge as they gradually integrate larger units and become significant ideas (Lederer & Larché, 2003). Accordingly, the comprehension of a speech depends on the listener's previous knowledge about the subject matter and the speaker's perspective. If the listener

possesses prior knowledge and understands the speaker's position, they can understand the message as it is being delivered, without needing to wait until the end. However, if the listener lacks context or background knowledge, they may need to hear the entire message before comprehending it fully. Consequently, some speeches may appear to be repetitive to some listeners while others may seem too concise or incomplete. In the case of simultaneous interpreting, the interpreter gradually converts the units of sense into comprehensible knowledge for the listener by using their linguistic and contextual knowledge.

The theories proposed by Seleskovitch and her colleagues such as Lederer had a long-standing impact on the training approach of ESIT. Interpreter trainers in Paris gave priority to the sense-based process of interpreting rather than the language and regarded consecutive mode of interpreting as the foundation of interpreting and this tradition still prevails in numerous interpreter training programs in the world. The trainees were required to be highly proficient in their working languages before starting the two-year post-graduate interpreting course (Mikkelsen & Jourdenais, 2015, p.65). Although, cognitive aspects of interpreting were excluded and studies undertaken by psychologists on interpreting were generally ignored by the practitioners of the Paris School, elsewhere there are examples of collaboration between practitioners and researchers such as the process model of interpreting developed by interpreter Moser Mercer on the basis of Massaro's model of speech comprehension. Another European interpreter who drew on psychologists was Kirchhof of Germany, who discussed cognitive load and processing capacity (Ferreira & Schwieter, 2015, p.45). On the other hand, David Gerver, a British psychologist devoted his doctoral work at Oxford University to simultaneous interpreting and carried out a number of experimental studies with experienced interpreters as subjects, which addressed important concerns of the profession such as the impact of high input speed, poor sound quality and source-speech prosody on SI performance. Although the Paris School community of interpreters was not in favour of adopting concepts and methods developed in other fields, a number of curious minded interpreters, including Daniel Gile and Barbara Moser-Mercer pursued their interdisciplinary interests and their efforts laid the groundwork for a new phase in the evolution of the field, which is called "Trieste Era" in the field. The name is a reminder of the international conference held in late 1986 at the University of Trieste where interdisciplinary perspectives and cooperation possibilities were discussed (Mikkelsen & Jourdenais, 2015, pp.64-65). In the late 1980s research into interpreting was scattered

and there was little exchange of information among researchers. Thus, Daniel Gile took initiative in order to set up the Network of Interpretation Research and Theory (IRTIN) the name of which was later on changed as Conference Interpreting Research Information Network (CIRIN). Since the first publications on conference interpreting emerged (Herbert 1952; Rozan 1956; Paneth 1957), research in the field has taken various directions. Pöchhacker (1995a) notes that the number of works on interpreting during the six-year period between 1989 and 1994 was twice that of the preceding 36 years (1952–1988), highlighting the growing interest in interpreting research (as cited in Garzone & Viezzi, 2002, p.15). At the beginning of the 21st century, scholars from all corners of the world gathered at the 1st Forlì Conference on Interpreting Studies in Italy to discuss the present state and future possibilities of interpreting as both a discipline and a profession, addressing a wide range of relevant topics such as research paradigms, methodology, interpreter training, and quality in interpreting. Since then, the rising number of in-house interpreters working for intergovernmental organizations like EU institutions and the increasing significance of various interpreting modes, such as community interpreting and media interpreting, have shifted researchers' focus from solely cognitive aspects to pragmatic and cultural aspects of interpreting. This shift has, in turn, introduced new perspectives in the field of conference interpreting. The influence of interpreting-related technologies on the profession is currently becoming a new turning point in the field.

1.2. MODES AND SETTINGS OF INTERPRETING

As seen in the previous section, interpreters have always been in the midst of various bilingual and multilingual communication contexts ever since members of different cultures encountered. Although the primary function of interpreting is still to ensure flawless communication among parties conversant in different languages by getting both the message and the style of the speaker across, the way and the social context in which it is conducted has become varied as time progressed. Not only the requirements and demands of customers, but also interpreters' standards for their working conditions have defined the conducting styles (modes or modalities) and the settings of interpreting. Pöchhacker (2004) defines setting as a social context of interaction where interpreting takes place as an activity (p.13). Therefore, setting is not restricted with space only and it encompasses a greater sociocultural context in which interpreters are situated with the other parties who are beneficiaries of the interpreting service. Modality or mode of

interpreting on the other hand, refers to the way interpreting is conducted, thus the working mode of interpreters.

Table 1 visualizes the general framework of modalities and settings of interpreting:

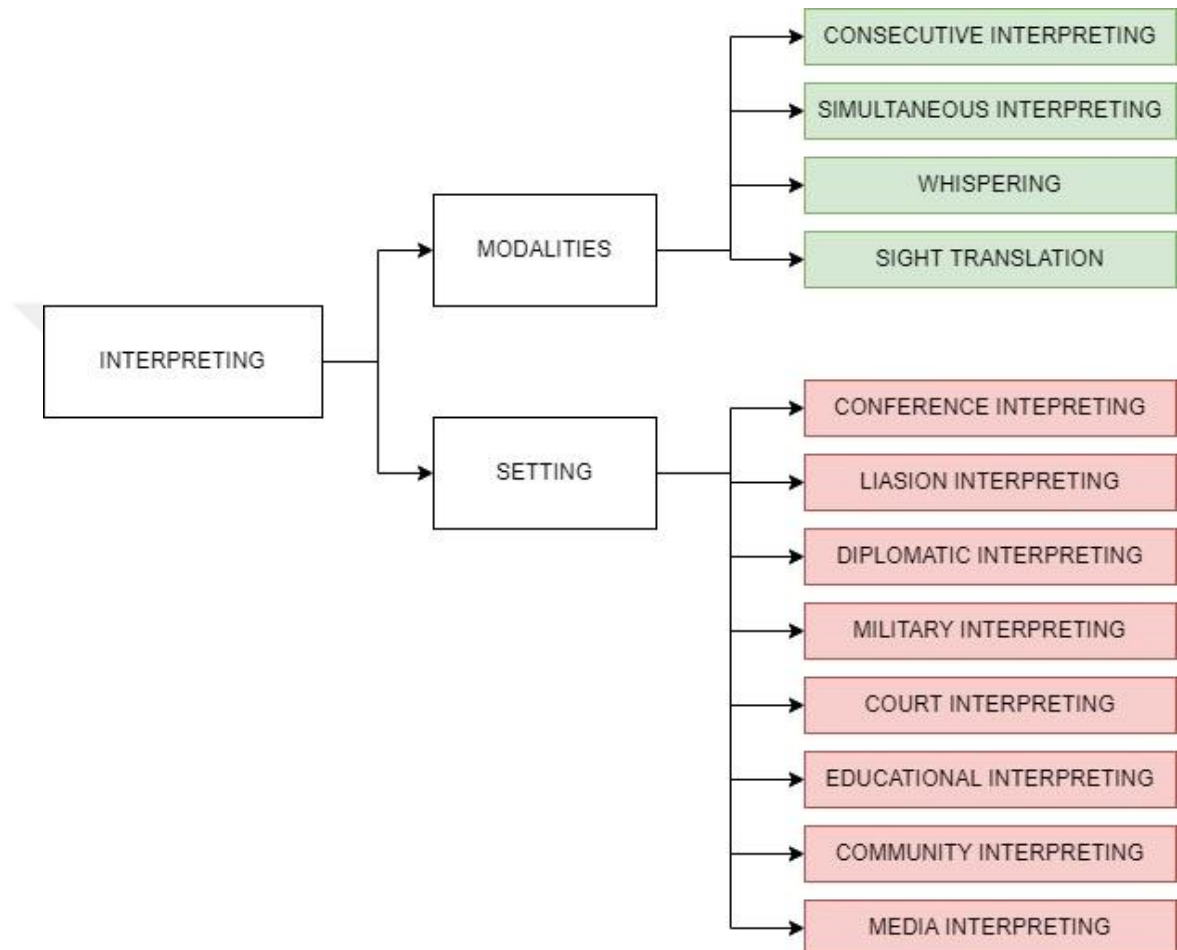


Table 1: Modalities and settings pertaining to interpreting (Doğan, 2020, pp.49-68; Pöchhacker, 2004, pp. 16-19).

As illustrated in the table, there is considerable variation in both modalities and working modes of interpreting. It is crucial to clearly define distinct tasks into separate modes to prevent makeshift arrangements that could result in subpar outcomes. However, in real-life situations, combinations and variations of these forms may be employed based on specific circumstances, such as performing a mix of whispering and consecutive interpreting within the same meeting (Setton & Dawrant, 2016, p. 20).

To maintain the focus of this study, the following chapters will concentrate solely on conference interpreting as a setting, and in terms of modality, they will exclusively address SI.

1.2.1. Simultaneous Interpreting

Simultaneous interpreting (SI) is a modality of interpreting. In this modality, the interpreter translates the source speech concurrently with the speaker's delivery, albeit with a few seconds' delay. In SI, the retrieval of the source speech (SS), its rendering, and the production of the target speech (TS) take place almost simultaneously. However, it is important to note that the simultaneous aspect of SI refers to speaking rather than interpreting (Doğan, 2020, pp.53-54).

SI enables participants in multilingual conferences to communicate and follow discussions in a language that they can understand, thereby ensuring equal representation among delegates and countries. To effectively perform SI, conference interpreters typically sit in soundproof booths equipped with headphones, interpreting consoles, microphones. Booths and auxiliary devices for SI must meet certain requirements to guarantee high-quality interpretation services. AIIC has established specific standards for interpreting equipment and services, such as ISO 2603:2016 for constructing and renovating permanent booths, ISO 4043:2016 for manufacturing mobile booths, and ISO 22259:2019 for standard conference systems and components like microphones, headphones, and sound reinforcement equipment. Two interpreters usually work in the same booth, alternating every 20-30 minutes. According to the Conference Interpreters Association of Turkey (TKTD), an interpreter should not work alone for more than one hour, and two interpreters should be assigned to an assignment lasting longer than one hour.

Listeners hear the interpretation through wireless infrared receivers or personal headphones. This modern, acoustically assisted form of SI has become the default mode of interpreting in international organizations. Before SI was adopted, consecutive interpretation was the default mode of interpreting at the international arena, and it is still used at small-scale meetings. In the United Nations, delegates communicate via SI in six languages, while the European Parliament routinely uses eleven, or 110 possible combinations in a single meeting (Setton, 1999). SI was invented as an improvement

over consecutive and whispering modes due to the need for a more efficient method, as consecutive interpreting took more time, extending meetings and slowing decision-making processes. With SI, interpreters translate the text while hearing it, making it less time-consuming than consecutive interpreting and enabling a multilingual conference to proceed at the same pace without language barriers or delays. SI was also found to be more effective than whispering since interpreters would sit in soundproof booths and not disturb the speaker. All conference participants could comfortably listen to the oral translation through earphones (Gaiba, 1998, p.29).

Simultaneous interpreting (SI) in its modern form was first employed during the Nuremberg trials (1945-46) and later the Tokyo trials (1946-48), with the invention of wired systems for speech transmission. However, initial attempts at SI date back to the 1920s. At that time, stenographers—highly qualified verbatim reporters with League of Nations experience—took notes in the original language for interpreters to sight-translate into whispers into a hush-a-phone functioning as a microphone. The interpreters did not listen directly to the speaker, as it was assumed they could only translate from written notes.

Before the first SI system was adopted, consecutive interpretation was the preferred mode at the League of Nations during multilingual meetings. This method had drawbacks, such as prolonging meetings and making it difficult for delegates to concentrate on important discussions and make quick decisions. Edward Filene, a businessman, first conceived the idea of a simultaneous translation system after experiencing the inconvenience of consecutive interpretation at League of Nations assemblies. In 1925, he wrote to the League's secretary-general, proposing a simultaneous translation system to save time and maintain the audience's attention. Lacking technical expertise, Filene shared his idea with top scientists at the American Telephone and Telegraph Company, and British Professor Gordon Finlay studied the technical aspects. The resulting Filene-Finlay simultaneous translation device was commercialized and sold to IBM (Takeda & Baigorri-Jalón, 2016).

Following World War II, the United Nations and affiliated organizations largely adopted simultaneous interpreting for its efficiency and effectiveness over consecutive interpreting. The growth of international organizations and the process of globalization

have contributed to the evolution of conference interpreting as a profession, with SI becoming the prevailing mode at conference settings.

Although technology has made SI possible, the true magic lies in interpreters' skills and competencies. SI is a cognitively demanding task associated with distinctive characteristics, such as the ability to work under pressure, multitask, maintain an agile memory, and possess extensive world and domain-specific knowledge. In SI, interpreters must understand a unit of meaning, or an idea, before translating it into the target language. The lag between the original and interpreted version, known as *decalage*, varies but is generally no longer than seven or eight seconds.

Interpreters must listen, comprehend, and formulate the target language rendition through intensive mental activities, often considering visual aids like slides or PowerPoint presentations. In some cases, interpreters must also take notes while interpreting, requiring the use of multiple high-level mental skills (Doğan, 1999). All such issues pertaining to SI alongside with short-term and long-term memory, time lag, segmentation, pauses, ear-voice span (EVS), comprehension, delivery strategies, fidelity, accuracy, quality of production, and input variables like intonation, accents, and delivery speed and mode are among main subjects of research that help us to develop our understanding of SI (Pöchhacker, 2004).

1.2.2. Strategies in Simultaneous Interpreting

SI is a cognitive task, which necessitates the acquisition of various skill sets and strategies to handle both cognitive and language-specific challenges. Gile (2009) proposes that chronic and occasional reasons contribute to cognitive saturation-related errors. Chronic reasons pertain to situations where an interpreter lacks adequate procedural knowledge (cognitive skills and implementation of coping tactics) and/or declarative knowledge (extralinguistic knowledge, grammar rules, etc.) to manage competing efforts, as described in his Effort Models. The processing capacity needed for an interpreting task can be reduced through increased expertise gained from practice and guidance from instructors. Occasional reasons, on the other hand, relate to cognitive saturation triggers encountered under specific circumstances involving linguistic and semantic features of the source speech, communication environment, lack of specific background knowledge about the communicative setting, or subjective factors related to

interpreters such as momentary lapses in attention or mismanagement of processing capacity (Gile, 2009). These constraints demand significant processing capacity. In the event that the processing capacity required surpasses an interpreter's available capacity during the interpreting process, issues emerge. Gile (1995) suggests that SI difficulties result from time pressure, limited processing scope for segments, and divided attention. Nevertheless, the risks and challenges posed by simultaneous interpreting (SI) do not always stem from the interpreter themselves. Problems can also arise from external factors in addition to the interpreter's self-dynamics. To overcome such difficulties, interpreters can acquire a variety of strategies, including SI skills aside from language skills. These include listening while speaking, and general knowledge (Setton, 1999, p.50). Doğan (2020) classifies these strategies into two categories as "Strategies to Avert Challenges" and "Strategies to Cope with Challenges" (pp.185-200).

Strategies for averting challenges can be developed through training, frequent practice, and deliberate practice. Shreve (2006) defines deliberate practice as regular engagement in specific activities aimed at enhancing performance in a particular domain, where a domain represents a skilled activity. Deliberate practice is distinct from merely accumulating experience in an activity, although cumulative experience in a specific domain is necessary for gaining expertise. As Ericsson and Smith (1991) suggest, deliberate, focused, and task-relevant practice is critical for acquiring and maintaining expertise (Ericsson & Smith, 1991).

Studies demonstrate that practice itself can lead to cognitive changes, enabling experts to bypass typical information processing limits, such as Miller's (1956) working memory capacity of 7 ± 2 units (as cited in Setton & Dawrant, 2016, p.46). He argued in his paper "The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information" that an average person can effectively process no more than seven units or chunks of information.

In order to minimize the aforementioned challenges, interpreter candidates need to acquire strategies for averting challenges through deliberate practice and education. These strategies include shadowing exercises, memory exercises, managing ear-voice span (EVS), improving the number of units in short-term memory, teamwork in a simultaneous interpreting booth, and analysing and dissecting the structure of a speech

and note-taking (Doğan, 2020, p. 186). EVS refers to the time lag between the moment an incoming message is perceived by an interpreter and the moment the interpreter begins interpreting the perceived message or idea. The production of the target message usually lags behind that of the source message since a unit of meaning must first be heard in order to produce a sufficiently meaningful target message. This lag is measured as the number of words or seconds between the input and output. Studies indicate that the average ear-voice span (EVS) for interpreting varies between 4 to 5.7 words (Treisman, 1965; Goldman-Eisler, 1972; Gerver, 1976).

As mentioned earlier, strategies for averting challenges enable interpreters to overcome chronic problems related to the task of interpreting. However, interpreters also face occasional problems, such as linguistic and semantic features of the source speech, lack of background knowledge about the communication environment and speakers, technical issues like poor sound quality or heavily accented non-native speakers, or other subjective reasons like fatigue and attention lapses. Strategies for coping with challenges can help address these occasional problems that may arise during simultaneous interpreting. Doğan (2020) suggests that coping strategies include tactics applicable at lexical and syntactic levels (p.190). Lexical and syntactic strategies help overcome challenges encountered at the lexical level and difficulties resulting from syntactic differences between the language pair being used, respectively. Such difficulties may lead to hesitation pauses, losses, unnatural hesitation fillers, which ultimately disrupt the flow of interpreting.

Doğan (2020) categorizes coping strategies in simultaneous interpreting into three groups: general, lexical, and syntactic tactics (pp.191-200). General tactics involve stalling with neutral material until the interpreter catches the missed part of a speech and reformulates it later to buy time without subjecting listeners to a long, uncomfortable silence; omitting expressions that the interpreter cannot understand and proceeding with the next sentence structure instead of lagging behind the speaker; and finally, directing delegates to alternative information sources such as PowerPoint presentations or handouts containing graphs and figures related to the speech (Doğan, 2020, pp.191-196).

Coping strategies at the lexical level include generalization, explaining and paraphrasing, using approximate meaning, and naturalization or reproducing the sound. Generalization allows interpreters to use a superordinate word or a cluster of words that encompass individual words in the same category, instead of interpreting each word separately, to reduce cognitive load and simplify unnecessary details that might confuse listeners. Explaining and paraphrasing strategies can be employed when a word's equivalent doesn't exist in the target language (TL) due to cultural differences, or when the equivalent exists in the TL but the interpreter struggles to recall it immediately. In these cases, interpreters may paraphrase or explain the term in their own words. If interpreters do not know or cannot remember the exact meaning of a word in the source language (SL), they can provide an approximate meaning by drawing on their extralinguistic knowledge, knowledge of the speaker's position, and the linguistic rules of the concerned language pair (Doğan, 2020, pp.193-194). Naturalization or reproducing the sound is another strategy interpreters can use when they do not know the appropriate equivalent of a term in the target language, by adapting it to the morphological and phonological rules of the target language (Gile, 1995, p.207).

As for coping strategies at the syntactic level, they include macroprocessing, segmentation or salami technique, using pat phrases, anticipation, and employing filler words (Doğan, 2020, pp.196-200). Macroprocessing is useful when a speaker uses long, poorly structured, and complicated sentences that could be expressed more concisely with shorter, simpler sentences. In such cases, interpreters should focus on conveying the meaning behind unnecessarily complex sentences rather than interpreting every word, resulting in a comprehensible and well-structured target speech. When the source language and target language have significantly different syntax with embedded or unclear sentence structures, interpreters must store a large amount of information for some time, leading to an increased processing capacity requirement (Gile, 1995, p.193). Alternatively, when the source speech has extra-long but well-structured sentences read from a written speech note, interpreters can split these long sentences into shorter, manageable ones before reformulating them in the target language, which will help alleviate the cognitive load of the interpreters (Doğan, 2020). Jones (1998) made an analogy between cutting a salami into slices and dividing sentences into smaller chunks, referring to this technique as the "salami technique" (p.92). On the other hand, pat phrases can also be used to save time during interpreting. These are phrases that are ready for any occasion and can be used without requiring any intellectual effort. Having

a repertoire of set phrases can help interpreters economize on their energy, allowing them to save time and concentrate more effectively on problematic aspects (Jones, 2002, p. 114).

Interpreters can employ the anticipation strategy to predict downstream structure or meaning by recognizing sentence patterns or the general direction of the speaker's message (Setton and Dawrant, 2016, p.222). This strategy helps interpreters not only form expectations about what the speaker will say next but also sometimes even predict more or less the exact word or sentence continuations. Gile (1995) states that there are two types of anticipation: linguistic and extralinguistic anticipation (p.173-174). Linguistic anticipation is based on the premise that words follow each other with highly differentiated probabilities rather than randomly. Knowledge of grammatical rules, speech patterns, collocations, and standard phrases in a speech offer the possibility of anticipating what word or sentence structure will follow next, thus helping reduce the processing capacity requirements of interpreters (ibid: 173). Extralinguistic anticipation, on the other hand, is based on external knowledge (Setton, 1999, p.52). Interpreters may predict how the speech might unfold from the context of the meeting and the speakers' positions. For instance, a speaker who has already expressed severe criticism of a point of view will not suddenly turn around and approve that point of view. If interpreters also make use of other available knowledge, such as a delegate's position and arguments, their anticipation will be improved (Jones, 2002, p. 105). In addition to anticipation, interpreters may sometimes resort to using filler words to fill in the silence for extremely slow speakers. Filler words do not alter the meaning, but they need to be used with parsimony, as excessive use may give the impression to the audience that the interpreter is unsure of what he/she is saying (ibid: 96). Filler words in the English language include "really," "actually," "well," and "so to say," among others.

1.2.3. Textuality in Interpreting

Texts are the main mediums that both interpreters and translators work with. Drawing on her experiences as a conference interpreter and interpreter trainer Doğan (2022) defines a text as a tool of communication and as a product of human cognition and oral or written communication which is structured by bringing words together in line with a set of rules in a way that the words are brought together in unity in terms of structure, meaning and reason and are built with grammatical structures within a specific context (p. 111).

Initially, a text was regarded as a medium for two distinct modes of discourse: written and oral communication. However, over time, it became evident that the same language can vary in terms of the patterns of the medium embodying it. Consequently, the dichotomy between written and oral communication as separate modes of discourse lost its prominence, and new modes of discourse that span between written and oral mediums emerged (Gregory & Carroll, 1978, as cited in Doğan, 2022, p. 155). As a result, the modes of discourse that interpreters frequently encounter include spontaneous and non-spontaneous speeches, as well as written texts designed for reading or for oral delivery while imitating oral discourse.

A text, whether written or spoken, consists of a series of sentences. However, these sentences can only be perceived as a text by the reader or listener if they are formed and combined in accordance with the standards of textuality. A text is more than just a linguistic unit; it is also an element of human cognition, communication, interaction, and action. To be considered as a text, it must first meet the seven standards of textuality. These standards include cohesion, coherence, intentionality, acceptability, informativity, situationality, and intertextuality (De Beaugrande & Dressler, 1981, as cited in Doğan, 2022, pp. 112-114). These criteria were also taken into account when preparing the speeches utilized in this study for the simultaneous interpreting experiment.

Cohesion

Cohesion, the first of the seven standards, pertains to the surface-level connections within a text created by utilizing various cohesive devices that unify the text. These devices should be employed in a manner that enables readers to anticipate the direction of the text, ensuring that a cohesive text has both semantic and syntactic links (Doğan, 2022, pp. 112-113). Halliday and Hasan (1976) classified these cohesive devices into five primary categories: "Reference" (including anaphoric, cataphoric, exophoric, personal reference, possessives, adjectives and pronouns, and demonstrative reference), "Substitution", "Ellipsis", "Lexical Cohesion", and "Conjunction" (as cited in Doğan, 2022, p.114).

Coherence

Coherence pertains to the underlying concepts and conceptual relations in a text that has been rendered cohesive. While coherence is created by the author, the receiver's background knowledge and world knowledge determine the extent and manner in which the text is perceived by the receiver (Doğan, 2022, p. 113).

Intentionality

Intentionality refers to the text producer's attitude towards the text and their intention for creating it using cohesive and coherent devices (Doğan, 2022, p. 113). In essence, the author aims to form a cohesive and coherent text that serves a specific purpose.

Acceptability

Acceptability refers to the reader's perception and evaluation of a text, which can be influenced by the effective use of cohesive and coherence devices (Doğan, 2022, p. 113). Every text is crafted with the intention of being well-received by its intended audience.

Informativity

Informativity can be defined as the capability of a text to convey familiar or unfamiliar and anticipated or surprising information to its readers (Doğan, 2022, p. 113). According to Beaugrande and Dressler (1992), a text should introduce a novel and unexpected concept (as cited in Doğan, 2022, p. 113-114). This criterion is particularly relevant to the current study, as the pre-test and post-test speeches intentionally included technical terminology as a variable.

Situationality

Situationality is a term that refers to the features of a text that make it applicable to a current or retrievable situation of occurrence (Doğan, 2022, p. 163). Situationality is a

crucial consideration in the field of translation and interpreting. In the context of translation or interpreting, the situationality of a text or speech refers to the presence of a situation in which translation or interpreting services are required.

Intertextuality

Intertextuality is the use of elements from a prior text to construct a new text (Doğan, 2022, p. 114). These elements enable readers to recognize the characteristics of previous texts within the new text, facilitating their understanding of the new text. Consequently, the interpretation of a text is heavily influenced by the prior experiences of the readers. In the case of interpreters, they engage in preparatory work before each interpreting assignment, which may include studying preparatory materials such as parallel documents on the conference topic, available in their working languages. This helps interpreters become familiar with both the subject matter to be discussed at the conference and the relevant terminology.

1.2.4. The Rise of Conference Interpreting as a Profession

Interpreting is an ancient practice that predates written translation, and has long served as a means of facilitating communication between speakers of minority and majority languages in various settings, from ancient Egypt to the 21st century. According to historian Herodotus, interpreters were among the seven classes into which Egyptian society was divided (Mikkelsen & Jourdenais, 2015). Gardiner notes that the Egyptians had a hieroglyphic symbol for "interpreter" or "interpreting" as early as 3000 BCE (as cited in Delisle & Woodsworth, 2012, p. 248).

Vermeer explored references to interpreters in ancient Greek and Roman literature, finding that both Greeks and Persians employed their own interpreters during negotiations (Delisle & Woodsworth, 2012, p. 248). In Ancient Greece, interpreters were in high demand, since the Greeks were generally negative towards foreign languages. Thus, they relied on interpreters to communicate with Roman Senate representatives or minorities such as Egyptians or Celts. Meanwhile, the Roman Empire valued languages other than their own, but interpreters still held a position of importance in Roman society.

Interpreters have always played a vital role in bridging social and cultural differences among different communities (Angelelli, 2004, p. 8). In the past, the tasks of interpreters

extended beyond language mediation to include a wide range of other duties, such as liaison, networking, coordination as trading agents, middlemen, and marine travel consultants, among others. For example, Van Hoof and Roditi report that the Romans used interpreters to administer their conquered territories and in campaigns on the frontiers of their empire (Delisle and Woodsworth, 2012, p. 248).

The practice of interpreting has a long history in China, dating back to the first century AD. At that time, interpreters who were fluent in the language of "barbarians" were stationed at borders with the goal of educating and civilizing these tribes. In ancient China, interpreters also served as cultural ambassadors and aided historians with note-taking and recollection, actively participating in the writing of historical records (Mikkelsen & Jourdenais, 2015, pp.16-18).

During the Middle Ages, bilingual individuals were required to interpret between Christian crusaders called Franks and Muslims who controlled the Holy Land that Christians were trying to conquer. As borders shifted over time, Christian municipalities were required to legally recognize mediators called Alfaqueques in the 13th century on a national scale (Ibid: p.14).

When the Christian kingdoms of the Iberian Peninsula invaded territories previously ruled by Muslims, they required interpreters to conduct business with African empires and kingdoms. During the first Spanish expeditions to the Americas undertaken by explorers and conquerors in the 15th and 16th centuries, it was customary to kidnap and train young natives to serve as linguistic intermediaries. However, on Columbus' expedition in 1492 to reach China and Japan, he took interpreters with him, but they were not proficient in the languages he needed (Ibid: p.15). Therefore, Columbus kidnapped native children and on his subsequent expeditions to the American continent, he brought with him these uprooted interpreters who later became familiar with the Spanish language and culture. Sometimes, native interpreters had to team up and work in different languages, as in the case of Hernán Cortés, who utilized the skills of three interpreters working together (Angelelli, 2004, p.9).

During the colonial period, interpreters were typically ethnic and cultural hybrids, often women, slaves, or victims of kidnappings, conflict, and political upheaval. They undertook various duties as guides, explorers, ambassadors, advisers, and brokers

beyond linguistic intermediaries, serving as witnesses to events and as participants in the unfolding of history (Delisle and Woodsworth, 2012, p. 248). Ethnic minorities were often responsible for translation and interpretation activities worldwide, with non-native residents being trained as interpreters after learning the official languages of the countries where they resided. For example, the translators and interpreters of the Ottoman Empire in the 15th and 16th centuries consisted of minorities, including Greeks, Italians and Germans among others. From the 15th to the 20th century, dragomans were required between the Ottoman Empire and Western countries. Dragomans of the *Dîvân-ı Hümâyûn* (Sultan's Imperial Divan) were civil servants of the Ottoman Empire and were also known as Grand Dragomans in the West. Before the Tanzimat period, dragomans held the second-most important position after the *Reis-ül küttâb*, a post roughly equivalent to the Minister of Foreign Affairs (Abbasbeyli, 2015).

During the 19th and 20th centuries, World War I and II took place, resulting in international military tribunals and efforts towards peace and reconciliation. To reinstitute world peace and order, peace talks were held and international organizations like the League of Nations (which later became the United Nations) and the European Coal and Steel Community (which later became the European Union) were established. Before World War I, French was the only official diplomatic language, and communication between different institutions was mainly carried out through written translations. However, with the outbreak of the First World War, some negotiators were not fluent in French, and English and German were added as official languages of communication, leading to the emergence of interpreting. At meetings of the League of Nations and the International Labour Organization, discussions dealt with not only diplomatic ties, but also a wide range of issues that were not included in the agenda. Furthermore, delegates sometimes spoke multiple languages at a fast pace and high density, emphasizing the need for interpreting services. Interpreting became a necessity to surmount language barriers, initially employing consecutive interpreting (CI), where the interpreter translates after the speaker finishes, and whisper interpreting (*chuchotage*), which involves whispering translations to a few listeners (Gaiba, 1998, pp. 27-28). The first interpreter school, established in Geneva in 1941, initially taught whispering and consecutive interpreting, focusing on four languages spoken at the League of Nations.

Over time, the need for more efficient interpreting methods emerged, as consecutive interpreting took twice as long while crucial decisions needed prompt attention. American

businessman E.A. Filene, inspired by his experience at the 1926 International Labor Conference, proposed developing a simultaneous interpreting system. Collaborating with A.G. Finlay, an engineer and temporary translator at the ILO, they created the IBM Hushaphone Filene-Finlay system, the first simultaneous interpretation system in history, used at the 1927 International Labour Conference in Geneva (ibid., p.31).

Simultaneous interpreting was first employed in a court setting during the 1945-1946 Nuremberg Trials, where Nazi war criminals were prosecuted, highlighting its importance in various high-stakes situations since then.

Two main factors contributed to the use of simultaneous interpreting at the military tribunal during the Nuremberg Trials. Firstly, the Charter of the International Military Tribunal mandated translation of proceedings into defendants' languages to ensure a fair trial. Secondly, the trials needed to be expedited to save costs, time, and maintain media attention (Gaiba, 1998, pp.32-33). Colonel Leon Dostert, Eisenhower's interpreter during the war, convinced U.S. Chief Prosecutor Justice Jackson to use the modified Filene-Finlay system for simultaneous interpreting, which proved effective in meeting time constraints (ibid., 38).

The system's success at Nuremberg led to its adoption as the regular mode of interpretation at the UN (Mikkelsen & Jourdenais, 2015, p.21). The Nuremberg Trials marked a turning point in simultaneous interpreting and the profession of conference interpreting. The need for interpreters increased with wars, peace processes, human rights movements, globalization, and historical events like World Wars, the Gulf crisis, the 2007 financial crisis, and the September 11, 2001 attacks. The growing number of meetings worldwide also contributed to the demand for communication experts and the rise of simultaneous interpreting.

The professionalization of interpreting started at the beginning of the twentieth century, with the emergence of interpreting schools and academization of the field. Professional organizations, such as AIIC in 1953 and The Conference Interpreters Association of Turkey (TKTD) in 1969, further solidified the status of interpreters as professionals.

As international politics and trade expanded, the need to bridge different languages and cultures grew, prompting the establishment of institutions for the systematic training of translators and interpreters. Europe's first such school was a college for business translators and interpreters founded in Mannheim, Germany, in 1930, later transferred to the University of Heidelberg.

Following the successful introduction of simultaneous interpreting—pioneered in the 1920s but passing its crucial test at the Nuremberg Trial (1945-46)—interpreter schools were established at the universities of Geneva and Vienna to address new training needs (Pöchhacker, 2004, p.28). Since its establishment and the adoption of its code of ethics and professional standards in 1957, AIIC has played an active international role in regulating interpreters' working conditions and elevating the profile of the conference interpreting profession.

In addition to AIIC's global influence on professional standards and working conditions, university-level training and academic research on interpreting have significantly contributed to the professional status of conference interpreters.

1.2.5. Conference Interpreting and Technology

Conference interpreting encompasses a variety of setting, such as international conferences, multilateral meetings, workshops, tribunals, press conferences, lectures and official ceremonies. Depending on the participants' needs simultaneous, consecutive or whispering modes of interpreting may be utilized. The origins of conference interpreting can be traced back to World War I, when it was used to overcome language gaps among delegates from France, Great Britain and later the United States (Baigorri-Jalón, 2014, p.26). At the time the practitioners of conference interpreting were often associated with civil service and military roles in their home countries, and the predominant modes were long and short consecutive interpreting along with sight interpreting of documents that were read aloud by delegates and chuchotage in which the interpreter would sit with the person requiring the service side by side and would interpret by whispering without needing any equipment (Ibid, p.40).

Consecutive interpreting remains in use today particularly for small-scale meetings. However, it is no longer the default mode at international conferences due to its time-consuming nature. In consecutive interpreting, the interpreter first listens to what the speaker has to say and reformulates the same message in another language only after

the speaker finishes by relying on a combination of his/her notes, memory and general knowledge (Gillies, 2017).

Advances in technology following World War II led to the rise of SI, which ultimately supplanted consecutive interpreting as the standard mode. The first speech transmission system, the Filene-Findlay System or Hushaphone, was introduced in 1927, but simultaneous interpreting as we know it today was first performed during the 1945-46 Nuremberg trials. Ever since, both main and auxiliary technologies that enabled interpreters to work in simultaneous mode, have been gradually improved and transformed to satisfy the needs and demands of both service providers and users. Today, interpreters who work in simultaneous mode, sit in sound-isolated booths ideally with an unobstructed view of the speakers and the visual aids such as a projection screen and one or two monitors placed on the desk inside the booth. Interpreters convey their interpretation by speaking into a microphone connected to the simultaneous interpretation console. Listeners can select the interpreted speech in their desired language by using a selector switch on their headphones to choose the appropriate language channel (Gaiba, pp. 29-30).

Over time, information and communication technologies have been integrated into conference interpreting, considering the work processes of interpreters, along with the requirements of both organizers and participants. These technologies encompass solutions to expand and improve interpreting services (such as distance or remote interpreting), systems intended to substitute human interpreters (for example, machine interpreting), and tools designed to assist or enhance an interpreters' preparation and performance (namely, computer assisted interpreting tools or CAI tools) (O'Hagan, 2020, p. 271).

In this context, remote or distance interpreting emerges as one of the most prominent modes of interpreting. Advancements in technology, along with a series of experiments carried out by multilingual institutions like the United Nations and the European Union from the 1970s till the early 2000s, contributed to the development of remote interpreting. The primary objective of these efforts was to reduce the costs associated with conferences. Braun characterizes remote interpreting as the utilization of communication technology to access an interpreter situated in a different room, building, city or country, or connected to primary participants via telephone or videoconference (as cited in Mikkelsen & Jourdenais, 2015, p. 346). However, this definition didn't account for scenarios where not only the interpreter but also conference participants are in separate

locations. Consequently, Ziegler and Gigliobianco (2018) proposed adapting a more comprehensive definition in line with the recently published ISO standard (ISO 20108:2016), which defines remote interpreting as interpreting a speaker in a different location from the interpreter, facilitated by ICT (as cited in Fantinuoli, 2018, p. 122). This definition highlights the primary concern of remote interpreting, which is the absence of physical presence of the interpreter in the same room as the speaker, leading to a lack of direct view of the speaker or audience and potential technical issues, such as poor sound or video quality. These challenges have been investigated by researchers. For instance; Mouzourakis (1996) argues that videoconferencing conditions can be more fatiguing for interpreters, causing reduced motivation. Similarly, Moser-Mercer (2003) found that fatigue has a more significant negative impact on interpreter performance in remote settings compared to traditional conference environments. In light of these potential difficulties, initiatives have been undertaken to establish minimum standards to ensure interpreter well-being and service quality. For instance, the International Association of Conference Interpreters (AIIC), in partnership with various organizations, such as the European Parliament, the European Court of Justice and the World Customs Organization, established the “Code for the use of new technologies in conference interpreting” (Korak, 2010; as cited in Fantinuoli, 2018, p. 128). AIIC emphasizes that remote interpreters must adhere to ISO standards 2603 and 4043, which provide guidelines for work environments in mobile and permanent booths (Fantinuoli, 2018).

In addition to remote interpreting, other digital technologies also continue to shape the way consecutive and simultaneous interpreting are performed. For instance; simultaneous consecutive interpreting (SimConsec) emerged as a result of technological innovations, such as digital or smart pens with recording capabilities. Interpreters can now record speeches while taking notes and then simultaneously interpret the speech during playback. Examples of available smart pens include Sky Wifi Smartpen, Echo Smartpen, Livescribe and Equil Jot. These devices can synchronise written notes and drawings with ambient sound and upload them to a computer (Costa et al., 2014).

Digital note-taking applications, such as Evernote, Inkeness, Penultimate, LectureNotes and Pensupremacy have also been integrated into consecutive interpreting. These applications allow interpreters to take digital notes that can be converted into PDF or Microsoft Files, shared with colleagues, and saved for future use.

In addition to supporting interpreters at all stages of the interpreting process, the integration of technology in interpreting also has the potential to shape the future of

conference interpreting, as demonstrated by the emergence of machine interpreting. Machine interpreting involves the use of computer programs such as Google Interpreter, API Microsoft Interpreter and Yandex speech interpretation system to automatically translate spoken texts from one language to another using automatic speech recognition. However, the success rate of machine interpreting systems is still considered far from satisfactory, even in basic scenarios where interpreting is required, due to technical and communicative limitations. Like human interpreters, machines first need to recognize, understand and analyse speech segments before moving forward with reformulation in the target language. According to Gile (2009), even humans who are familiar with phonetics, lexical and syntactical rules of languages and have a certain level of word knowledge, never manage to read correctly more than 75% of phonetic segments on a sonogram (p. 161). Therefore, it is not surprising that machines cannot recognize continuous speech with full certainty, even if they go through a learning process with the voice of real humans (Ibid). Furthermore, MI systems still have difficulties accurately analysing context and implicit information, including the speaker's position, attitude, and references. Despite these limitations, advances in machine learning have paved the way for the invention of machine translation systems that can handle issues resulting from the lexical, syntactical, and semantic features of human languages better than in the past. While MI is still at an early stage, it is possible to expect that integrating new solutions into MI could yield better results in the future, given the developments in machine translation and natural language processing (Fantinuoli, 2018).

Nowadays, interpreters can leverage their laptops, tablets and mobile phones to access a vast array of online resources, including term banks, both before and during an interpreting assignment. For example, EuroTermBank is the largest terminology network in Europe, comprising millions of terms that facilitate the exchange of terminology with existing European terminology databases. The purpose of this term bank is to collect and provide access to terms and their accurate, consistent and up-to-date equivalents used within the EU. These term banks can be particularly useful for creating glossaries, especially before an interpreting assignment. In addition to term banks computer assisted interpreting (CAI) tools are also helpful for creating glossaries. These tools not only enable searching for terminology within created glossaries but also have the capability of extracting and organizing terms. The concept of CAI tools will be revisited later in the section titled "Computer Assisted Interpreting (CAI) Tools: Origin and Evolution".

1.3. COGNITIVE DIMENSIONS OF SI

Simultaneous interpreting (SI) is widely recognized as one of the most complex language tasks imaginable, as it requires multiple concurrent processes. Interpreters must actively listen, understand, and analyse new input while storing earlier segments in their short-term memory, recall and reformulate them into the target language, and articulate and self-monitor their output. This multifaceted nature has led many researchers and practitioners to describe SI as "complex" (Massaro & Shlesinger, 1997; De Groot, 2000), "difficult" (Gile, 1995; Moser-Mercer, 1997), and "demanding" (Hyönä et al., 1995; Rinne et al., 2000).

The information processing perspective on SI emphasizes the crucial role of resource allocation, such as attention and memory, in successful interpreting. Errors and failures are often attributed to attentional imbalances caused by difficulties in listening, memory, or production. Alternatively, SI is viewed as a multi-faceted task involving various components that need to be practiced separately, such as listening-while-speaking, analysing, memorizing, and translating (Setton, 1999, pp. 49-50).

While numerous approaches from various disciplines can be used to analyse the components of SI, this text will focus on the cognitive aspects of SI to better understand the potential support of computer-assisted interpreting (CAI) tools. To this end, two models that view interpreting from a procedural perspective and address the allocation of cognitive resources will be presented, including Gile's Effort Models and Seeber's Cognitive Load Model of simultaneous interpreting.

1.3.1. Gile's Effort Models

Simultaneous interpreting is widely acknowledged as a challenging and demanding task for both novice and experienced professional interpreters. Despite years of training and experience, many interpreters report that the process of reproducing a high-quality target speech from a source speech requires intensive effort, and they may still feel unsatisfied with the end result, even after their best efforts. This assumption is supported by a case study conducted by Daniel Gile in 1989.

In Gile's case study, he asked a highly recognized professional interpreter to interpret a non-technical and slow speech divided into 70-second segments. The resulting target language rendition contained more than 10 incorrect or clumsy segments (Gile, 2009, p. 157). Intrigued by these results, Gile carried out similar empirical studies involving up to ten or more professional interpreters and students, providing them with the same recorded speeches to interpret. He observed similar errors in the simultaneous renderings of the source speeches.

Considering the English proficiency of these interpreters, Gile ruled out that the interpreters might have understood the source speech inadequately. He also noted that some interpreters made errors when interpreting the same speech for the second time, despite having interpreted it correctly the first time. To understand the reasons behind these findings, Gile developed the Effort Models for simultaneous interpreting, which were based on two intuitive ideas: (1) interpreting requires a certain amount of mental energy that is only available in limited supply, and (2) it consumes nearly all or more of this mental energy, causing performance to deteriorate at times (Ibid., pp. 158-159).

According to the main principles of these models, some mental operations are non-automatic, requiring attention and processing capacity, while others are automatic and do not necessitate mental effort (Gile, 1995, p. 161). Simultaneous interpreting sub-tasks are considered non-automatic mental operations and require a certain amount of energy.

Drawing from his experience as a conference interpreter, Gile sought to analyse the operations involved in interpreting as components related to non-automatic operations. He identified a listening and analysis component, a speech production component, and a short-term memory component, which he later termed "Efforts" to emphasize their effortful nature (Gile, 2009, p. 160). As a result, he modelled SI can as a process that can be broken down into the three main Efforts, namely the Listening and Analysis Effort, the Short-term Memory Effort, and the Speech Production Effort, as well as a Coordination Effort (C), which helps to coordinate the three other Efforts (Eysenck & Keane, 1990).

These efforts can be active both individually and simultaneously. In one scenario, the interpreter may be rendering a target speech segment that has been planned in advance

while the speaker pauses, in which case only the Speech Production Effort (P) will become active. In different scenarios, the interpreter may be listening or keeping information from the speech in memory, in which cases the Listening and Analysis Effort (L) and Short-term Memory Effort (M) are active. It has also been proven that, at least part of the time, interpreters listen and speak at the same time, and all these three efforts can be actively exerted.

According to Gile's hypothesis; the three efforts at least partially compete with each other for more attention, meaning that even if they share resources and may be somehow cooperative, the net result of their coexistence will usually be an increase in processing capacity requirements (Gile, 2017, p. 156). In order for interpreting to proceed smoothly, the interpreter's processing capacity for each Effort must be adequate to complete the task it is engaged in; otherwise, interpreting performance will suffer. A fast and dense speech may demand more information processing per time unit, exceeding the interpreter's available capacity. Or the interpreter might focus too much on creating a polished reformulation of a previous source speech segment, leaving insufficient capacity to process an incoming segment (Gile, 2009, pp. 169-170). Therefore, all Efforts must be managed in an optimum manner.

In the Effort Models framework, problem triggers such as terminology, names, numbers, fast speeches, strong foreign and regional accents, poor speech logic, poor sound, and others are considered to be associated with increased processing capacity requirements that may exceed available capacity, cause attention management problems, or lead to a momentary lapse of attention. To overcome such challenges and reduce the risk of saturation, interpreters need to prepare for upcoming conferences by studying conference documents in all relevant languages, researching on the internet, learning the meaning and usage of relevant terms, drafting glossaries, and gaining an understanding of the relevant subject prior to the assignment. In this sense, integrating technology into preparation and performance phases of interpreters may be an advantage, as it can reduce the risk of saturation by freeing up the processing capacity used by interpreters to create, organize, and look up terminology not only prior to an assignment but also in the booth.

1.3.2. Seeber's Cognitive Load Model

The single resource paradigm which constitutes a framework for Gile's Effort Models, suggests that the process of interpreting will suffer when the total capacity requirement for the four tasks (listening, memory, production and coordination) surpasses the total capacity available. In an attempt to contribute to the model, Seeber argued that Gile's Effort Models, based on single source theories (e.g., Kahneman 1973), don't account for optimal sharing of time between tasks or explain why varying task structures lead to different interference levels. As a result, Seeber developed his model using Wickens' (1984) Multiple Resource Model, which suggests that combining two or more tasks demands more processing capacity than performing any single task individually (Seeber, 2011). The Multiple Resource Model, in contrast to Kahneman's single source theory, posits that tasks interfere more when sharing common structures, such as requiring the same processing level. Consequently, performing a visual and auditory task simultaneously is easier due to non-shared underlying structures, while two visual tasks sharing the same structures are more challenging. Figure 1 graphically illustrates this:

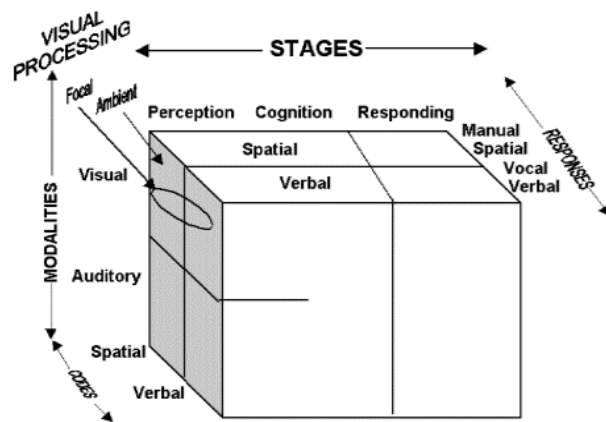


Figure 1: Three-dimensional representation of the structure of multiple resources (Wickens, 2002).

Seeber's model, which is based on Wickens' Multiple Resource Model, identifies four dimensions affecting time-sharing performance: (1) processing stages (perception & cognition or responding); (2) processing codes (spatial/verbal); (3) processing modalities (visual/auditory); and (4) visual processing (ambient/focal). Tasks using the same dimension interfere more with each other. Resources for perceptual and cognitive activities are functionally distinct from those underlying response selection and

execution. Seeber adapted Wickens' model to simultaneous interpreting to account for cognitive load generated by concurrent tasks, creating a two-dimensional model called the Cognitive Resource Footprint, which illustrates the structural proximity of concurrent tasks in shadowing, sight translation, and simultaneous interpretation.

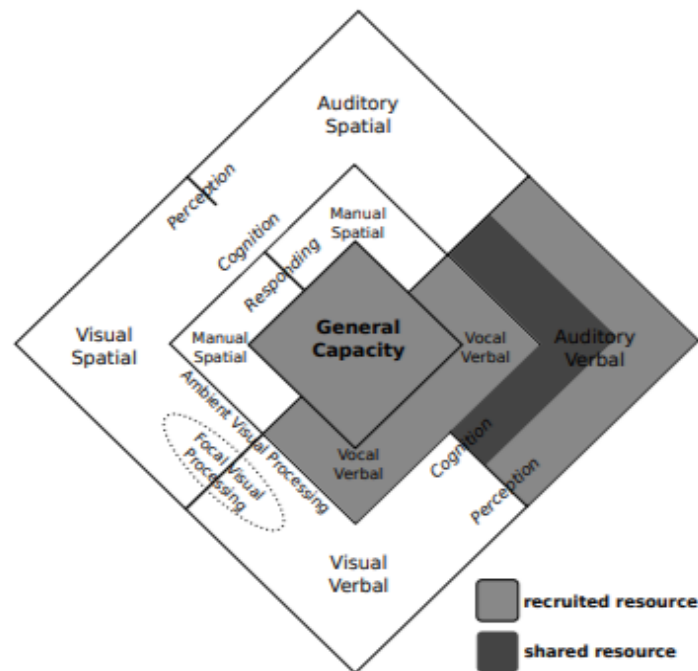


Figure 2: Two-dimensional adaptation of Wickens' cube: Cognitive resource footprint for simultaneous interpreting (Seeber, 2007, p. 1385).

Accordingly, in the event that two sub-tasks share resources that are governed by the same structures, their level of conflict will be higher than for two sub-tasks that do not share resources, thus time-sharing between them is not as efficient. On the other hand, Prandi (2018) took Seeber's Cognitive Resource Footprint and integrated the use of CAI tools into it as seen in Figure 3.

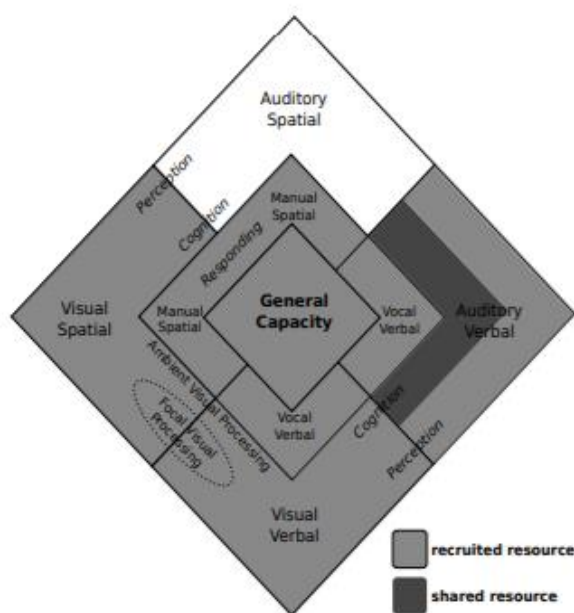


Figure 3: Cognitive Resource Footprint for SI with a CAI tool /electronic glossary (Prandi, 2018, p.37).

The CRF shown in Figure 3 describes those moments when the interpreter performs a terminological query in the database by typing a term while working with a CAI tool or with an electronic glossary. According to Prandi (2018), This process involves reacting to an auditory stimulus before delivering a term during interpretation. The interpreter searches for the term in a database, activating manual-spatial resources at the response stage. The term and its target language equivalent are then displayed on the computer screen, requiring visual-spatial resources for identification at the perceptive cognitive stage. Next, the interpreter reads the term using visual-verbal resources. Using a computer-assisted interpreting (CAI) tool or an electronic glossary during simultaneous interpreting demands more resources than traditional methods (Prandi, 2018, pp. 36-37). However, additional empirical research is necessary to determine whether the extra cognitive load caused by using a CAI tool during simultaneous interpreting can be offset during production after the query, and whether overall terminological quality is enhanced.

1.4. THE ROLE OF TERMINOLOGY IN CONFERENCE INTERPRETING

1.4.1. Preparation in Simultaneous Interpreting

Conference interpreters most of the time work for conferences on specialized topics in simultaneous interpreting modality, which is characterized by its immediacy, simultaneity and incrementality as explained in the previous sections. Terminology availability requirements of interpreters are obviously higher than those of translators both in terms of comprehension and production. The demanding nature of conference interpreting coupled with aggravated competition in the market renders scrupulous preparation before any interpreting assignment imperative. Besides, conference interpreters often have to work on a variety of different subjects and they can only gain expertise on some fields in which they get to work frequently and consistently. As stated in the guide prepared by AIIC for professional conference interpreters:

A conference interpreter needs to have as good a knowledge of the terrain as any trekker heading into the Himalayas. In today's market, many meetings are becoming increasingly specialized and technical.... Colleagues who are known to prepare their assignments scrupulously are always at the top of recruiters' lists (AIIC).

Preparatory work mainly entails acquisition of relevant terms and knowledge of the relevant topic. According to Gillies (2019), preparation has three dimensions including general knowledge, topic preparation and language activation (p.69). He describes general knowledge as *"the background against which each speech is played out and it is an essential foundation on which to build your more specific topic-based preparation"* (Gillies, 2019, p.69). General knowledge can be both country or culture specific and universal. Universal general knowledge consists of the knowledge of subjects that are the same everywhere such as geography, science and economics. General knowledge, on the other hand, help interpreters to contextualize speeches on a variety of subjects. In the same vein, getting prepared for an upcoming interpreting assignment is instrumental in understanding a speech both conceptually and linguistically (Gillies, 2019, p.73). In addition, preparation also facilitates activation of terminology and knowledge that were stored in the long-term memory. Especially during simultaneous interpreting, it is highly important to be able to recall the necessary terminology and knowledge expeditiously. Gile (2009) explains this phenomenon with his Gravitational Model. According to this model, every language consists of lexical units and language

rules, which together form a system of language constituents (LC) and all language constituents have different levels of availability. Some of them seem to be retrieved from the long-term memory effortlessly while some others are difficult to retrieve accompanied by a tip-of-the tongue feeling (p.227).

Preparation often involves conducting research on the subject of the event, studying conference related printed and visual materials, finding parallel texts on the same subject and extraction of relevant terminology. Then, the appropriate equivalents of the terms extracted from the preparatory materials are found in the target language and added to the glossary, which is the end result of a strenuous work. Boothmates often collaborate on the drafting of glossaries. In addition, depending on specific circumstances, interpreters should demand a pre-conference briefing where they can consult with the conference organizers to clear any doubts regarding the terminology and/or the conference documents including speech texts and presentations. In the best-case scenario, conference interpreters are to be provided with the relevant conference documents and a pre-conference briefing, however this may not always be the case. Although conference organizers sometimes tend to skip or postpone conveying the necessary documents and resources to interpreters. Still, there are sources that interpreters can benefit from such as conference documents, leaflets, posters and on-site communication with the experts on the premises. Conference interpreters nowadays can acquire as much specific information as possible by carrying out a comprehensive detective work particularly on the internet based on the cues at hand. But, knowledge requirements for interpreters also need to reflect reality, since interpreters cannot become experts in every field in a short period of time and learning follows a continuous curve. In this framework, Gile (2009) divides preparation for conference assignments into three phases, including in advance preparation, last minute preparation and in-conference acquisition of knowledge (p.144). Accordingly, in advance preparation refers to all preparatory steps taken well before meetings are due to start. It is a common practice among interpreters to ask conference organizers to provide them with all sets of conference documents in their working languages, which include the conference schedule, the list of participants, power point presentations, documents, drafts, abstracts with background information on the content of the conference. In the event that such documents are not provided or turn out to be insufficient, interpreters tend to make use of the internet as a primary source. In this process, interpreters usually draft monolingual and/or bilingual lists of terms or glossaries by extracting and classifying the relevant vocabulary from both online and printed sources. In addition to this, briefings on the

content of the conference and rehearsals before the actual conference can also be a useful part of advance preparation. However, advance preparation may sometimes not be possible, since many documents and presentations are only available to interpreters at the very last moment due to various reasons such as confidentiality. As pointed out by Gile (2009), speakers tend to bring their power point presentations to the conference venue on USB devices at the last moment. Interpreters may be given permission to copy those files onto their laptops that they have brought along to the interpreting booth. As a matter of fact, much of the necessary knowledge is acquired by working on the documents which are made available right before the conference (p.145). The same also holds true for in-conference knowledge acquisition. Interpreters also learn a great deal of knowledge and terminology about a specific conference subject during the conference itself through documents handed out, through conversations with the participants or boothmates during coffee breaks and by listening to the presentations and discussions during the conference, thereby building on what they have already heard. Listening to the delegates and the colleagues in the booth as well as exchanging terms with the boothmates can be a very effective way of developing glossaries and having a better grasp of the conference subject (Gile, 2009, p.146).

Moser-Mercer (1992) points to the fact that there is no universally agreed way of preparation, but her description of the process of preparation follows the same logic as that of Gile (2009):

...most interpreters will read through the material provided, underline unfamiliar terms and phrases and search for equivalents in their other working languages. As a next step, interpreters will usually establish terminology lists with source language terms down the left margin and centre of the page and target language equivalents down the right margin. Disregarding for the moment the more careful preparation of certain papers and speeches, these word lists, wither prepared manually or on the computer are then studied and constitute, together with essential subject preparation the knowledge basis for the upcoming conference... (Moser-Mercer, 1992, p. 509).

The author also suggests that the interpreters usually build on the already drafted glossary at the conference venue as new terms are learnt within the course of the conference. The terminological equivalents added to the list of terms which is constantly refined until the very last moment (Moser-Mercer, 1992).

1.4.2. Terminology and Conference Interpreting

Terminology as a word can have three different meanings: (1) the group of terms that belong to specialized fields; (2) the work of a terminologist and (3) a theoretical discipline (Talaván Zanon, 2011). In the broadest sense, it is an interdisciplinary field dealing with the naming of concepts belonging to special subjects. According to Sager (1990) terms are the items which are characterized by special reference within a discipline (p.19). They represent concepts inside a domain. Unlike general words, they tend to be far from ambiguities.

As for the users including conference interpreters, terminology refers to a set of useful communicative units that must be evaluated from the view of economy, suitability of expression and precision (Cabré & Cabré, 1999, p. 33). Conference interpreters often work for specialists and professionals, who use a specialized language for knowledge exchange. Specialized language, which is also called in short LSP (Language for Special Purposes) is defined as “*a formalized and codified variety of language used for special purposes with the function of communicating information of a specialist nature at any level in the most economic, precise and unambiguous terms possible*” (Picht & Draskau, 1985, as cited in Cabré & Cabré, 1999, p. 45). As direct users of terminology specialists of a certain subject field such as lawyers, football players etc. communicate with each other by presupposing that they share a certain amount of information about the field in question, thus they feel comfortable to use terms to express themselves (Cabré & Cabré, 1999, pp. 11-12). Whereas conference interpreters need terminology as indirect users, to perform their job. They often tackle this gap of shared knowledge between themselves and specialists by consulting with clients, studying available documents, conducting research on the relevant subject and preparing glossaries. Depending on individual interpreters’ preferences, glossaries can be created in different versions, including paper or electronic. Paper resources include lexicons, dictionaries and glossaries while electronic resources encompass electronic dictionaries and glossaries, databases such as the United Nations Multilingual Terminology Database (<http://unterm.un.org>) and databanks such as IATE-InterActive Terminology for Europe (<http://iate.europa.eu>) (Talaván Zanon, 2011, p.15).

Despite scrupulous work, conference interpreters still will not have the same level of knowledge as the specialists on a particular subject. As described by Picht & Draskau (1985) there are different levels regarding acquisition of specialized discourse (as cited in Cabré & Cabré, 1999). The highest level corresponds to communication between

experts whilst the lowest level to general purpose information meant for laypersons. For instance, a conference on global warming involving climatology experts would have more specialized content and terminology than a UN meeting on global warming addressing policy makers and general public. In this context, interpreters' understanding of the subject must be higher than that of an ordinary educated person in order to analyse and reproduce what has been said, but it is not necessary for them to have the same depth of knowledge as an expert of the field (Séleskovitch, 1998, p. 58). But the use of inaccurate and inconsistent terminology may not only harm the source message but also the credibility of interpreters. Thus, interpreters need to meet a certain threshold, since in the ears of the conference delegates, using correct terminology can be an important indicator of quality as presented in the next section.

1.4.3. The Use of Accurate Terminology and Interpreting Quality

The role of terminology in conference interpreting is crucial, and it is important to examine how interpreters and users of interpreting services perceive its impact on quality. ISO standard 8402 defines quality as the properties of a product or service that meet predetermined standards (Mack, 2002, p.110). Mack asserts that any agreed definition of quality depends on the position of interpreting within a specific culture (Mack, 2002, p.113). Both practitioners and users are concerned with the quality of interpreting services. Quality control systems are becoming more prevalent in many professions, but interpreting largely relies on unspoken trust between the specialist and the client, rather than externally defined quality standards (Chiaro & Nocella, 2004, p.279). Following World War II and the adoption of simultaneous interpreting systems, the demand for interpreters in international organizations, such as the European Parliament and the Council of the European Union, grew. To ensure high-quality interpreting, the recruitment process for interpreters has been based on entrance tests assessing their interpreting skills. Similarly, in many countries, conference interpreter recruitment for public authorities still involves testing candidates' interpreting skills through short impromptu speeches. As stated by Kalina (2005) in all such procedures the basis of interpreting quality measurement is a source text and the interpreter's orally produced target text. Assessors consider criteria of spoken language production such as listenable delivery and intonation with a view to its acceptability by the potential audience. Unlike translators who have developed certain agreed product-based standards which govern how they perform and assess translations such as ISO 9002, DIN 2345 and European Code of

Best Practice, Interpreters and interpreter trainers tend to assess the quality of colleagues or trainees intuitively by looking into their experience and professionalism without using objectively measurable standards (Kalina, 2005, p.768-769). Considering the instantaneous nature of interpreting, it is more difficult to assess quality in interpreting than in translation. Although there is a number of agreed upon definitions that can be used to determine the quality of interpreting such as accurate, clear or faithful, there are still differing opinions regarding quality in interpreting. For example, Shlesinger (1997) emphasizes the need to assess the quality of a target speech based on its usefulness and comprehensibility. In contrast, Déjean Le Féal (1990) posits that a target speech is of high quality when the interpreter accurately conveys the original speaker's intentions. Meanwhile, Wadensjö (1998) links quality with successful communication among interacting parties within a specific context. Despite these varying approaches, exploring both practitioners' and listeners' perspectives can provide valuable insights into the issue of quality in interpreting.

1.4.3.1. Interpreters' Expectations

The first survey investigating quality from practitioners' perspective was conducted by Bühler (1986). The researcher surveyed 47 AIIC members, inquiring about the level of importance they attributed to 16 linguistic and extralinguistic criteria when evaluating potential members for admission into the organization. The study revealed that the top four selected criteria were "sense consistency with the original", "logical cohesion", "correct use of terminology" and "fluency of delivery".

Chiaro and Nocella (2004) conducted a similar study on the perception of quality in interpretation by involving 286 professional interpreters from five continents. They used criteria similar to those in Bühler's (1986) survey. The results indicated that respondents valued consistency with the original, completeness of information, and logical cohesion as the top three factors. Fluency of delivery, correct terminology, and correct grammatical usage were ranked as the second most important factors. Conversely, appropriate style, pleasant voice, and native accent were considered the least important factors concerning quality.

1.4.3.2. Users' Expectations

Many studies have so far looked into the expectations of the users of interpreting services. In most of the listener-oriented studies correct terminology or terminological accuracy ranked among the most important quality criteria. For instance, Kurz (1989) carried out one of the pioneering studies on this topic. Building on Bühler's survey on quality criteria, Kurz (1989) conducted a similar study on user expectations in conference interpreting by involving conference interpreting users. And she tested the hypothesis that interpreters' quality criteria matched user expectations. As part of the study, delegates at a medical conference were asked to rank the top eight criteria from Bühler's questionnaire in terms of their significance for interpreting quality. The results showed that the top four criteria, including "correct use of terminology," were highly important to delegates. However, some criteria that AIIIC members deemed important, such as native accent and pleasant voice received lower ratings from the users in the study.

To explore the audience's perception of interpreting quality, Kopczynski (1994) conducted a survey among 57 Polish delegates. As a result, both speakers and listeners considered content more important than form, and terminological precision was ranked as the second most important criterion. In contrast, Pöchhacker (1994) found that users prioritized "quality of verbal expression," followed by "mastery of technical language" and prosodic features such as voice quality, rhythm, and intonation. Mark and Cattaruzza (1995) conducted a similar survey with Italian delegates, who emphasized that ideal performance should be terminologically correct, informed, accurate, and easy to follow. Pleasant speech rhythm and fluency were considered less important while experienced users had higher expectations regarding "correct terminology."

In summary, research on the quality perceptions of practitioners and users shows that the use of correct terminology and mastery of technical language used by conference participants and/or speakers are among the top concerns when it comes to quality in interpreting. The following section will shed light to the emergence of CAI tools which have been designed to facilitate terminology management processes of interpreters.

1.5. COMPUTER ASSISTED INTERPRETING (CAI) TOOLS: ORIGIN AND EVOLUTION

The term “CAI” and “CAI tools” is understood in reference works either under the umbrella term of ICTs used in interpreting or as specific software solutions that aid interpreters with the management of terminology and domain knowledge. Computer-Assisted Interpreting (CAI) is an acronym that covers interpreting-oriented computer-based tools developed to aid interpreters before and during the whole interpreting process. Carl and Braun (2018) clearly use “ICT supported Interpreting” instead of CAI (Carl & Braun, 2018, p.3). Gacek (2015) also include online libraries and search engines while Costa et al (2014) add unit converters and Ortiz Cavallo (2018) include note-taking software, video and phone interpreting systems in the definition of CAI (Will, 2020, p. 47). According to Desmet et al (2018), the term CAI (Computer Assisted/Aided Interpreting) covers process-oriented technologies that are designed to support interpreters during various phases of interpreting for the acquisition, organization and retrieval of information, both before and during a conference interpreting assignment (Desmet et al, 2018, p.17). Their definition of CAI includes all technologies and applications directly influencing the interpreting process, which either completely or partially automate individual tasks of an interpreter before or during interpreting. As put forward by Fantinuoli (2018), currently CAI is understood as software solutions mainly aiding the acquisition and usage of terminological knowledge throughout the entire workflow of an interpreting assignment. As also stated by Desmet et al (2018), the current existing CAI tools are mostly focused on terminological support whether in the preparation phase or in the performance phase. In this thesis, the term CAI is also used in its most current context so as to draw a distinction between CAI as terminology management software and ICTs (Information and communication technologies) used in interpreting, a much broader concept encompassing, i.e., note taking applications for consecutive interpreting, speech to text or text to speech applications among others.

CAI technologies share a similar history with CAT tools and date back to the 1990s. Nevertheless, both technologies followed a totally different curve of growth within the years followed. This fact may be traced back to the different nature of translation and interpreting sectors. CAT systems first emerged as a consequence of globalization and the emergence of the Internet. Rapid internationalization of the markets led to the need to localize not only products but also the know-how including methods of designing, marketing and distribution. In the backdrop of globalization and the expansion of the internet, business and communication have gone through a digital transformation process. Thanks to global computer networks and the Internet, information has become

widely accessible and the computer has turned into a universal medium for communicating, cooperating and conducting business. Such effects have altered the outlook of almost any profession including translation. Computer literacy has become a *sine qua non* for getting hired or winning a contract for a translation job, therefore handling of orders and digitized delivery of language services are now considered as standard client service. This sudden demand for greater number of translators went hand in hand with the need to make the translation process more efficient and more systematic. As a result, translation agencies such as Trados or individual translators such as Emilio Benito became developers of commercial CAT applications which later have gone through a more comprehensive industrial and scientific expansion. Will (2020) puts forward several reasons as to why CAT tools are much more evolved and embraced by the industry as opposed to CAI tools: 1. CAT tools are more diverse in nature with different functions and modules but at the same time share a common file format, which makes them compatible and unified; 2. CAT software products are often commercialized by larger companies with a well-established presence in the market; 3. CAT tools are produced in large numbers and developed professionally (Will, 2020, p.40). For the reasons given above, CAT tools have evolved rapidly and found greater interest. On the other hand, the interpreting market has developed rather slowly and the way conference interpreters work hasn't changed drastically since the invention of the first simultaneous interpreting systems, although headphones, mics, consoles, wires and other related technologies are now much more advanced. Conference interpreting is a demanding profession with traditionally high technical and logistical requirements, which makes it even more costly than translation and the ability to use a terminology software has never been a prerequisite for interpreters to get hired in contrast to translators. Most importantly, interpreting by its nature involves complex cognitive processes that were briefly explained in the chapter on the cognitive processes to interpreting. All these reasons may account for the lack of industrial interest in developing and improving CAI tools for conference interpreters. Conversely, electronic translation tools supporting translators during various sub-processes of translation have become an integral part of the translation sector and translation has rather become a product of human-machine collaboration. This human-machine cooperation was first mapped out by Hutchins and Somers (1992) when they placed human translation and machine translation (MT) at two ends of a spectrum of translation methods. According to their classification Computer-Aided or Computer-Assisted Translation is used to cover both Human Aided Machine Translation (HAMT) and Machine Aided Human Translation (MAHT). MAHT refers

generally to the use of computer-based tools as supporting aids to translators while HAMT covers the use of MT systems to produce translations with the help of human operators (translators) before, during and after the computerized process (p. 147). As can be seen in the figure below, Computer-Assisted Translation (CAT) includes both HAMT and MAHT:

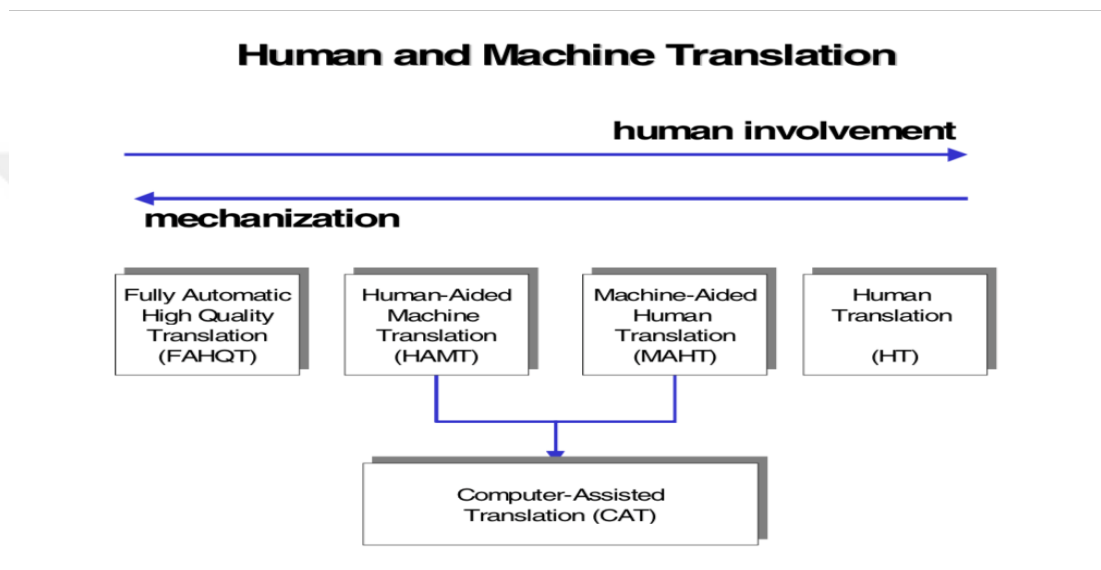


Figure 4: Dimensions of translation automation (Hutchins & Somers, 1992).

In the case of MAHT, translators make use of text-processing software, electronic dictionaries or term databases whereas HAMT involves the use of translation memories. These memories initially come as empty and are supposed to be filled by human translators or by MT systems, an action which will eventually require comprehensive post-editing by human translators (Austermühl, 2001, p.11).

At a first glance, terminology and knowledge management needs of translators and interpreters may seem to be similar and CAT tools may be equally useful for interpreters. But interpreters have to rely on pro-active preparation and knowledge acquisition before the actual task besides being able to recall quickly what they have learnt and at the same time make sense of the incoming input in order to perform successfully as opposed to translators who focus more on the texts at hand and have a better chance at ensuring

the correctness of the equivalents that they use. On one hand, CAT tools such as trados² offer vast and detailed entry possibilities and translation memories (TMs), which can sometimes make such tools more complicated, slow and difficult to handle particularly for interpreters when creating term lists, filtering, sorting and retrieving during the interpreting performance, on the other hand some features of CAT tools such as the possibility of searching simultaneously in several resources and learning relevant terminology before and after an assignment could be helpful for interpreters. However, CAT tools are not completely suitable for interpreters. As Fantinuoli (2016) points out, interpreters typically create and use multilingual glossaries in the preparatory phase where terminological part is included and domain knowledge including definitions, conceptual systems, examples of usage is generally taken out. While in the booth, the already extracted and compiled terminological information has to be actively retrieved when needed, since the use of precise, correct and consistent terminology is essential to achieve flawless communication among attendees of a technical meeting (p. 48). With these concerns in mind, in the last 15 years several interpreters in cooperation with software developers have suggested to develop CAI tools that could aid interpreters to create, organize and manage glossaries as well as to acquire domain knowledge at the same time. CAI tools were first developed as simple glossary management programs specifically for simultaneous interpreting with the intention of replacing the paper-based glossaries but currently several of them such as InterpretBank are still being improved based on research findings and feedback. CAI tools mostly function as glossary building tools, which aim to accelerate glossary creation, knowledge acquisition and retrieval for interpreters. Ortiz and Cavallo (2018) have carried out an extensive review of available CAI tools and categorized them based on their purpose such as training, preparation and the actual interpreting phase. They filtered out tools that were either no longer available or hadn't been updated in 5 or more years. Below is a list of existing CAI tools that they compiled:

² <https://www.trados.com/products/trados-studio/freelance/>

Name	Category (main function)	Specific for interpreters	Training	Prep. (CDIP)	Prep. (Terminology)	simultaneous	consecutive	Remote interpreting	Replacement
Melissi (Black Box/ VIE)	Training material	Y	X						
IRIS	Speech bank	N	X						
Moodle	Learning platform	N	X						
EU DG SCIC Speech Rep.	Speech bank	Y	X						
Interple x UE	Glossary management	Y			X	X			
Interpre tBank	Glossary management	Y			X	X			
Interpre ters' Help	Glossary management	Y			X	X			
Intraglo ss	Glossary management	Y			X	X			
Translat ed s.r.l	Glossary management	N			X	X			
BootCa T	Corpora building	Y		X					
SDL Multiter	Terminology extraction	N			X				

m Extract									
Simple Extract or	Terminology extraction	N			X				
Sketch Engine	Terminology extraction	N			X				
Termin us	Terminology extraction	Y			X				
TermSu ite	Terminology extraction	N			X				
Dragon NS	Speech recognition	N				X			
Evernot e	Note-taking	N					X		
Penulti mate	Note-taking	N					X		
Lecture Notes	Note-taking	N					X		
ZipDx	Audio conference	N						X	
WebEx	Audio and video conference	N						X	
Skype	Audio and video conference	N						X	
Capiche	Automatic translation of text	Y						X	X
Voxtec/ Phrasela tor	Speech-to-speech system	Y							X

Table 2: List of Updated CAI Tools (Ortiz & Cavallo, 2018, pp.17-19).

As seen in Table 2, 10 out of 24 listed tools were developed considering interpreters as the target user group. Accordingly, only four of these tools have been particularly designed for interpreters for the purpose of glossary management in the booth, which include Interplex EU, InterpretBank, Interpreters' Help and Intragloss (Ortiz & Cavallo, 2018, p.19). However, Intragloss is no longer maintained. Therefore, only three available

CAI tools are investigated in this study as glossary management solutions for interpreters.

In the 1990s, CAI tools used to be less advanced database tools. Nowadays, more comprehensive ‘workbench’ systems with a term extraction feature such as InterpretBank are also available (Fantinuoli, 2013). Some of these tools are end results of scholarly works. For instance, Rütten (2007) developed a theoretical model for the preparatory work of interpreters which eventually laid the foundation for designing the structure of a CAI tool addressing specific needs of interpreters. Rütten, who is an active conference interpreter herself besides being a researcher, investigated the fundamentals of optimum information management as part of her dissertation before, during and after a conference interpreting assignment with a focus on the preparation phase. By taking into account different requirements for information research, organization and acquisition in conference interpretation after analysing relevant research findings on the existing software, the author proposed a model of a possible software package covering the whole workflow of interpreting. Her model which is seen below, consists of five modules and one central starting point:

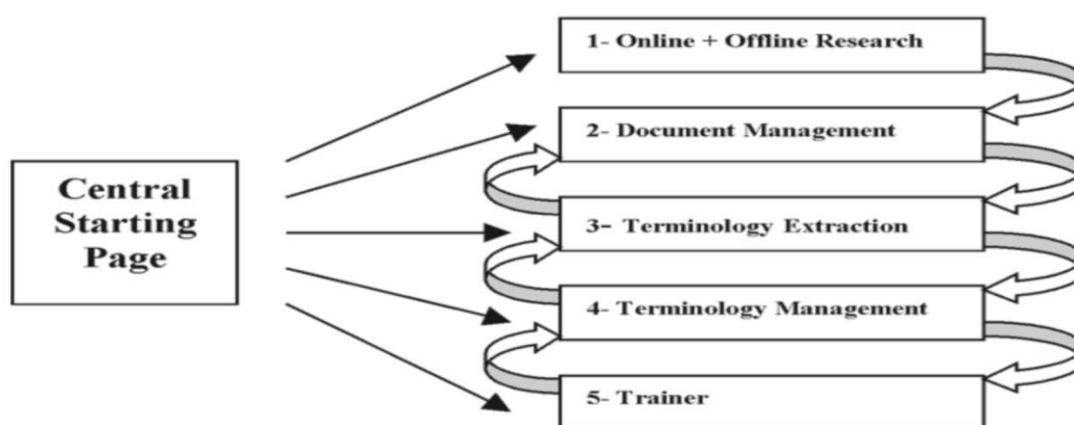


Figure 5: CAI model (Rütten, 2021, p.173).

According to her model module 1 allows to do online and offline research, thereby finding any kind of documents such as glossaries, texts and dictionaries besides the documents recorded in Module 2. This module can also sort results by relevance and language while module 2 manages and archives documents found in module 1. Module 3 is instrumental in extracting potential technical terms and their equivalents in the target language when

parallel texts in respective languages are available or when it is possible to connect to electronic terms bases and dictionaries. The list of extracted terms will be seen in module 3 and module 4 manages search entries such as single words or whole sentences while module 5 helps systematic memorization of terminology saved in module 4 (p. 173).

As part of his dissertation Stoll (2009) also analysed the preparation phase of professional interpreters and remodelled his findings on a CAI supported interpreting workflow. The researcher aimed to develop a workflow-support system for interpreters by observing what categories of information are found in hand-written glossaries of interpreters and manually prepared speaker manuscripts, when that information is noted and how it is reactivated. In his model “*der Vorverlagerung von Kognition im Arbeitslauf professioneller Konferenzdolmetscher*”³ the researcher draws on Gile’s Effort Models and the Tighrope Hypothesis (Gile, 2009) and underlines that acquiring extensive information on the subject of an upcoming interpreting assignment prior to the actual performance as well as using software tools for managing glossaries help interpreters to concentrate better on their interpreting performance by reducing cognitive load since doing so helps to free up much of their cognitive resources to be used during the performance (Stoll, 2009). Based on his observations, he proposes an elaborated terminology entry model adapted to the workflow of interpreters using LookUp, a terminology management software that he developed himself. With respect to categorization criteria for CAI tools, Fantinuoli (2016), who created InterpretBank as part of his dissertation project at Mainz University in 2009, proposes two broad categories for the CAI tools that have been developed so far, which are first-generation and second-generation tools. According to this classification the first-generation tools include the first developed glossary management tools which don’t possess any features such as information retrieval and text management. The list of first-generation tools encompasses Interplex (fourwillows.com) by Peter Sand, Interpreters’ Help, LookUp and DolTerm by Christoph Stoll (No longer available) and Terminus (wintringham.ch). Interplex is still maintained and used. It allows to merge glossaries and helps to convert glossaries from and into MS Office Programs. It is only designed to handle glossaries and requires a commercial license for usage (Costa et al., 2014). But then, the second-generation tools have been developed with a rather holistic approach by taking into account several requirements of the interpreting task in order to reduce the manual entry

³ It is translated in the English abstract of the same dissertation as “Moving cognition upstream in the workflow of professional conference interpreters”.

of terminological input during conference preparation. They diverge from their predecessors with features such as organizing texts, retrieving information from corpora or online sources and allowing advanced search options. InterpretBank belongs to second generation tools. According to its creator Fantinuoli (2016) the overall aim of InterpretBank is to optimize the workflow of interpreting before, during and after a meeting or conference that interpreters are called upon to interpret. Similar to CAT tools, second generation CAI tools also have core and additional functions. An editable terminology database that allows making queries in the interpreting phase is essential in the second-generation tools. Additional functions include automated entry, corpus creation, term extraction and definition search. The recent situation regarding available CAI tools is summarized by Will (2020) as the following:

- The number of interpreting specific tools is much less than those of translation and the ability to use a CAI is not a standard prerequisite for being contracted.
- None of the available tools have a standardized entry model, which makes data exchange difficult and most of them are pure glossary management programs.
- CAI tools are generally heterogeneous and ad-hoc solutions reflecting individual ideas of their creators and don't rely on scientific or industrial support.
- Only less than a quarter of all CAI tools developed so far, remains available today (Will, 2020, pp. 44-45).

In the following section InterpretBank, Interplex and Interpreters' Help will be presented and their features will be explored. This will help to gain a better understanding of the possibilities offered by the CAI tools designed as glossary management tools for interpreters.

1.5.1. InterpretBank

InterpretBank, a comprehensive Computer-Assisted Interpreting (CAI) tool, was developed by Claudio Fantinuoli, a professional conference interpreter and PhD researcher specializing in new technologies and interpreting at Mainz University in

Germany. Conceived as part of his doctoral project, InterpretBank continues to be actively maintained. Fantinuoli (2016) explains that the tool's primary objective is to create an interpreter workstation that enables conference interpreters to optimize their workflow before, during, and after the events they are assigned to interpret (p.45). The tool offers features such as automatic text collection, terminology extraction, and memorization, which assist interpreters in learning new terms and vocabulary. It is designed for creating and managing glossaries and retrieving terms during interpreting. The commercial product is compatible with both Windows and macOS. For this study, the free trial version of the InterpretBank Pro package, which does not include the booth mode, was utilized. The software features a main toolbar located at the top of the window, comprising Database, Glossary, Cloud, AI Tools, Booth, View, Options, and Help. Initially, an empty glossary can be created by choosing "Create empty glossary" on the main window as indicated below:

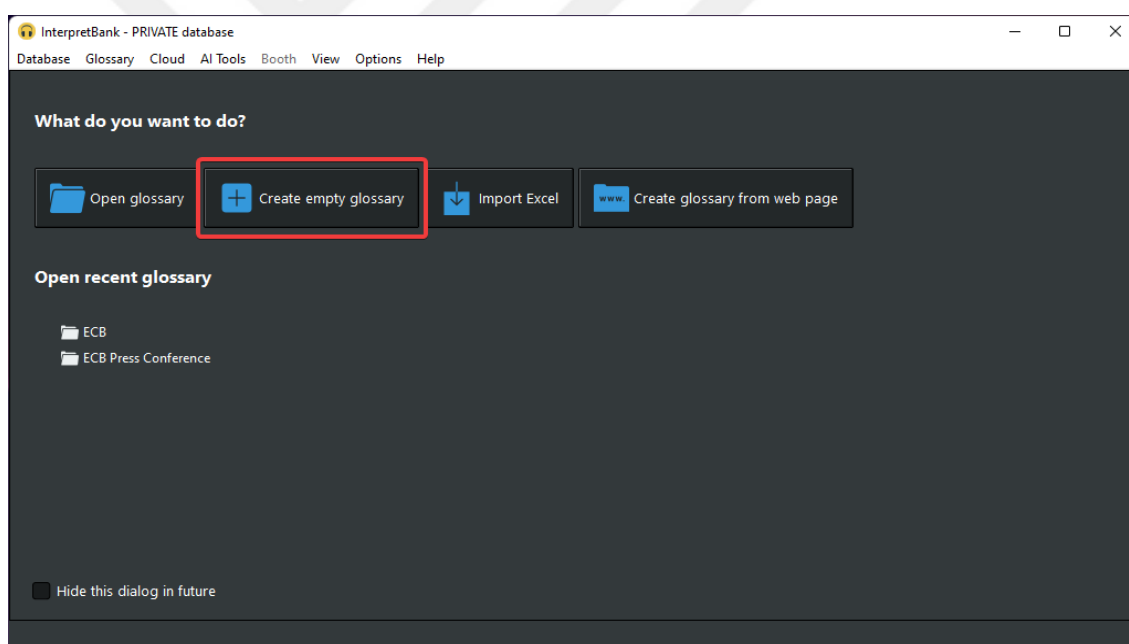


Image 1: Creating an empty glossary on InterpretBank

Upon proceeding, users can enter the name of the new glossary, define the languages it will encompass, and provide a description or note about the glossary. After filling out all the required fields, clicking "Create" establishes the new glossary. The freshly created, empty glossary will be displayed on the main window, featuring tabs corresponding to each chosen language and empty rows designated for new terms. Users can obtain these terms from a variety of sources, including web pages, PDF

documents, Excel sheets, and Word documents, or they can manually input the terms themselves. Inside the menu “Create new glossary”, users can name the glossary and choose relevant language pair as shown below:

Image 2: Naming a new glossary on InterpretBank

To open a glossary, users must select it from the "Glossary" drop-down menu. Glossaries can be renamed by selecting the relevant glossary in the same menu and clicking "Update Glossary," while the "Delete Glossary" option allows for the removal of a created glossary. Merging glossaries is also possible. After choosing the first glossary from the "Glossary" drop-down menu, users can click "Merge glossary" to open a second window displaying other glossaries. Selecting the appropriate glossary will add all terms to the second glossary. To add a language to an existing glossary, users can click on the "Glossary" menu, select "Update glossary," and enter the new language. The "Collect monolingual terms from a website" option under the "AI Tools" toolbar menu and the "Add preparatory documents" option under the "Glossary" toolbar menu appear to be the most efficient tools, as they enable automatic extraction and collection of terms from various sources. The "Collect monolingual terms from a website" submenu facilitates the collection of monolingual terms from a website and appends their machine translations (via Google Translate) into Turkish in the adjacent column. Although machine translations into Turkish may not always be satisfactory, interpreters can manually edit them as needed.

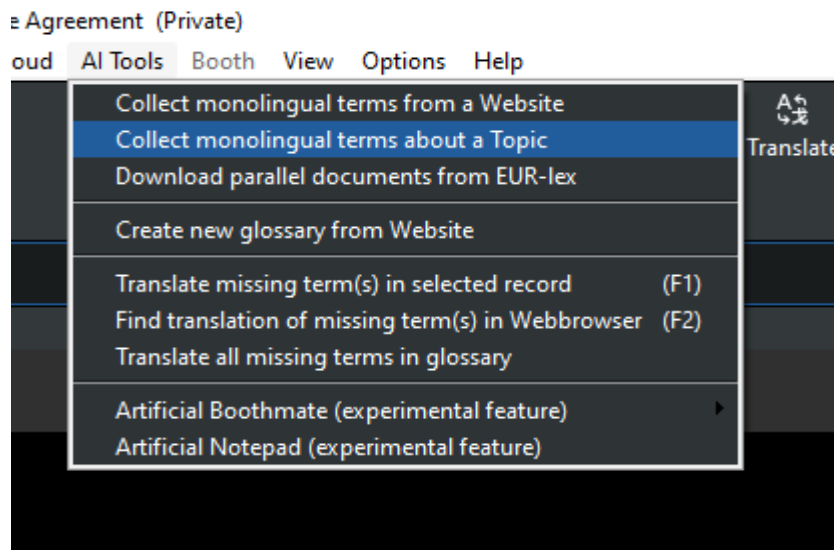


Image 3: Collecting monolingual terms

As illustrated in the image above, users can input the URL of a relevant webpage and choose the appropriate language using the "Collect terms from a webpage" submenu. By copying and pasting the URL of the target webpage and selecting the language for potential terms, the system automatically extracts term candidates from the site. These extracted terms can then be transferred to a bilingual term list. Additionally, the platform offers the option to gather translation suggestions from the internet. By clicking the "Translate" menu displayed in the figure below, users can obtain Turkish equivalents for term candidates from Google Translate. Alternatively, users can select a row in the table, right-click their mouse (or press the F1 key on Windows) and choose "Translate missing term." A window containing suggested translations will appear. Users can then manually edit and refine the terms on the list by clicking on the relevant entries.

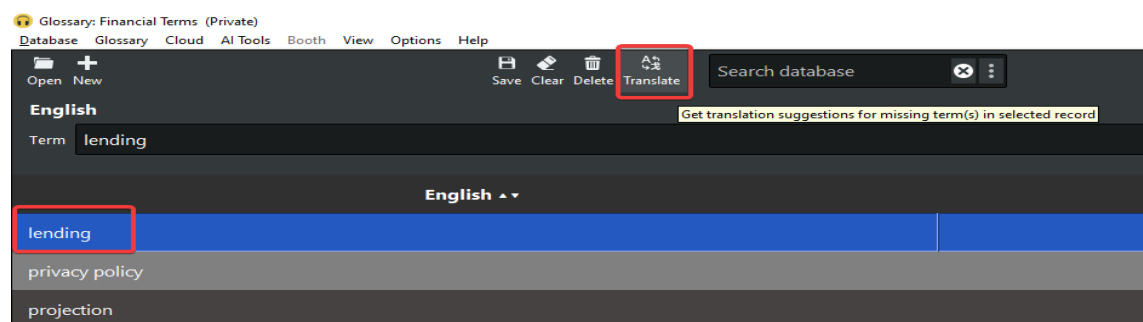


Image 4: Translating terms on InterpretBank

InterpretBank offers the ability to search multiple terminology databases in various languages and provides users with a selection of translation suggestions. Currently, IATE, the European Union's terminology database, is integrated into InterpretBank and supports five languages: English, French, German, Spanish, and Italian. Users seeking additional languages supported by IATE can create a new resource and install the data for their desired languages. However, creating a database requires downloading substantial data and engaging in extensive preparation. To request a new terminology database in an unlisted language, users must purchase the customization package.

InterpretBank can also automatically generate a list of terms in a single language related to a specific subject. Automatically collecting terms on a topic can assist interpreters in creating a glossary foundation, especially when no preparatory documents are provided by the client. This method collects not only specialized terms but also entities (such as names of people and places) that are somehow related to the topic. On the other hand, the "Add preparatory document to glossary" submenu, as depicted in the image below, enables users to upload preparatory documents in a range of formats, including PDF, Word, Excel, and PowerPoint. This feature provides added versatility when working with source materials during the glossary creation process.

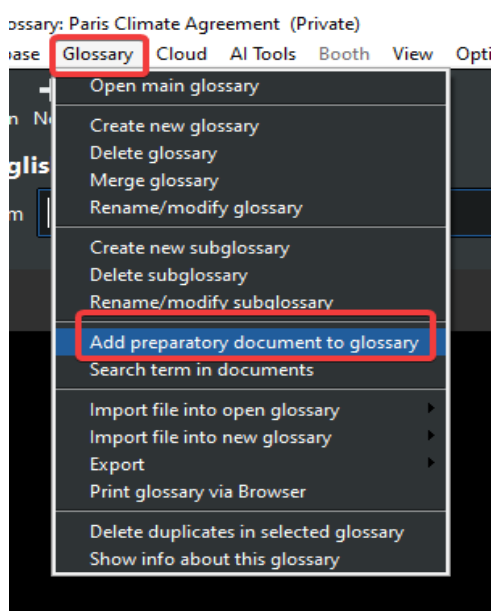


Image 5: Adding preparatory documents on InterpretBank

The cogwheel icon situated on the bottom left side of the window has a drop-down menu including the features: extract terminology (smart), extract terminology (simple), extract abbreviation. Using the feature “Extract terminology” (smart) allows to automatically extract any potential terms from an uploaded text. Finally, created glossaries can be exported as MS Excel or Word files by going through the sections “Glossary” and “Export glossary” as can be seen below.

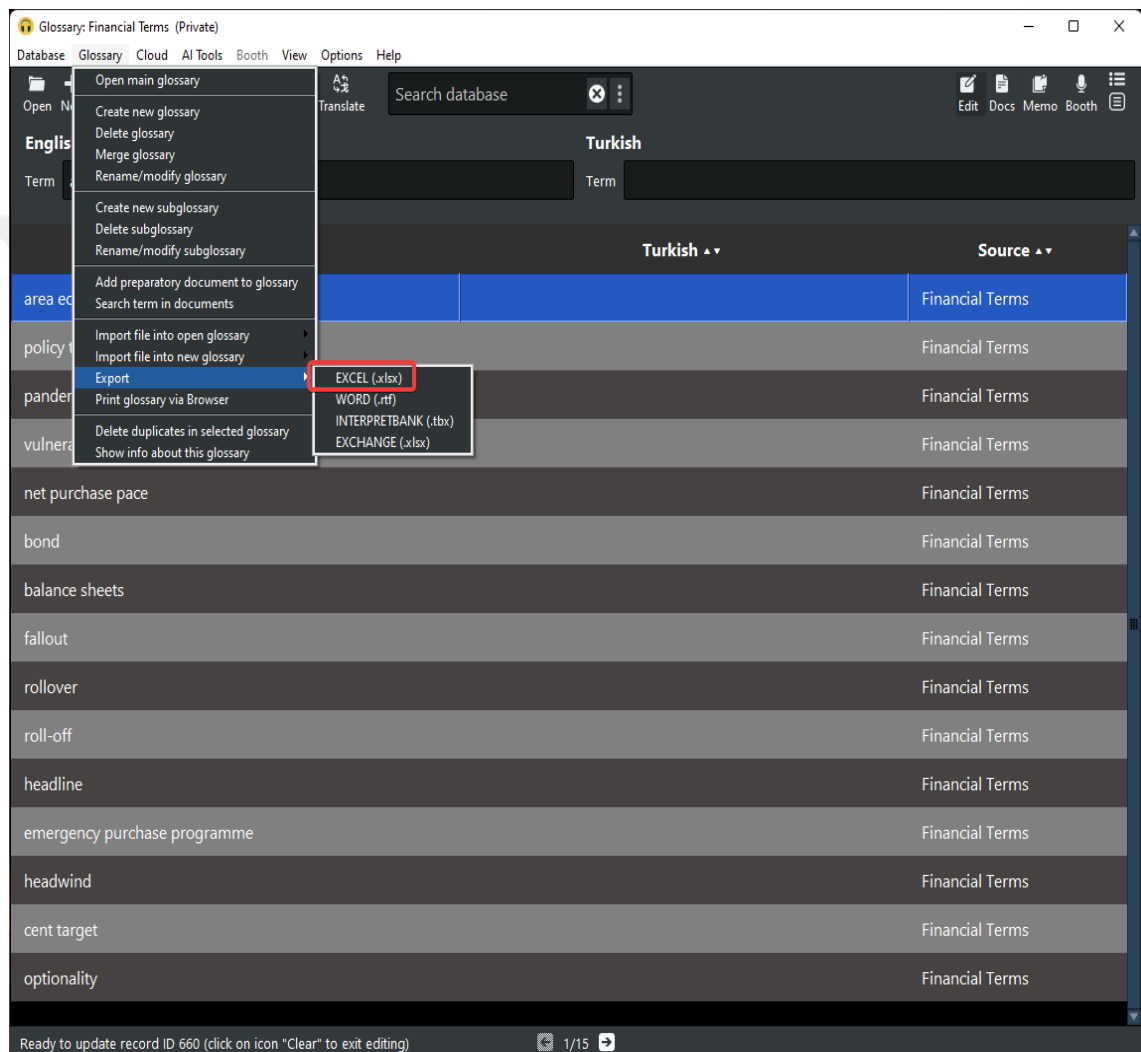


Image 6: Exporting terms on InterpretBank

Glossaries prepared in Microsoft Excel or Word can also be imported in InterpretBank database. Excel glossaries may contain two or more languages and one extra field for adding comments. To import an Excel or Word glossary, the interpreter can also click on the menu Database, “Import glossary” into database. However, the file has to be in a

recent Microsoft format (with .xlsx or .docx extension). InterpretBank can also create a new glossary from a website with the help of the menu called “AI Tools” as seen in below.

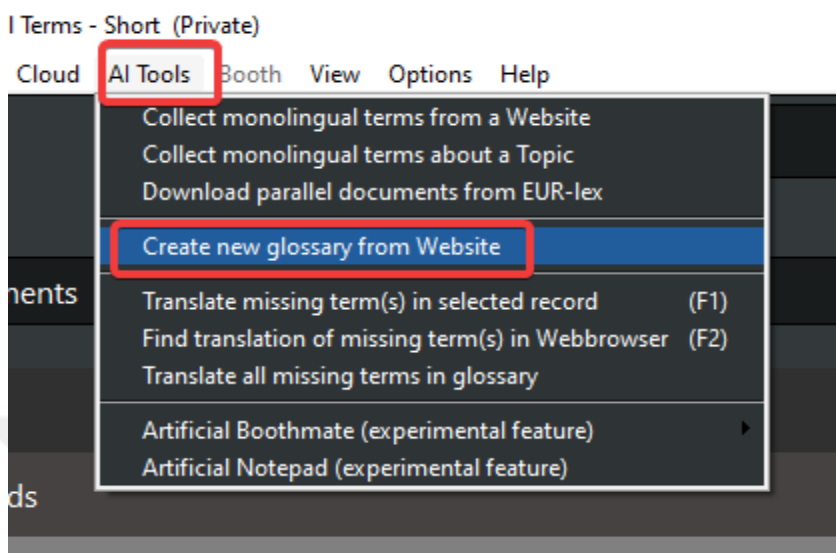


Image 7: Creating new glossary from Website on InterpretBank

In addition to creating a glossary template from a selected Webpage, InterpretBank also allows users to have access to the glossaries created on other devices including cell phones or tablets via Private Cloud Account. In order to open a private cloud account, login credentials including username, password and a valid e-mail address should be entered and “Accept terms and create account” should be selected. Once a cloud account has been created, users can upload their desired glossaries to the private cloud by selecting the "Upload database to Private Cloud" option. All glossaries stored in the private cloud can be accessed directly from the dashboard. Moreover, users have the flexibility to print or convert a glossary into various formats, such as PDF, for added convenience as can be seen below:

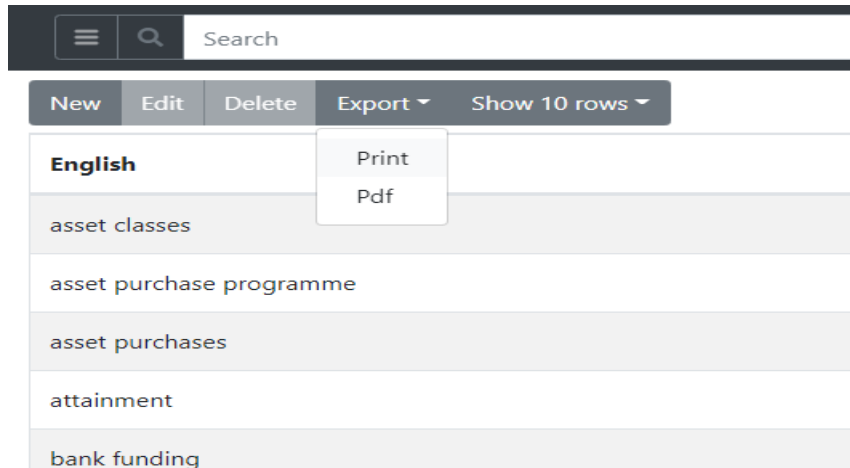


Image 8: Converting glossaries into various formats on InterpretBank

The platform also enables users to share glossaries with boothmates simply by entering their e-mail address and selecting the “Share a glossary” option, as demonstrated below. This feature fosters collaboration by ensuring both interpreters have access to the same essential resources.

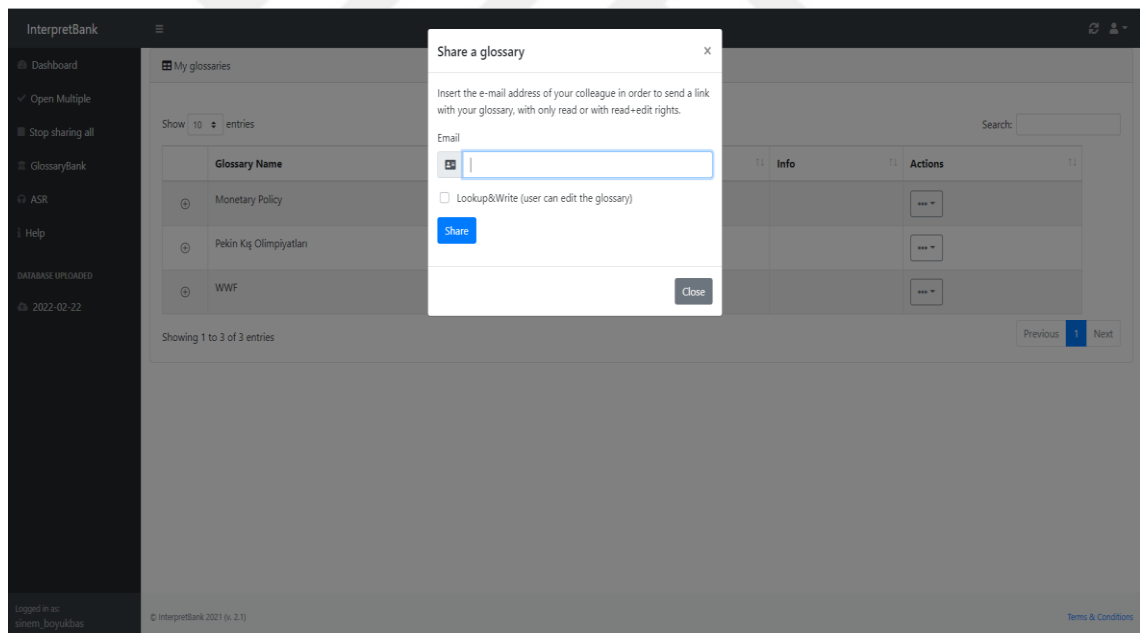


Image 9: Sharing glossaries via InterpretBank

Furthermore, InterpretBank features a terminology memorization module that assists in learning specialized vocabulary through two distinct methods: "Memorize (Classic)" and "Memorize (Swipe)".

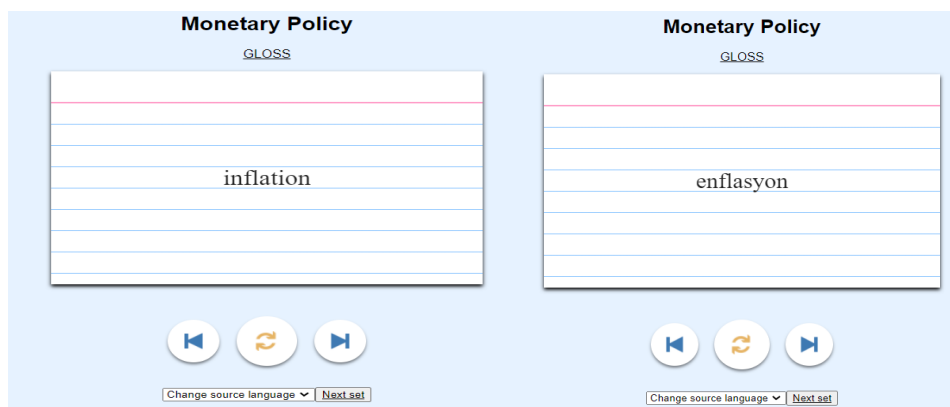


Image 10: Memorization module on InterpretBank

The Memorize (Classic) function utilizes a flashcard-style application to aid in the memorization of glossary terms, providing an engaging learning experience. The Memorize (Swipe) function incorporates a swipe-based approach, allowing users to choose from various background themes, such as sun, seaside, or rain, to create a more personalized learning environment. To use this method, users simply swipe left for terms they haven't yet mastered and swipe right for terms they already know, providing an interactive memorization experience.

1.5.2. Interplex

Interplex, or Interplex Unicode Edition (UE), is a computer-based glossary management tool specifically designed for conference interpreters. Developed by conference interpreter Peter Sand (an AIIC member) and Eric Hartner, Interplex has been actively utilized since 2002. The software is compatible with Windows and Mac operating systems, as well as iPhone and iPad devices. Although Interplex may not offer as many features as InterpretBank, it does enable users to create multiple databases containing numerous glossaries in each database.

It is possible to create a new database by selecting "New Database" from the File menu as shown in image 11. To open an existing database, users can choose "Open Database," or they can pick a database from the "Recent Databases" list on the same menu. The "Glossary Index" can be accessed by clicking the second icon from the left on the menu bar, which displays a list of all created glossaries.

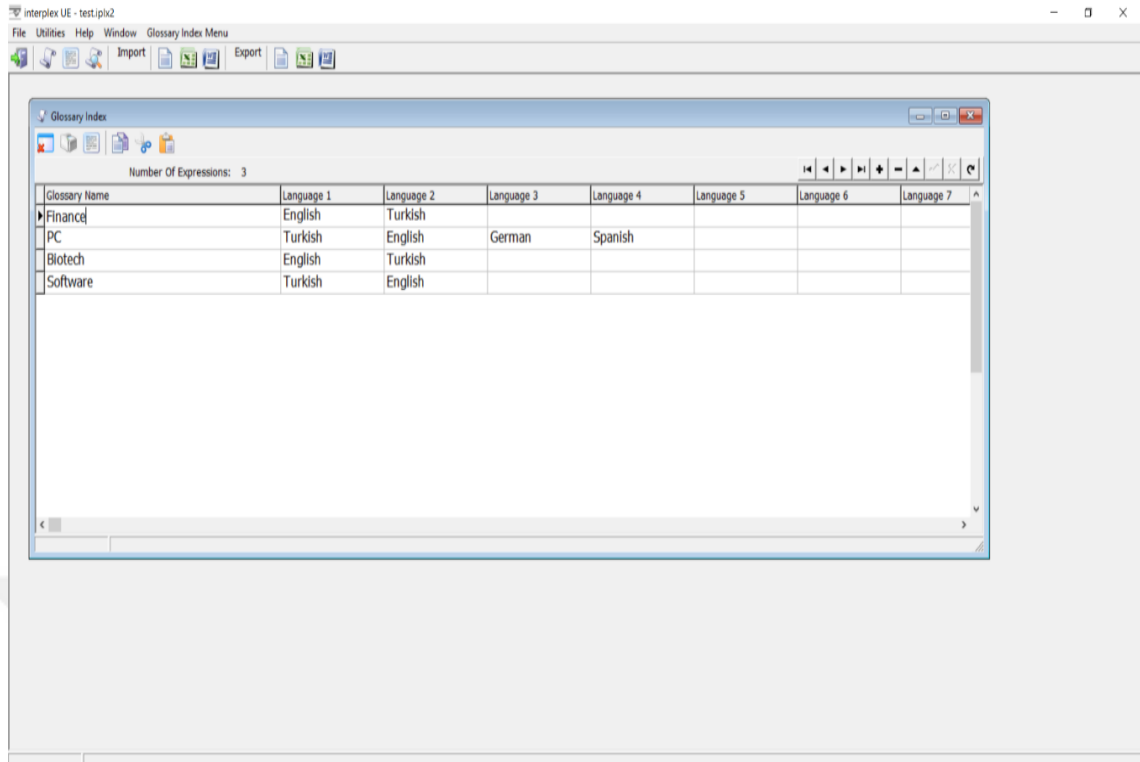


Image 11: Creating a new glossary on Interplex

Users can also open a glossary by clicking the "Open Up the Expressions for the Selected Glossary" icon or pressing the enter key while the mouse cursor is hovering over the "Glossary Name" of the desired glossary. The selected glossary will open in a new window, allowing for printing, searching, and editing with just a click.

The program enables users to search for words and expressions across all created glossaries simultaneously, regardless of topic or theme. This functionality is particularly useful when working in the booth during interpreting. Terms can be searched by clicking "Find" on the "Expressions Menu".

Interpreters can utilize the multi-glossary search option (Ctrl+M) or the magnifier icon on the menu bar to conduct a multi-glossary search. Interplex simplifies searching across numerous glossaries and disregards accents, facilitating term discovery in languages like Turkish, French, German, or Spanish. It is not necessary to input the full word or expression in the search; entering only the first or last letters will yield a list of matching terms within the "Search Text" box. This feature is particularly valuable during the interpretation process in the booth. First, the menu "Find" can be used to search a relevant glossary in the database as shown below:

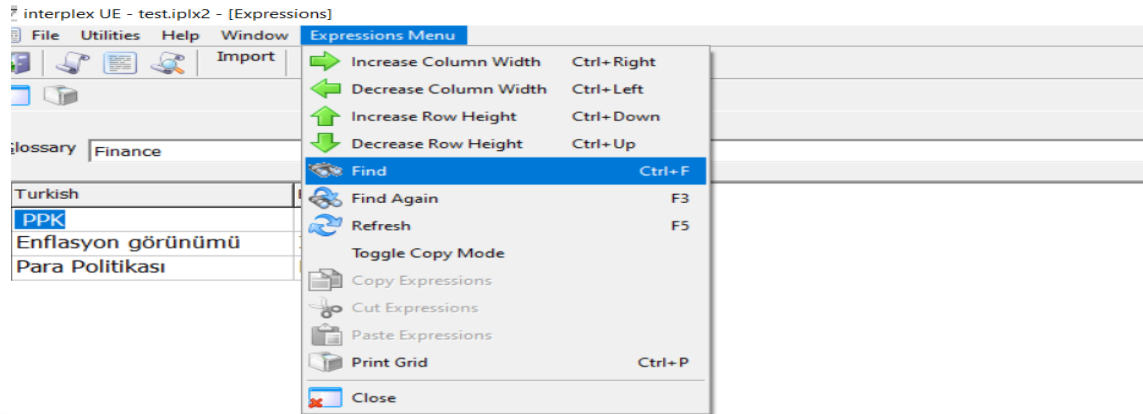


Image 12: Glossary search on Interplex

Like InterpretBank, Interplex allows users to import and export glossaries in formats such as Word, Excel, and Text. This functionality facilitates sharing glossaries with colleagues and organizing existing glossaries for future assignments. In this program, each Excel sheet is treated as a separate glossary, with the sheet name becoming the glossary name. Language names (e.g., English, Turkish) should begin from the first row and column without any blank cells, while expressions should start from the second row. Furthermore, blank rows signal the end of expressions, potentially resulting in an incomplete glossary.

In order to import Word or Excel files or to export existing databases to Word or Excel format successfully, the relevant glossary document should meet certain criteria. For instance; the glossary document should contain a single table, including both languages and expressions. Besides, languages should be inserted in the first row, while expressions should start from the second row and continue downward. Users can export a glossary from the program and convert it into a Word or Excel document as shown in the example given below:

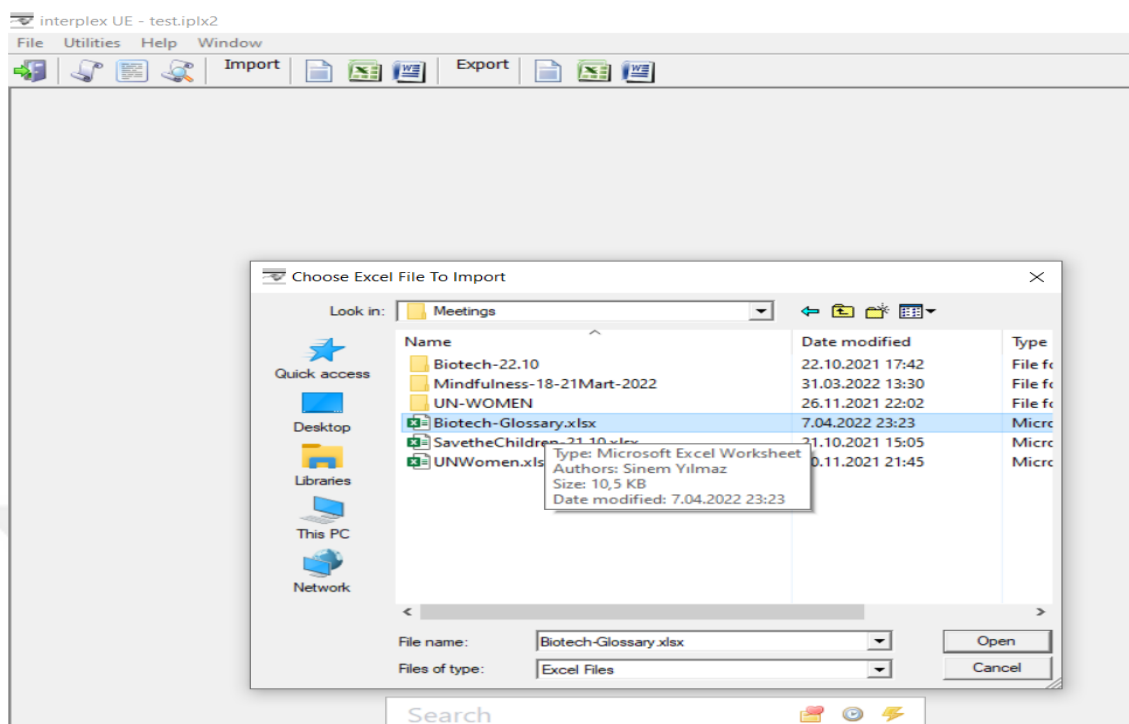


Image 13: Exporting a glossary via Interplex

1.5.3. Interpreters' Help

Interpreters' Help is a versatile glossary management tool, accessible via both browser and offline platforms, such as Mac and iPad. To utilize this tool, users can simply navigate to "interpretershelp.com" using their preferred web browser.

The application offers a complimentary tier that includes one private glossary slot, accommodating up to 500 lines, as well as unlimited public glossary slots, each with a 500-line capacity. For individuals seeking expanded access to public and private glossary slots, in addition to enhanced features, a pro package is available for purchase.

To create a user account, individuals can select the sign-up button and provide the necessary information in the designated fields. Notably, glossaries developed within the Interpreters' Help platform can be shared publicly online or disseminated privately via email.

Users' profiles are displayed on the "Dashboard" menu, which encompasses various information, including recent activity, upcoming assignments, all glossaries with recent

modifications, shared and contributed glossaries, and notifications from colleagues. Consequently, the application incorporates a professional networking component, enabling interpreters to connect with their peers through the network page and exchange glossaries.

Based on the user's notification preferences, following another interpreter may trigger notifications each time the followed user shares a new public glossary. Moreover, the platform facilitates collaboration on glossary projects among interpreters. As stated on the application's website, over 800 registered interpreters contribute to the expansion of its glossary database. Importantly, glossaries initially created in Excel or Word formats can be imported into the application and subsequently modified as needed. Existing glossaries can be imported into the application as illustrated below:

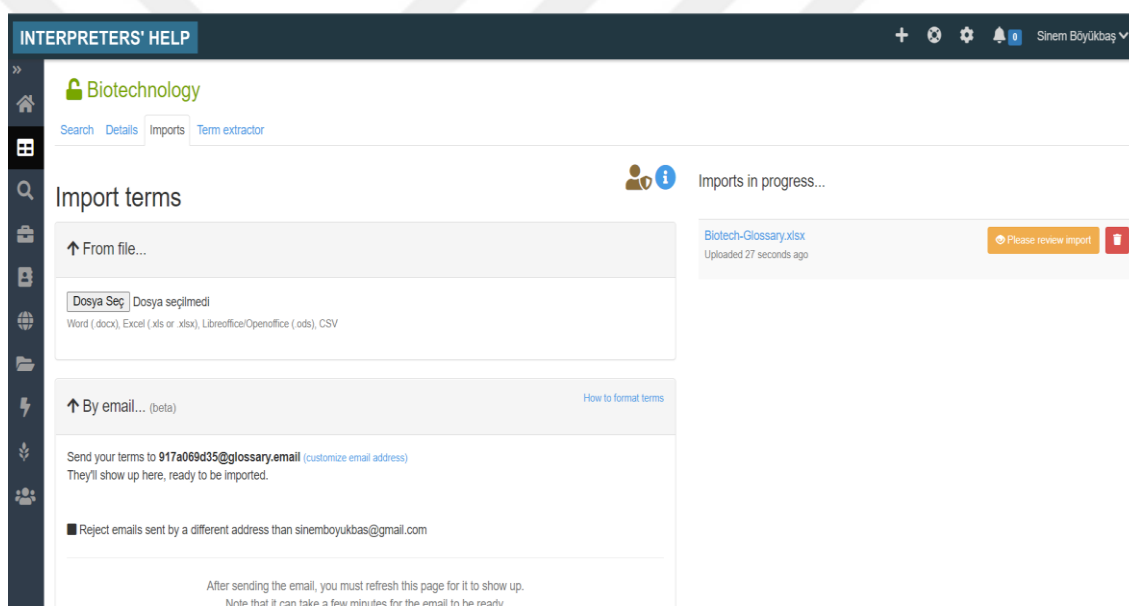


Image 14: Importing terms on Interpreters' Help

The glossary page adopts a tabular layout, composed of rows and columns, which can be manually edited by double-clicking on the relevant cells. The tool provides a convenient search feature for users to locate specific terms within the glossary. Upon conducting a search, matching results are accentuated, and the search process is accent-insensitive, ensuring greater accuracy.

Additionally, users can easily insert extra rows and columns by accessing the dropdown menu situated on the right side of the page. As depicted below, the search bar situated over the glossary page allows users to look up terms in the database:

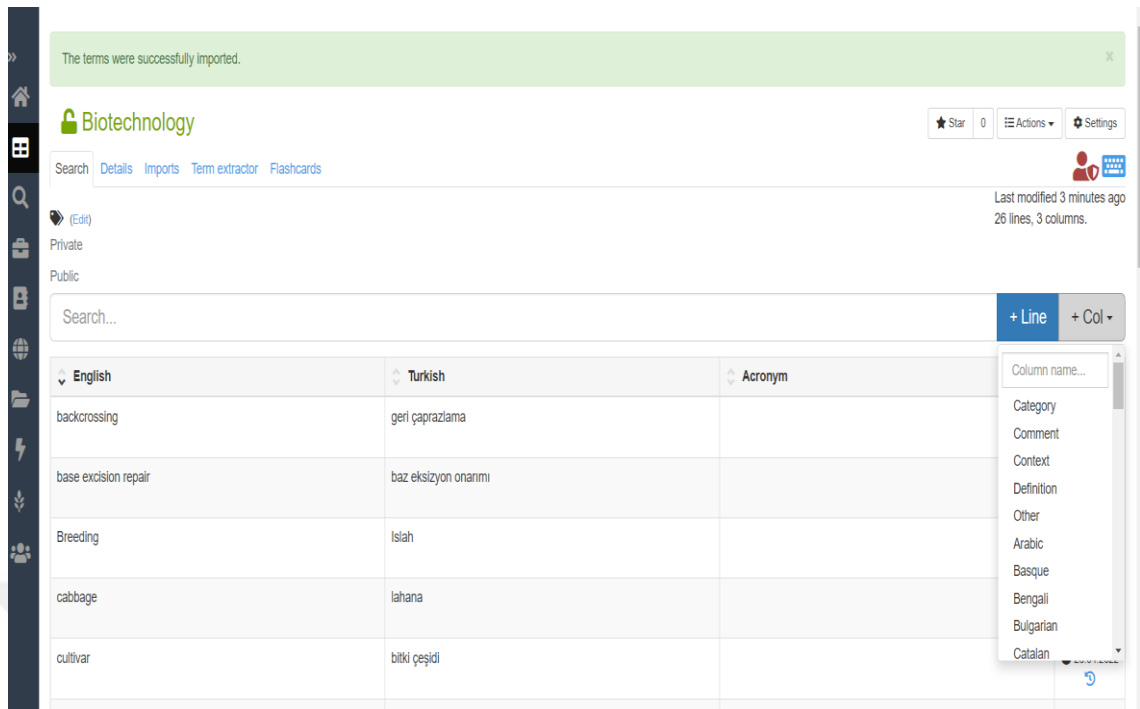


Image 15: Layout of the glossary page on Interpreters' Help

The "Details" tab offers users the opportunity to include supplementary information about the glossary, such as sources, notes, and comments. Source files can also be uploaded for added context.

Aside from importing glossaries in various formats, users can create new glossaries within the application from scratch. In order to do so, users can click the "New Glossary" option located in the top-right dropdown menu, designated by a plus sign (+) as shown below:

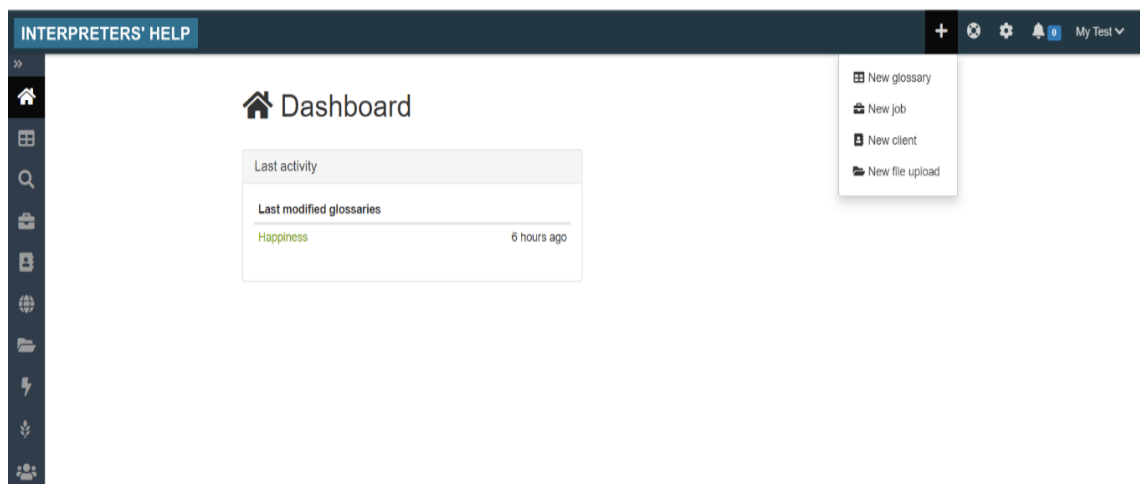


Image 16: Dashboard on Interpreters' Help

When creating new glossaries, users can assign a name and choose the desired visibility setting. Glossaries can be published publicly, granting access to all registered users on the platform, or they can be set to private, restricting access to only designated individuals. Users can click on the "+Line" button to manually develop a new glossary. This allows them to input the term and its corresponding translation in the designated columns. After entering the necessary information, users can click "Add line" to create the new entry within the glossary as indicated in the image below:

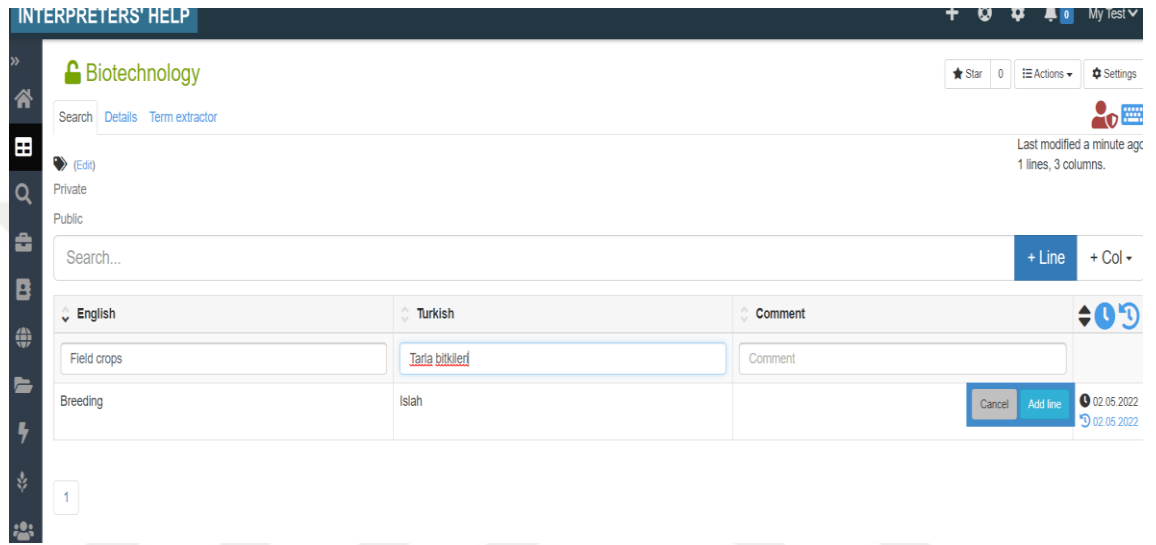


Image 17: Adding lines on Interpreters' Help

The application's search functionality enables users to find specific terms by inputting only their initials. The matched term will be displayed on the page. This feature is particularly valuable for interpreters during interpreting, as they frequently lack the time to write out terms in their entirety. The sign of magnifying glass located on the left side under the dashboard allows to search for a specific term in all glossaries created on the application. The "Glossary Search" feature displays all created glossaries on a single page, and users can input a term to be searched in the "Search" field as shown in the following image:

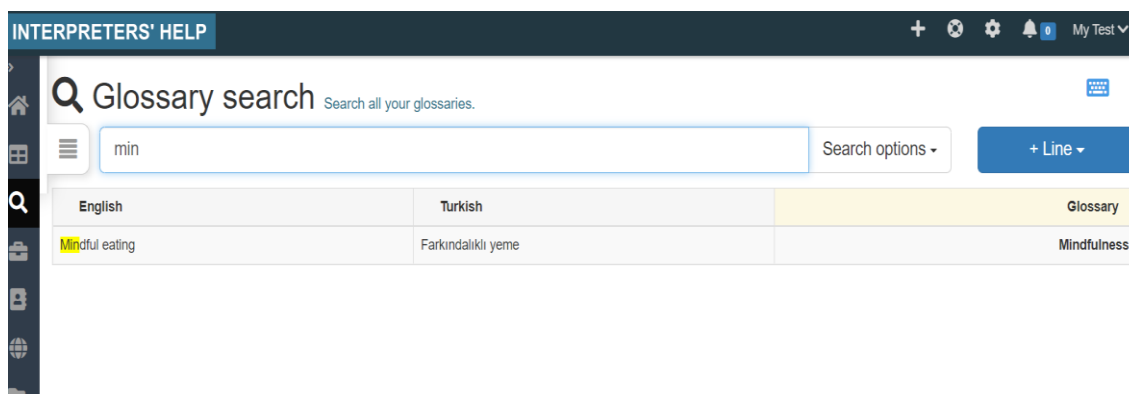


Image 18: Search field of Interpreters' Help

Simultaneously, users can access and view all publicly shared glossaries by navigating to the "Glossary Farm" menu, located on the left side of the page:

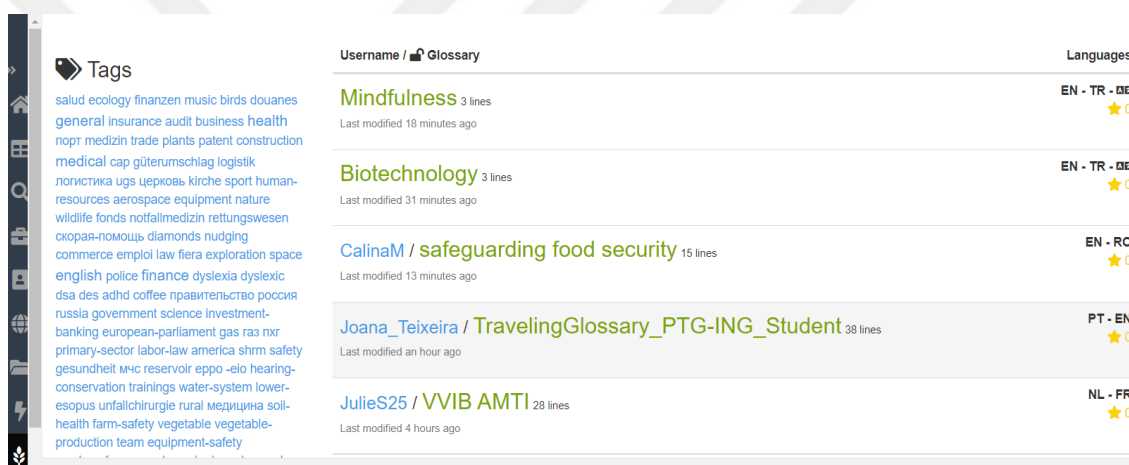
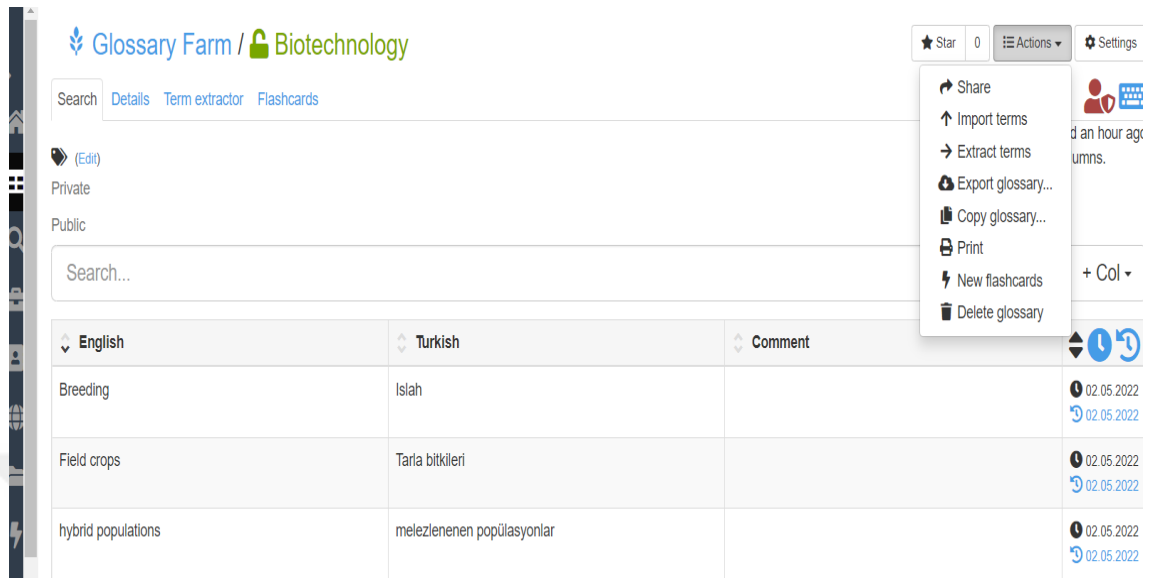


Image 19: Glossary farm menu

The level of access granted to interpreters for existing glossaries created by other users depends on the permissions set by the authors. For example, in the case of the "Biodiversity" glossary showcased below, which was created by another user, the user receives a pop-up window upon clicking the first line. This window informs the user that the author has only granted read permissions and has not provided authorization for collaboration.

Glossaries created within Interpreters' Help can also offer various sharing and learning options. Users can share glossaries with selected individuals, make copies, and print them. Additionally, glossaries can be transformed into flashcards, facilitating the learning of new vocabulary for interpreters. The menu "Actions" located on the right corner of the

tool, allows to create flash cards besides various options, including sharing, importing, exporting, copying and printing glossaries as shown below:



The screenshot shows the 'Glossary Farm' interface for a glossary titled 'Biotechnology'. The interface includes a search bar, tabs for 'Details', 'Term extractor', and 'Flashcards', and a table with English and Turkish terms. A dropdown menu is open showing options like 'Share', 'Import terms', 'Extract terms', 'Export glossary...', 'Copy glossary...', 'Print', 'New flashcards', and 'Delete glossary'.

English	Turkish	Comment
Breeding	Islah	
Field crops	Tarla bitkileri	
hybrid populations	melezlenen popülasyonlar	

Image 20: Collaborating via Interpreters' Help

The glossaries created via Interpreters' Help can also be printed. The tool is able to produce a structured and legible glossary format, ideal for interpreters' offline utilization.

CHAPTER 2

METHODOLOGY

This chapter dwells on the methodology used in this thesis, specifically the investigation and comparison of the effect of using two different glossary management programs, namely MS Excel and Interpreters' Help, during SI on the SI performances and terminological performances of the participants. The chapter discusses the components of the methodology, including the participants, test design, data collection tools, test procedure, data analysis techniques, and presentation of the obtained data.

2.1. PARTICIPANTS

(1) **The pilot test participants** comprised two postgraduate students pursuing a Master's Degree in English Translation and Interpreting at Hacettepe University, a 2022 graduate from the English Division of the Department of Translation and Interpretation at the same institution, a fourth-year student enrolled in the English Division of the Department of Translation and Interpretation at Hacettepe University, and another fourth-year student enrolled in the English Division of the Department of Translation and Interpretation at Muğla University. All participants had successfully completed relevant interpreting courses at the time of the pilot test. The test was administered remotely using Zoom, a widely recognized video conferencing platform.

(2) **The main test participants** included 5 female and 7 male (in total 12) novice interpreters who had recently graduated from the English Division of the Department of Translation and Interpretation at Hacettepe University. These individuals voluntarily participated in the tests. At the time of the tests, all participants had successfully completed the Simultaneous Interpreting-I and Conference Interpreting-I courses. The rationale for conducting the experiment with novice interpreters, specifically recent graduates from the English Division of the Translation and Interpreting Department, was to eliminate the variable of expertise and to ensure that the participants had basic simultaneous interpreting skills. The table below provides a detailed profile of the participants:

	Year of graduation	Courses taken on SI/Conference Interpreting	Experience in performing SI	Experience in using a CAI tool	Familiar terminology management method	Working languages
P1 (Male)	2022	Simultaneous Interpreting I and Conference Interpreting I.	His experience is limited to classroom activities under the supervision of his tutor.	He has neither heard of CAI tools nor used a CAI tool.	Excel	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.
P2 (Female)	2022	Simultaneous Interpreting I and Conference Interpreting I.	Her experience is limited to classroom activities under the supervision of her tutor.	She has neither heard of CAI tools nor used a CAI tool.	Excel	Turkish and English. Turkish is her mother tongue, English is her first learned foreign language.
P3 (Male)	2019	Simultaneous Interpreting, Conference Interpreting.	He has worked as an interpreter in either consecutive or simultaneous interpreting modality for less than 100 days. Currently, he is not working as an interpreter.	He has heard of CAI tools such as InterpretBank and Interpreters' Help but he has never used them during SI.	Excel and Google docs	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.
P4 (Male)	2022	Note-taking, Introduction to Interpreting, Simultaneous Interpreting I and II, Conference Interpreting I and II.	He has worked as an interpreter in either consecutive or simultaneous interpreting modality for less than 100 days.	He has heard of CAI tools such as InterpretBank and Interpreters' Help but he has never used them during SI.	Excel	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.
P5 (Female)	2022	Introduction to Interpreting, Simultaneous Interpreting I and II, Conference Interpreting I and II.	Her experience is limited to classroom activities under the supervision of her tutor.	She has neither heard of CAI tools nor used a CAI tool.	Excel and Google sheets	Turkish and English. Turkish is her mother tongue, English is her first learned foreign language.
P6 (Male)	2022	Introduction to Interpreting, Simultaneous Interpreting I and II, Conference Interpreting I and II.	His experience is limited to classroom activities under the supervision of his tutor.	He has heard of CAI tools such as InterpretBank and Interpreters' Help but he has never used them during SI.	Excel and Google docs	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.
P7 (Male)	2022	Simultaneous Interpreting I and II, Conference Interpreting I.	His experience is limited to classroom activities under the supervision of his tutor.	He has neither heard of CAI tools nor used a CAI tool.	Excel	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.
P8 (Female)	2019	Introduction to Interpreting, Conference Interpreting, Simultaneous Interpreting.	She has worked as an interpreter only for one day.	She has neither heard of CAI tools nor used a CAI tool.	Word and Excel	Turkish and English. Turkish is her mother tongue, English is her first learned foreign language.
P9 (Female)	2019	Introduction to Interpreting, Conference Interpreting, Simultaneous Interpreting.	She has worked as an interpreter in either consecutive or simultaneous interpreting modality for less than 100 days.	She has heard of CAI tools such as InterpretBank and Interpreters' Help but she has never used them during SI.	Paper, Word and Excel	Turkish and English. Turkish is her mother tongue, English is her first learned foreign language.
P10 (Female)	2021	Simultaneous Interpreting, Introduction to Interpreting.	She has worked as an interpreter in either consecutive or simultaneous interpreting modality for less than 100 days.	She has neither heard of CAI tools nor used a CAI tool.	Paper and Excel	Turkish and English. Turkish is her mother tongue, English is her first learned foreign language.
P11 (Male)	2019	Introduction to Interpreting, Conference Interpreting, Simultaneous Interpreting.	His experience is limited to classroom activities under the supervision of his tutor.	He has heard of CAI tools such as InterpretBank and Interpreters' Help but he has never used them during SI.	Excel	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.
P12 (Male)	2022	Introduction to Interpreting, Simultaneous Interpreting I and II, Conference Interpreting I and II.	His experience is limited to classroom activities under the supervision of his tutor.	He has neither heard of CAI tools nor used a CAI tool.	Excel and Word	Turkish and English. Turkish is his mother tongue, English is his first learned foreign language.

Table 3: Profile of the participants

The information presented in the table was gathered during individual preliminary meetings with each participant, conducted via Zoom prior to the main tests. Each meeting lasted around 10 minutes and notes were created. While no monetary compensation was provided, participation in the study allowed students to familiarize themselves with CAI (Computer-Aided Interpreting) tools. The main tests were administered remotely using Zoom, a video conferencing platform. The data gathered in the preliminary meetings indicate that Participants 3, 8, 9 and 11 graduated in 2019 while only Participant 10 graduated in 2021. The rest of the sample group graduated in 2022. According to their responses, none of the participants had previous experience using CAI tools as glossary management solutions prior to or during interpreting. Furthermore, they all expressed that they always use MS Excel either to prepare or to consult glossaries.

Before the tests, participants were instructed to be alone in a quiet room, equipped with a personal computer or laptop featuring a built-in or external microphone, a reliable internet connection, and a pair of headphones. The recordings of the pre-test and post-test speeches were shared with each participant via email immediately before the main tests, and they were instructed to download the files onto their computers to mitigate the impact of poor audio quality. To help familiarize them with various aspects of the speeches, including content, rate, and accent, participants were allowed to listen to each speech once before proceeding with the simultaneous interpreting tasks.

2.2. DESIGN OF THE STUDY

In this study, a descriptive research methodology was used due to the fact that the main objective of the study was to investigate the impact of using a CAI tool (Interpreters' Help) compared to a traditional glossary management program, which is MS Excel. The traditional glossary management program was selected based on the comments of the participants concerning their familiarity with various glossary management methods during the preliminary meeting. This study adopted a repeated-measures design to measure the effectiveness of using a CAI tool as a glossary management tool. All participants took the pre-test using the glossary prepared in Excel format by the researcher. Following the pre-test, the participants received training to learn how to use Interpreters' Help. The following table shows the design of the study:

Preliminary Studies	Pre-test	Questionnaire	Training	Post-test	Questionnaire
1. Selection of the participants.	SI test with the help of the glossary that the researcher prepared in MS Excel format.	Administering the questionnaire prepared as a 5-point Likert scale.	Informing the participants about available CAI tools that are used for the purpose of glossary management and showing them how to use Interpreters' Help.	SI test with the help of the glossary that the researcher prepared via Interpreters' Help.	Administering the questionnaire prepared as a 5-point Likert scale.
2. Holding a preliminary meeting.					
3. Drafting the materials.					
4. Administering the materials to the pilot group.					
5. Holding a meeting to remind the participants of strategies in interpreting.					
6. Administering the terminology test.					
7. Administering the extralinguistic knowledge test.					

Table 4: Design of the experimental study

Following the training, the same group participated in the post-test. The pre-test and post-test results were then statistically compared and analysed.

In this test design, the dependent variables of the research are general simultaneous interpreting performance and terminological performance, while the independent variables are (1) the use of the selected CAI tool Interpreters' Help during simultaneous interpreting following training, and (2) the use of MS Excel as a glossary management method".

Before administering the main tests, a preliminary meeting was held with each participant to collect information about their academic background and experiences with interpreting technologies. The aim was to gain insight into their familiarity with CAI tools and their

personal experiences regarding the use of different glossary management methods before and during interpreting.

After administering the main tests, the participants were requested to complete a questionnaire concerning their performance, including their comments, as part of the assessment phase.

2.2.1. Validity and Reliability

1. In order to assess the content validity of the experimental texts used in evaluating participants' performances, expert opinions were sought. One conference interpreter trainer and one professional conference interpreter provided their input.
2. The reliability of the speech texts employed during the experiment was evaluated using SPSS 29.00 software, based on the pilot test results and employing the Parallel-Forms Method. This reliability analysis is conducted by administering two parallel tests to the same group at two distinct time points (Büyüköztürk, p. 182). The Pearson correlation coefficient was found to be statistically significant ($p=0.019$), confirming the reliability of the experimental texts.

The reliability coefficient between the pre-test and post-test signifies the correlation coefficient between the disparate scores that participants achieved in the two separate tests. The Pearson correlation coefficient ($r=0.936$) reveals a positive and statistically significant relationship. This data led to the conclusion that the pre-test and post-test speeches exhibited a considerably high parallel forms reliability. The calculations are depicted in the table below:

Inter-Item Correlation Matrix		
	Speech 1	Speech 2
Speech 1	1,000	,936
Speech 2	,936	1,000

Table 5: The results of the Parallel Forms Reliability Test for the Pre-test and Post-test Speeches

2.2.2. Pilot Study

A pilot test was conducted prior to the main tests to assess the influence of variables on participants' interpreting performances. The objective was to evaluate the study's effectiveness and pinpoint any potential shortcomings in the main tests. The primary research tests were administered to a pilot group of students before conducting the main tests.

For the pilot test, all participants were provided with a terminology list in MS Word format just before testing. This list included terms used in both the pre-test and post-test speeches. The aim was to eliminate the variable of unfamiliar terminology during the pilot testing, allowing the identification of other speech elements that could have hindered the main experiment's execution, such as verbosity, sentence structures, intonation, and speaker pace.

Both the pre-test and post-test speeches were divided into 40 segments each. Participants in the pilot test received 1 point for accurately interpreting each relevant segment and 0 points for omissions or inaccurate interpretations. Consequently, each participant's total interpreting score was calculated by summing all points received.

Based on the participants' feedback and performance evaluations, speeches were revised and recorded at an optimal speed for the main tests, corresponding to approximately 100 words per minute.

2.2.3. Training

Subsequent to the pre-test, participants attended a training session designed to provide general information about Interpreters' Help and CAI tools overall. The content of this training is based on the information provided in Chapter 2.5 of this thesis. At first, the participants were shown how to create a glossary on each tool. Secondly, they learned how to save it in the database of each glossary. Thirdly, they were shown how to convert each glossary into a Word and Excel format. The online training was conducted via Zoom in two consecutive sessions for each participant individually, with each session lasting 40 minutes.

In the first session, participants were introduced to the basics of the three CAI tools, as detailed in the section titled "2.5 Computer Assisted Interpreting (CAI) tools: Origin and Evolution." In the second session, they were shown how to create a glossary and look

up terms in the glossary using Interpreters' Help. For the study's purposes, participants practiced searching for terminology in the demonstrated glossary management program, namely Interpreters' Help.

Initially, all three CAI tools were presented to individual participants in a neutral manner, without favouring any particular tool. Then, participants were guided on how to search for terms using the web-based tool, Interpreters' Help. The researcher shared a link to a test glossary via the Zoom chat box for this purpose. During the practice session, participants were asked to use the prepared glossary to look up ten random English terms read aloud by the researcher, with a three-second interval between each term. After each query, participants were expected to provide the exact Turkish equivalent within three seconds.

A separate glossary was created to ensure participants learned how to perform term queries using the CAI tool before progressing to the experiment. As a result, all participants accurately stated the Turkish equivalents of the terms and were considered ready for the actual experiment. Since all participants reported being active MS Excel users during the preliminary meeting, no additional training was needed to introduce the features of that glossary management program.

2.2.4. Assessment of SI Performances

In order to maintain a consistent evaluation of the diverse interpreting performances during the experimental investigation of participant outcomes, the implementation of a scoring guideline was deemed necessary. A score-based quality evaluation system was deemed essential for this study, leading to the adoption of Lee's (2008) interpretation performance assessment rating scale. This scale comprises three main evaluation categories: accuracy, target language quality, and delivery (p. 169). These criteria are derived from Pöchhacker's (2001) model for assessing professional interpreting quality, which highlights four primary criteria: "accurate reproduction," "adequate target language expression," "equivalent intended impact," and "effective communicative interaction" (p. 413).

However, Lee (2008) argued that modifications to this model were necessary since assessing interpreting students' performance focuses more on product quality than service quality (p. 168). In Lee's model, the accuracy criterion involves conveying the speech's meaning and generating the same reaction from the target language audience

as the source language audience. Accuracy can be assessed by identifying instances of deviations, such as omissions, additions, unwarranted changes, or misinterpretations of the speaker's meaning and intent. Target language quality encompasses the "accuracy, naturalness, and contextual relevance of language," while delivery pertains to "strong public speaking and presentation abilities, or more generally, effective communication skills" (Lee, 2008, p. 169).

The quality band scope for accuracy and target language quality ranges from 0 (test discontinuation) to 6 (successfully completed), while for delivery, it extends from 0 (test discontinuation) to 3 (outstanding). This scoring method, addressing three distinct aspects of SI quality, was utilized to evaluate participants' pre- and post-test SI performances in the present study by also considering their level. Each speech was divided into 40 segments, with assessments conducted accordingly.

2.3. DATA COLLECTION INSTRUMENTS

The data collection instruments used in this research can be categorized into four groups: 1) Preliminary studies, 2) Pre-test and Post-test Speeches, 3) Glossaries and 4) Ratings and comments provided by participants in response to the questionnaire statements.

2.3.1. Preliminary Studies

Preliminary studies were carried out to develop and examine the materials used in the research, as well as to evaluate the influence of variables on participants' interpreting performances. These studies involved the creation of speech texts, glossaries, and an oral presentation on CAI tools, based on the information in section 2.5. A preliminary meeting with the participants, a 5-Likert scale questionnaire, a pilot test, a terminology test, and an extralinguistic knowledge test were also conducted.

The preliminary meeting aimed to collect information about participants' academic and professional backgrounds, their experiences with CAI tools, their terminology management habits, and their simultaneous interpreting experience. According to the participants' feedback, they mainly used either MS Excel or paper format for glossary preparation, and none had experience with glossary software. Furthermore, all participants were novice interpreters at the beginning of their careers and the ones who

had experience reported to have worked less than 100 days in total both in consecutive and SI modes. They couldn't give any specific number of days in terms of their experience in performing SI.

Before the interpreting tasks, the researcher explained lexical strategies to the participants. The terminology test, which included 20 English terms from the pre-test and post-test speeches, and the extralinguistic knowledge test, consisting of four statements designed to assess participants' understanding of the experimental speech topics, were administered. Participants were asked to choose the answer that best represented their current knowledge of the speech topics before the SI tasks to establish their level of extralinguistic knowledge. The results of these test will be elaborated in Chapter 4.

2.3.2. Pre-test and Post-test Speeches

The pre-test and post-test speech texts were prepared by the researcher as two parallel forms, adhering to Beaugrande and Dressler's seven standards of textuality (as cited in Doğan, 2022, p. 112). The speeches focused on the topic of "Large Combustion Plants and Emission Reduction Techniques," drawing upon the researcher's personal experiences as a language assistant in an EU-funded project.

Both pre-test and post-test speeches consisted of 40 sentences and were prepared as written texts designed to be spoken, as classified by Gregory and Carroll (1978, as cited in Doğan, 2022, p. 155). Each speech began with a brief introductory paragraph to mentally prepare participants for the task and ended with a short closing remark. These parts were not included in the assessment of the simultaneous interpreting (SI) performances.

To test the effectiveness of the presented glossary management method, each speech included 10 specialized terms. However, instead of asking participants to interpret single terms or authentic speeches with unevenly distributed specialized terms, the researcher structured each speech as a series of four-sentence groups, each including only one specialized term at the end. The sentences preceding each specialized term were contextually linked and easy to understand, considering the participants' low level of experience. The length of each speech was similar, and the specialized terms were equally distributed throughout each speech. An online text complexity analyzer⁴ was

⁴ <https://www.lumoslearning.com/llwp/free-text-complexity-analysis.html>

used to compare complexity levels of the pre-test and post-test speeches. The results in the table below indicate that both speech texts are similar in terms of complexity:

	Text Analysis Summary of the Pre-test Speech	Text Analysis Summary of the Post-test Speech
Word count	644	637
Average word length	5	5
Average sentence length	13.1	13.0
Syllables per word	1.5	1.5
Words per paragraph	15.0	15.2
Sentences per paragraph	1.1	1.2

Table 6: Complexity levels of pre-test and post-test speeches

The researcher purposefully placed the specialized terms at the end of the fourth sentence in each group, taking into account the impact of problem triggers on interpreting quality, as mentioned by Gile (2009, p. 171). This allowed the interpreter to dedicate their full capacity to the Memory and Production components, without exceeding the requirements of the Listening and Analysis Effort, provided that a long pause followed each specialized term.

The speeches were delivered and recorded by the researcher with clear pronunciation, prosody, and intonation, using an external microphone. The speech rate was optimized, with an appropriate length of pause between sentences, to prevent cognitive saturation caused by listening and reformulation pressure.

The speech texts were not highly technical, and participants could rely on their general knowledge while interpreting. However, to encourage participants to use the glossaries provided, the researcher intentionally included a number of terms in all speech texts, followed by a sentence containing the same term in case the participants failed to recognize it the first time.

To eliminate any possible variables related to comprehension of the speeches, participants were not given the opportunity to prepare for the tasks in advance. Instead, they were allowed to listen to each speech once, immediately before the SI task. This approach increased the reliability of the experiment and allowed participants to familiarize themselves with the context and other speech characteristics.

2.3.3. Glossaries

Two glossaries were created for the study using Interpreters' Help and arranged in alphabetical order. The researcher converted one glossary into Excel spreadsheets. The glossaries were presented to the participants in a simple tabular format consisting of one column for the source language and another column for the target language, just prior to the simultaneous interpreting (SI) tasks. The first glossary, named "Test Glossary", was used during the training in Interpreters' Help format. The second glossary, titled "Pre-test and Post-Test Glossary", was used during the main experiment. The Excel version of the "Pre-test and Post-Test Glossary" was provided to the participants before the pre-test, whereas the Interpreters' Help version of the same glossary was shared before the post-test, following the training on computer-assisted interpreting (CAI) tools.

The "Test Glossary"⁵ created through Interpreters' Help, consisted of 132 lines, with each line representing one term. The main test glossary, which was used during the main experiment, included 215 lines, representing 215 terms.

The "Pre-test and Post-Test Glossary"⁶ contained the terms used in both speeches, including combustion plant, pulverized coal combustion, coal pulverization, thermal efficiency, fluidized bed combustion, slag, boiler, bubbling fluidized bed boiler, circulating fluidized bed boiler, limestone injection, Large Combustion Plants Directive, electrostatic precipitators, baghouse, flue gas, wet scrubbers, best available techniques, particulate matter emissions, carcinogen, Sulphur dioxide, and flue gas desulfurization technique, as well as irrelevant terms. The bilingual glossary for the EU, drafted by the Turkish Directorate for EU Affairs, was used as a resource for the irrelevant terms. These irrelevant terms were added to mimic the real work of conference interpreters, who may not always be able to accurately predict which terms will be used in a future interpreting assignment.

The terms in the main test glossaries were not listed randomly but rather arranged according to a specific rule. The rule aimed to make term query challenging but not impossible for the participants. Accordingly, ten irrelevant terms were placed between each two terms used in the main tests.

⁵ <https://interpretershelp.com/users/sinemmugla/glossaries/test>

⁶ <https://interpretershelp.com/users/sinemmugla/glossaries/pre-test-post-test>

2.3.4. Questionnaire

A questionnaire was designed using a 5-point Likert scale to be administered to participants following both the pre-test and post-test.

A 5-point Likert scale is a widely used method to measure attitudes and it typically consists of a statement or question with five options, usually ranging from "strongly agree" to "strongly disagree." In this study, the questionnaire used the Likert scale to gather feedback from the participants on their experience with the glossary management method. This allowed for a standardized method of measuring the participants' attitudes and opinions towards the method.

The questionnaire included 9 statements and one open-ended question, aimed at gathering individual feedback on the participants' experience with the glossary management method they used while interpreting the technical speeches in the pre-test and post-test. After completing the SI tasks, participants were asked to rate the statements in the questionnaire and provide additional comments if they wished. The purpose of the questionnaire was to identify any changes in their views on self-sufficiency and their comments on the glossary management method.

2.3.5. Procedure

- 1) The research topic was explored through a review of the theoretical background and an examination of relevant studies in the literature.
- 2) The research participants were identified as novice interpreters who had taken SI courses at the English Division of the Department of Translation and Interpreting at Hacettepe University.
- 3) A total of two speeches were prepared as two parallel tests by the researcher as main test tools. The subject areas of the speeches were chosen as Large Combustion Plants and Emission Reduction Technologies. The selection of these subject areas was based on the fact that the researcher had previous experience in the relevant field working as an interpreter, besides the main tests had to include specialized terms that were difficult to anticipate in order to test the effectiveness of the selected CAI tool as a glossary management program compared to MS Excel as a traditional method during SI. The two speech texts were prepared by considering the standards of textuality (Doğan, 2022, p.

112). Both speeches included specialized terminology, but their level of difficulty was modified to be suitable for novice interpreters.

4) Content validity of the two tests was confirmed by one conference interpreter trainer working in the field of translation and interpreting studies and one professional conference interpreter.

5) Followingly, the speech texts were read aloud in an optimum speed for SI and recorded by the researcher with the help of an external microphone.

6) On May 15th, 2023, a pilot test was conducted via Zoom with five participants who had taken courses on simultaneous interpreting (SI) or conference interpreting. The participants included three undergraduate students and one graduate student from Hacettepe University, and one undergraduate student from Muğla University. Before beginning the test, participants were provided with a short list of terminology in the form of a Word file, which contained the terminology of the pre-test and post-test speeches and their equivalents. They were instructed to refer to the list as needed during the SI tasks. Subsequently, all participants completed both the pre-test and post-test simultaneous interpreting tasks.

The rationale behind providing participants with a vocabulary list was to eliminate the variable of unknown terms and the use of a glossary program. This approach aimed to identify any other possible limitations or drawbacks concerning the speeches.

7) Based on the pilot test results, the pre-test and post-test speeches were subjected to reliability test by using the method of two-parallel forms. This was conducted based on the correlation between the SI scores of the same group which took two parallel tests containing the same items of equal difficulty with the aim of assessing the same features (see Büyüköztürk, 2021, p.182).

8) Once the reliability of the pre-test and post-test speeches was established, the researcher contacted the participants of the main tests, which included 12 graduate students who had previously taken courses on simultaneous interpreting. The researcher scheduled personal meetings with each participant and conducted online interviews using the Zoom video conferencing platform. Each interview took around 10 minutes with each participant and all interviews were carried out on 16th of May. During the interviews, participants were asked about their experiences with glossary management software and simultaneous interpreting. All tests, meetings and trainings were conducted through Zoom.

Between 17th and 22nd of May, the researcher had a virtual meeting with each participant separately and first provided each participant with information on lexical strategies to cope with difficulties encountered during interpreting (Doğan, 2020, pp. 192-196). This included strategies for handling unknown terms. The aim was to equip participants with tools to effectively manage any lexical challenges they may encounter during the interpreting tasks, especially in case they found the glossary management methods unhelpful or distracting.

After giving a short break, the researcher asked each participant to rate two statements on a scale of 1 to 5 (strongly agree, agree, neutral, disagree, strongly disagree). The first statement was "I am informed about a combustion plant," and the second statement was "I can explain the technologies used in combustion plants." These statements aimed to assess the participants' previous knowledge of the topic of the pre-test speech. Followingly, the researcher read aloud the terms used in the pre-test speech, giving the participant only three seconds to respond each time. This was done to determine whether participants had prior knowledge of the terminology used in the test. The researcher then provided each participant with the Excel glossary via e-mail and told them to wear headphones and interpret the speech from English into Turkish using the Excel glossary to look up terms as needed. Prior to the SI task, participants had a few minutes to check the glossary. The simultaneous interpreting performances of the participants were recorded, transcribed, and subsequently scored using the rating scale created by Lee (2008).

10) Following the simultaneous interpreting task, participants were requested to provide feedback on their performances and rate the statements in the questionnaire. Additionally, they were also asked to comment on whether they used any lexical strategies and/or the glossary program to interpret the terms placed in the speeches. Participants' comments were also taken into account to interpret the statistical data.

11) The training for all participants commenced shortly after the pre-test. Between 23rd and May 28th of 2023, the participants individually engaged in a brief training program that consisted of two sessions. The training period was kept as short, since only the term query feature of the glossary tool was tested. In the initial session, each participant was individually introduced to three Computer-Assisted Interpretation (CAI) tools described in this thesis.

During the subsequent session, the researcher delivered an oral presentation detailing the features and functions of the Interpreter's Help tool, as outlined in Section 2.5.

Following the introduction of the tool, participants were instructed to use the CAI tool to identify and report the Turkish equivalents of 10 English terms that were read aloud by the researcher. This exercise ensured that participants acquired the necessary skills for conducting term inquiries and provided them with hands-on experience in utilizing the tool. All participants proved that they could look up terms in the tool successfully.

12) Upon completing the training, each participant was individually invited to a Zoom meeting with the researcher between 30th of May and 4th of June. Subsequently, the researcher prompted the participants to rate two statements, formulated by the researcher, on a scale from 1 to 5 (Strongly Agree, Agree, Not Sure, Disagree, Strongly Disagree). The first statement read, "I am informed about the Large Combustion Plants Directive," and the second, "I can explain the Best Available Techniques recommended for Combustion Plants." Similar to the pre-test, these statements aimed to assess participants' prior knowledge regarding the post-test speech topic.

During the meeting, the researcher orally presented the terms used in the post-test one by one, allowing participants only three seconds to respond. This procedure aimed to evaluate whether participants possessed prior extralinguistic and/or linguistic/terminological knowledge relevant to the test.

Following this assessment, the researcher provided each participant with the post-test glossary via e-mail. Prior to the SI task, participants had a few minutes to check the glossary. Participants were then told to wear headphones and simultaneously interpret the post-test speech from English to Turkish. They were encouraged to consult the glossary, prepared using Interpreter's Help, as needed. The simultaneous interpretation (SI) performances were recorded, and the post-test recordings were subsequently evaluated by making use of the rating scale developed by Lee (2008).

13) After completing the simultaneous interpreting task, participants were requested to provide feedback on their post-test performances, discussing the use of any lexical strategies and/or the CAI tool. The responses given by the participants in the questionnaires were also considered in the interpretation of the statistical data.

2.4. DATA ANALYSIS

The data obtained were analysed using SPSS (Statistical Package for the Social Sciences) version 29.0. Participants' SI performances were assessed based on a rating scale developed by Lee (2008), which evaluated each speech text in terms of accuracy, target language quality, and delivery. The speeches were segmented into 40 sentences, and each category was assigned a numerical value. The total score for each participant was computed by summing the individual scores acquired from all three categories.

To identify the appropriate statistical analysis method, a normality test was first performed using the participants' pre-test results. The Kolmogorov-Smirnov test outcomes indicated that the data were not normally distributed, as demonstrated in the table below.

Test of Normality						
	Kolmogorov Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
VAR0001	,156	12	,200*	,912	12	,224
*. This is lower bound of the true significance						
a. Lilliefors significance correction						

Table 7: Results of the Test of Normality

Due to the non-normal distribution of the data, the Wilcoxon Signed Ranks test was used to compare the pre-test and post-test results of the two paired samples (Büyüköztürk, p. 173). In addition, the responses of the participants to the questionnaires and the observations made by the researcher during the experiment were also considered in interpreting the statistical data.

In the subsequent chapter, the outcomes of the tests and analyses mentioned in the previous chapter will be illustrated, emphasizing both quantitative and qualitative aspects.

CHAPTER 3

FINDINGS AND DISCUSSION

This chapter provides an analysis and discussion of the findings, which are presented through charts and tables. The findings will be analysed and discussed individually and then generally based on the experiment group, considering each glossary management method applied by the participants. The analysis will focus on the following indicators:

1. SI performance
2. Terminological accuracy and lexical strategies
3. Responses and comments of the participants to the questionnaire

Indicators 1 and 2 correspond to main research questions 1 and 2, respectively, while indicator 3 mainly relates to main research question 3, as the self-reflections and comments of the participants were considered to identify their perceptions regarding the use of the CAI tool during SI (see section 1.4).

3.1. INDIVIDUAL FINDINGS AND DISCUSSION

3.1.1. Participant 1

The total score of Participant 1 from the pre-test SI task is 73 out of 100 while the total score of the participant from the post-test SI task is 90 out of 100. There were some serious deviations from the source text, which affected the overall meaning and coherence of the target speech particularly during the pre-test SI performance. For instance; the participant misunderstood the messages in the sentences 21, 25, 28, 32, 36. In all these cases, she missed both the essence and the logic of the sentences, hence misunderstood the meaning in the relevant source speech segments.

Source Speech Segment	Target Speech Segment	Back-translation
21. As you may understand from the name, this technology makes use of a fluidized bed.	21. Anladığınız gibi isminden bu da gazı arındırma tekniği.	21. As you have understood, this is also a gas purification technique.

25. Normally, when coal burns, it finally produces slag.	25. O zaman ancak üretebiliyor.	25. Then, it can barely produce.
28. First of all, this technology makes use of a device which is called a boiler.	28. Öncelikle bu teknoloji kaynatıcı adını verdiğimiz bir cihaza elektrik veriyor.	28. First of all, this technology gives electricity to a device that we call a boiler (But the boiler in the source text refers to 'kazan' instead of 'kaynatıcı' in Turkish).
32. If we have to use a solid fuel that is difficult to break, we will need a bubbling fluidized bed boiler.	32. Kömür gibi kolayca kırılan bir yakıt kullandığımız zaman köpüren akışkan yataklı bir kazana ihtiyacımız oluyor.	32. When we use an easy to break fuel such as coal, we will require a bubbling fluidized bed boiler.
36. I am telling you this, because this boiler allows to use a specific technic.	36. Çünkü spesifik bir teknik kullanıyor.	36. Because it uses a specific technique.

Table 8: P1 pre-test SI performance examples

In segment 21, she omitted the term “fluidized bed”; instead misinterpreted it as a “gas purification technique”. Although the relevant segment has a simple structure, her comments revealed that she was busy typing the term fluidized bed uttered right before it. As she couldn't find its Turkish equivalent in a timely manner, she couldn't pay sufficient attention to the upcoming input, which might have pressured her Listening and Analysis Effort. It is interesting to note that segments 25, 32 and 36 were also preceded by terms that required query in the Excel glossary. As can be seen in the table above, she also misunderstood and misinterpreted the messages in these source segments.

Neither the pre-test speech nor the post-test speech included numbers and dense information. However, they included special terminology as described in 3.3.2. In this regard, she made noteworthy errors in terms of choosing appropriate target language equivalents besides accurate terminology particularly in the sentences 2, 5, 16, 24 in the pre-test speech despite having the pre-test glossary right in front of her.

For instance; in segment 2, she interpreted “*generating electricity*” as “elektrik jenere etmek”. Instead of choosing “elektrik üretimi”, which is the most natural-sounding equivalent in Turkish, she first reproduced the sound of the verb in the source phrase. But after a short pause, she remembered the correct target language equivalent and added it to her interpretation. In segment 5, she interpreted “Combustion plant” as “Kombüsyon tesisi”. Although her interpretation was nonsensical in Turkish, she repeated the same error in the following sentence which also included the same term “Combustion plant”. Based on her comments, it can be understood that she chose to use “Kombüsyon tesisi” due to the slowness and impracticality of the search function pertaining to the first glossary. As a matter of fact, she had time to use the glossary and to reformulate that term accurately in the following sentence in which the same term was repeated. Nevertheless, in the second instance, she commented that it felt right to naturalize the source-language term by adapting it to the phonological rules of Turkish language. Thus, she proceeded with her first choice, instead of simply repeating the English term. In a real conference scenario, it could have been easier for specialists such as environmental engineers to follow her interpretation, if she had simply repeated the term as she heard in the source speech instead of inventing an unprecedented term in Turkish. As a matter of fact, later in the sentence 24 she decided to use this strategy and reproduced the sound of the term “slag” in the target language after a short pause since she failed to look it up in the glossary during interpreting effectively as she reported. Since she focused her attention so much on looking up that term in the glossary, she failed to retain the relevant message in her short-term memory. Thus, her production capacity was challenged as explained by Effort Models of Daniel Gile (see section 2.3.1).

In the sentence 16, she interpreted “Thermal efficiency” firstly as “Kömür etkinliği” and then as “Isı etkinliği” whereas the most accurate choice would be “Isıl verimlilik” as included in the glossary. Following the pre-test, she also commented that she couldn’t find the accurate Turkish equivalent of the term in the glossary instantaneously. At first, she tried to adopt a meaning-based approach and invented a new term by drawing on the logical link between coal and efficiency. After a while, she decided that “Isı etkinliği” would be a better choice in terms of meaning and form. In the sentences 31 and 32, she could finally use the pre-test glossary effectively and interpreted the term “Bubbling fluidized bed boiler” accurately as “Köpüren akışkan yataklı kazan”, however it should be noted that she couldn’t understand the essence of the second sentence correctly.

The list of target-language choices that she made to interpret the terms included in the pre-test speech and lexical strategies that she adopted can be seen in the table below:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Kombüsyon tesisi	Naturalization and transcoding
Pulverized coal combustion	Kömür tozlaştırma	None
Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Isı etkinliği	Approximation
Fluidized bed combustion	Baca gazı arındırma tekniği	None
Slag	Slag	Reproducing the sound as heard
Boiler	Kaynatıcı	Approximation
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	-	Omission
Limestone injection	Kireç püskürtme	None

Table 9: P1 pre-test lexical strategies

Regarding the post-test SI performance of the participant, her total score is 90 out of 100. It was seen that she did not make many noteworthy errors and she interpreted all the terms in the post-test speech accurately except for one term, which is “Baghouse”. According to her comments, she made a typographical error while entering the term in the search bar of the CAI tool “Interpreters’ Help”, thus she decided to reproduce the term as she heard to avoid loss of meaning. The responses given to the statements that were asked to the participant before the main tests showed that she didn’t have any previous knowledge about the topics of the speeches. According to her answers to the terminology test, the only term that she knew before the main tests was “Sulphur Dioxide”. The participant reported that the CAI tool improved her SI performance and

terminological performance in terms of accuracy. Furthermore, her responses to the questionnaire showed that she could focus more on the meaning of the utterances, since she worried less about finding the equivalents of unknown terms during the second SI task. It was also found that she used less lexical strategies in the post-test SI task compared to the pre-test SI task as also indicated in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Baghouse	Reproducing the sound as heard
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 10: P1 post-test lexical strategies

The list of target-language equivalents and lexical strategies used by participant 1 to interpret the terms included in the post-test speech.

3.1.2. Participant 2

Participant 2 scored less than participant 1 in the main tests. Her total score from the pre-test SI task is 60 out of 100 while her total score from the post-test SI task is 86 out of 100. In her pre-test SI performance, she made omissions in the sentences 9, 24, 32.

Moreover, she had difficulty in understanding the meaning and the logic of the sentences 8, 21, 31, 34, thus misinterpreted them.

Source Speech Segment	Target Speech Segment	Back-translation
8. Now I will start with the first technology, which we call pulverized coal combustion.	8. İlk olarak polarize edilmiş kömür kombüsyonundan bahsetmek istiyorum.	8. First, I'd like to talk about polarized <i>kombüsyon</i> of coal.
9. As you may understand from the name, this technology is about coal combustion.	9. Omitted	9. -
21. As you may understand from the name, this technology makes use of a fluidized bed.	21. Bu teknoloji sıvılaştırılmış teknolojiyle kullanılır.	21. This technology is used with a liquidised technology.
24. When we use this system to burn coal, it doesn't produce a chemical which is called slag.	24. Omitted	24. -
31. The first boiler is called bubbling fluidized bed boiler.	31. İlk kazanın adı baloncuklu sıvılaştırılmış yatak kombüsyonudur.	31. The first boiler's name is bubble liquefied <i>kombüsyon</i> of bed.
32. If we have to use a solid fuel that is difficult to break, we will need a bubbling fluidized bed boiler.	32. Omitted	32. -
34. Now, let's take a look at the second boiler which is	34. Şimdi ikinci kazana bakalım devamlı	34. Now, let's take a look at the second boiler

called circulating fluidized bed boiler.	sıvılaştırılmış yatak kazanı denir.	continuous liquefied bed boiler it is called.
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Table 11: P2 pre-test SI performance examples

As also seen in the table above, she couldn't choose the appropriate target language equivalents of the terms uttered in the source language speech in many cases. It is noteworthy that she made the same error as Participant 1 and interpreted "*Combustion plant*" as "Kombüsyon tesis" whenever she encountered the term. Following the pre-test SI task, she told the researcher that she actually tried to look up the term in the pre-test glossary, however she couldn't manage to find it during interpreting. Thus, she preferred to naturalize it and used the same target language choice in all cases. She also added that she wasn't normally good at multitasking and using a resource such as a glossary during interpreting. In the sentence 8 and 12 she interpreted the term "Pulverized coal combustion" as "Polarize edilmiş kömür kombüsyonu" in both cases. It is not possible to categorize this choice as a lexical strategy, since the accurate target language equivalent would be "Pulverize kömür yakma teknolojisi" and her interpretation did not make any sense in the target language. However, she tried to use naturalization to interpret the last two words of the term. Despite having tried to perform term query in the glossary, she couldn't manage to find its equivalent as she reported following the test, thus she invented a new term. As for "Thermal efficiency", she chose to use "Termal etkinlik" in the target language speech. In comparison to "Polarize edilmiş kömür kombüsyonu", her choice made sense and conveyed the meaning, however it wasn't accurate. She looked up that term, as well, but experienced similar problems. When she encountered the term "Fluidized bed combustion" in the pre-test speech, she used "Sıvılaştırılmış yatak kombüsyonu" in the target speech while the correct choice would be "Akışkan yataklı yakma". As she knew the meaning of "Fluid", she made an assumption in an attempt to explain the meaning of the term. In the case of "Combustion", she used the same target language choice that she made previously. In this sense, it wouldn't be wrong to assume that she paid attention to consistency in her interpretation. In the case of "Slag", she made the same choice as Participant 1 and reproduced the term as she heard in the source language speech. In the sentence 31 she interpreted the term "Bubbling fluidized bed boiler" as "Baloncuklu sıvılaştırılmış yatak kombüsyonu". As in the case of "Fluidized bed combustion" she tried to interpret the term literally by combining the first definition of each word included in the term which was formulated as a four-gram. Similarly, she

interpreted “Circulating fluidized bed boiler” as “Devamlı sıvılaştırılmış yatak kazanı”. This repeated tendency to use transcoding implies that she didn’t know the difference between a term, which is characterized by special reference within a discipline and a general word (Sager, 1990, p.19). Contrary to general words, terms should be far from ambiguities and represent concepts inside a special domain. Thus, transcoding or literal translation may not be the right strategy every time.

In terms of using strategies, she commented that her first choice of strategy was using the glossary to deal with lexical challenges. According to her responses to the terminology test, the only terms that she knew before the experiment were “Boiler” and “Sulphur Dioxide”. She searched all the terms mentioned in the speech except for these two. However, she failed to find the Turkish equivalents of any of these terms in the first glossary and complained about slowness of the search function in Excel. The table below shows the targets language choices and lexical strategies adopted by the participant to interpret the terms in the pre-test:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Kombüsyon	Naturalization and omission
Pulverized coal combustion	Polarize edilmiş kömür kombüsyonu	Naturalization
Coal pulverization	Kömürün polarizasyonu	None
Thermal efficiency	Termal etkinlik	Naturalization and transcoding
Fluidized bed combustion	Sıvılaştırılmış yatak kombüsyonu	Transcoding and naturalization
Slag	Slag	Reproducing the sound
Boiler	Kazan	None
Bubbling fluidized bed boiler	Boloncuklu sıvılaştırılmış yatak kombüsyonu	Transcoding and naturalization
Circulating fluidized bed boiler	Devamlı sıvılaştırılmış yatak kazanı	Transcoding

Limestone injection	Limestone enjeksiyonu	Reproducing the sound and naturalization
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Table 12: P2 pre-test lexical strategies

As for the post-test SI performance of the participant, her total SI score increased from 60 to 86 out of 100. In the sentences 5, 29, 33, 35 she made omissions. It should be noted that the participant omitted the speech segments preceded by those sentences, which included terminology during the pre-test. She might have missed these speech segments, since she possibly didn't have enough processing capacity left for the Listening and Analysis Effort and the relevant information disappeared from her short-term memory (Gile, 2009, p. 210). But the number of the terms that she interpreted accurately increased when she used the CAI tool. This also contributed to her general SI performance. Following the post-test, she commented that she made use of the tool all the time whenever she encountered a term in the speech and it was much easier for her to find its equivalent in the post-test glossary. According to her answers to the questionnaire, she used the glossary all the time without getting distracted in the second SI task and the CAI tool was more helpful during interpreting. The table below shows that the participant used the accurate Turkish equivalents of all the terms by making use of the second glossary during the post-test:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None

Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 13: P2 post-test lexical strategies

3.1.3. Participant 3

Participant 3 scored more than the rest of the experiment group both in the pre-test and in the post-test. His total score in the pre-test SI task is 93 while his total score from the post-test is 99 out of 100. Like the rest of the experiment group, he didn't have any previous knowledge regarding the topics of the pre-test and post-test speeches according to his answers to the extralinguistic knowledge test before the main tests. His answers to the terminology test showed that he only knew the meaning of "Boiler" and "Sulphur dioxide". Therefore, he performed term query during both pre-test and post-test SI tasks. He did not make noteworthy errors and omissions. Furthermore, he could convey the meaning of each segment in the target speech. In the pre-test SI task, he used only two lexical strategies to interpret terms. In the first case, he interpreted "Coal pulverization" as "Pulverizasyon" by using naturalization as a lexical strategy. In the second case, he interpreted "Thermal efficiency" as "Termal verim" but after a short pause he found the exact equivalent of the term and added "Isıl verimlilik". The table below shows the targets language choices and lexical strategies adopted by the participant to interpret the terms in the pre-test:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yakma tesisi	None
Pulverized coal combustion	Pulverize kömür yakma teknolojisi	None
Coal pulverization	Pulverizasyon	Naturalization and omission
Thermal efficiency	Termal verim	Naturalization and transcoding
Fluidized bed combustion	Akışkan yataklı yakma	None
Slag	Slag	None

Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection	Kireç püskürtme	None

Table 14: P3 pre-test lexical strategies

As can be seen from the table below, the participant also succeeded in finding the accurate Turkish equivalent of all the terms included in the post-test speech with the help of the CAI tool:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 15: P3 post-test lexical strategies

In general, he conveyed the messages in the source speeches accurately with intended effect. Following the main tests, he commented that he was generally skilled at multitasking, therefore he could look up the terms in both tests effectively regardless of

the glossary program. However, it should be noted that his second performance was much better than his first performance in terms of accuracy and target language quality. In response to the open-ended question in the questionnaire, he stated that the CAI tool was a useful and customizable glossary management program featuring a straightforward interface. He added that the tool was designed by considering the time pressure involved in the interpreting process. According to his answers, the tool is fast especially due to its web-based structure, as it is not necessary to download and install a software. Following the main tests, he also underlined that the tool seemed to be created as a solution to the shortcomings of Excel as a glossary management program and found it advantageous that the tool allows to access glossaries saved in its cloud through a mobile phone or a tablet.

3.1.4. Participant 4

The total SI score of Participant 4 is 83 out of 100 in the pre-test SI task while her total score is 86 out of 100 in the post-test. According to her answers to the statements of the extralinguistic knowledge test, she did not have any previous knowledge regarding the topics of the pre-test and post-test speeches. Her answers to the terminology test indicated that she knew the terms “Limestone injection”, “Sulphur Dioxide” and “Carcinogen” prior to the main tests. In neither of the main tests, she made any serious omissions and errors that would alter the overall meaning of the source speeches. In both tests, she could find the exact equivalents of most of the terms uttered in the speeches. However, she commented that the CAI tool supported her concentration more effectively and did not interfere with her Production Effort in comparison with the glossary created as an Excel spreadsheet. The table below shows the target language choices and lexical strategies that the participant adopted to interpret the terms included the pre-test speech:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Kombüsyon or Yakma tesis	First naturalization, then accurate rendition with no lexical strategy
Pulverized coal combustion	Pulverize kömür teknolojisi	Generalization

Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Termal or Isıl verimlilik	First naturalization, then accurate rendition with no lexical strategy.
Fluidized bed combustion	Akışkan yataklı yakma	None
Slag	Cüruf	None
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection	Kireçtaşı enjeksiyonu	Transcoding and naturalization

Table 16: P4 pre-test lexical strategies

Similar to participants 1 and 2, she also preferred interpreting “Combustion plant” as “Kombüsyon tesisi”. After a short pause, she found the exact equivalent of the term and added “Diğer bir deyişle yakma tesisi”, which can be translated as “In other words, combustion plant”. Despite her success in terms of managing lexical difficulties, she sometimes made inadequate target language choices with a few linguistic errors that might hinder immediate comprehension. For instance; “Buradaki amaç kömürün yüzeyini arttırmaktan geçmektedir” or “Bunun sebebi ise bu şekilde kömürü yani yakıtı yaktığımızda çok daha fazla hava kirliliği açığa çıkartmaktadır”. These sentences exhibit issues with subject-verb agreement and incorrect verb choices, according to the grammatical rules of the Turkish language.

In sentence 12 of the post-test speech, she omitted “Baghouse” and did not interpret it when she encountered the same term for the second time. As for the term “Wet scrubber” she reproduced its sound in the target language and then explained that she actually used an English term which would refer to a method by saying “A technique which is called wet scrubber in English”. The table below shows the target language choices and the lexical strategies that the participant adopted to interpret the terms included in the post-test speech:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse		Omission
Flue gas	Baca gazı	None
Wet scrubber	Wet scrubber	Reproducing the sound and explaining
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 17: P4 post-test lexical strategies

Following the main tests, she commented that the terms included in the speeches generally stalled her process of meaning assembly, since she couldn't make sense of the connection between lexical items and the contextual information in some cases. Thus, as most of the participants did, she also followed the input too closely to understand it better by reducing the ear voice span (EVS) (Setton, 1999). When she did so, her target language production often suffered and her interpretation did not sound natural in the target language. In response to the open-ended question in the questionnaire, she added that the CAI tool supported her psychologically during interpreting due to its speed and easy to use interface. Therefore, she stated that she did not get stressed when she encountered a new term in the post-test speech as much as she did in the pre-test speech and performed slightly better than in the pre-test SI task.

3.1.5. Participant 5

Participant 5 performed relatively well in both tests. Her total score in pre-test 86 out of 100 while her total score from the post-test is 99 out of 100. As can be seen from the results, her performance in the post-test SI task increased by 13 points and reached to the highest score. In the post-test, she only made a few minor linguistic errors that did not hinder immediate comprehension of the target language. Moreover, she generally used appropriate target language expressions in the post-test SI task. Contrary to her performance in the post-test SI task, she made omissions in sentences 17, 21, 25 in the pre-test. Her comments revealed that these omissions were not intentional.

Source Speech Segment	Target Speech Segment	Back-translation
17. Certainly, you may think that it is a good thing to have more thermal efficiency.	Omitted	-
21. As you may understand from the name, this technology makes use of a fluidized bed.	Omitted	-
25. Normally, when coal burns, it finally produces slag.	Omitted	-

Table 18: P5 pre-test SI performance examples

In addition to making omissions, she had difficulty in finding the target language equivalents of some terms such as “Limestone injection”, “Thermal efficiency” and “Fluidized bed boiler”. As a result, she couldn’t find the equivalent of the first term and decided to omit it in the target language speech. In the first case where “Thermal efficiency” was used, she paused and tried to find it in the glossary. After a short period of silence, she used “Termal verimlilik” in Turkish. In the case of “Fluidized bed boiler” she also paused for a short period of time to look it up in the glossary, but after a while she could interpret it accurately. None of these choices hindered comprehension of the messages but her fluency was slightly impaired. The table below shows the target language choices and lexical strategies adopted by the participant to interpret the terms included in the pre-test speech:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yakma tesisi	None
Pulverized coal combustion	Pulverize kömür yakma teknolojisi	None
Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Termal verimlilik	Naturalization and transcoding
Fluidized bed combustion	Akışkan yataklı yakma	None
Slag	Cüruf	None
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection		Omission

Table 19: P5 pre-test lexical strategies

As for her terminological performance in the post-test SI task, she used the CAI tool all the time and interpreted the terms accurately as indicated in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None

Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 20: P5 post-test lexical strategies

Like the rest of the group, she did not have any previous knowledge about the topics of the speeches, since she selected “Strongly disagree” as a response to the statements asked before the main tests. In the terminology test, the only term that she knew correctly was “Carcinogen” prior to the experiment. According to her answers and comments to the questionnaire, she often had difficulty in finding the equivalents of the terms used in the pre-test speech. Moreover, she could usually find them only at her second attempt. Her answers also revealed that she found the CAI tool very fast and helpful. She also added that the tool had a very simple and user-friendly interface making it easier locating and retrieving a term in the glossary than in the Excel spreadsheet.

3.1.6. Participant 6

Participant 6 scored 84 out of 100 in the pre-test SI task while he scored 90 out of 100 in the post test SI task. In the pre-test SI task, he made omissions in sentences 9, 21 and 25.

Source Speech Segment	Target Speech Segment	Back-translation
9. As you may understand from the name, this technology is about coal combustion.	Omitted	-

21. As you may understand from the name, this technology makes use of a fluidized bed.	Omitted	-
25. Normally, when coal burns, it finally produces slag.	Omitted	-

Table 21: P6 pre-test SI performance examples

In the pre-test SI task, he delivered the opposite of the message given in the source speech segment 24. In that sentence, he couldn't find the Turkish equivalent of the term "Slag" at his first attempt but after giving a short pause he could find it and add it to his interpretation. Even if he could successfully find it the second time, he missed the logic of the message, hence reformulated the segment inaccurately in the target speech.

Source Speech Segment	Target Speech Segment	Back-translation
24. When we use this system to burn coal, it doesn't produce a chemical which is called slag.	Bu sistemi kömür yakmak için kullandığımızda ...slag adı verilen ya da cüruf adı verilen bir kimyasal salıyor.	When we use this system to burn coal, it does produce a chemical called slag.

Table 22: P6 pre-test SI performance examples

This indicates that using the Excel version of the glossary to perform term query during interpreting might have interfered with his process of understanding and analysis. The coherence of the target speech was impaired, since the actual message intended to be conveyed was the opposite of what he comprehended. Fluidized bed boiler is actually used to minimize the environmental impact of coal combustion by eliminating the amount of the resulting slag. But one can understand from his interpretation of the message that fluidized bed boiler is the main cause of slag production in combustion plants.

In sentence 12, he interpreted "Coal pulverization" as "Kömür pulverizesi" as his attempt to search the term in the pre-test glossary failed. Here, he tried to use naturalization as a lexical strategy, however the most accurate way to naturalize it would have been "Kömür pulverizasyonu" instead of "Kömür pulverizesi" while the most accurate

equivalent of the term was “Kömür tozlaştırma” as indicated in the glossary. The table below indicates the target language choices and lexical strategies adopted by the participant to interpret the terms in the pre-test speech:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yakma tesisi	None
Pulverized coal combustion	Pulverize kömür yakma teknolojisi	None
Coal pulverization	Kömür pulverizesi	Transcoding and naturalization
Thermal efficiency	Isıl verimlilik	None
Fluidized bed combustion	Akışkan yataklı kazan	Approximation
Slag	Slag or Cüruf	First, reproducing the sound and then accurate rendition without lexical strategies
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection	Kireç püskürtme	None

Table 23: P6 pre-test lexical strategies

With respect to his SI performance in the post-test, he didn't make any notable errors with serious deviations from the source speech. Moreover, he interpreted all the terms in the post-test speech accurately except for “Carcinogen”. He misspelt the term in the target language and said “Kanserojenik” instead of “Kanserojen” due to target language interference as shown in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
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Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojenik	Naturalization
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 24: P6 post-test lexical strategies

In terms of his level of extralinguistic knowledge about the topics of the speeches, his answers to the extralinguistic knowledge test indicated that he didn't have any previous knowledge about the topics prior to the experiment. According to his answers to the terminology test, he only knew the Turkish equivalent of "Sulphure Dioxide", thus he often had to use the glossaries during the main tests. His answers to the statements in the questionnaire indicated that he found the Excel version of the same glossary more distracting, which impeded his concentration during the task. As for the CAI tool, he commented that the tool was more user-friendly, thus helped him to concentrate more on the meaning and the logic of the speech.

3.1.7. Participant 7

Participant 7's total score from the pre-test SI task is 91 while her total score from the post-test was 95 out of 100. In neither of the tests, she made semantic errors that hindered comprehension of the source messages. Like the rest of the group, she also rated all the statements included in the extralinguistic knowledge test as "Strongly disagree", which indicates that she did not have any previous knowledge regarding the topics of the speeches. As for the terminology test, she only answered "Sulphur dioxide"

and “Best available techniques” accurately. She did not know the exact Turkish equivalents of the remaining terms. In the pre-test SI task, in sentences 15 and 24 she delivered the messages with a few deviations from the source speech with an impact on the effect of the target speech.

Source Speech Segment	Target Speech Segment	Back-translation
15. When we increase the surface size of the coal, we are able to generate more energy.	15. Buradaki amacımız kömürün yüzey boyutunu küçültmek, daha küçük parçalara ayırarak.	15. Here, our aim is to reduce the surface size of the coal by breaking it into much smaller pieces.
24. When we use this system to burn coal, it doesn't produce a chemical which is called slag.	24. Burada kömür gibi katı yakıtlar kullanılıyor.	24. Here, solid fuels such as coal are used.

Table 25: P7 pre-test SI performance examples

In sentence 15 of the source speech the idea is “Increasing the surface size of the coal by breaking it into smaller pieces” but her interpretation was quite the opposite. Nevertheless, she recovered this loss of meaning by interpreting the next segment correctly as “This is because when the coal has a larger surface, it also has higher efficiency”. Thus, coherence in the target speech could later be maintained. When it comes to her terminological performance, she interpreted all the terms accurately with the help of the glossaries in both speeches despite some hesitations, pauses and mispronunciations in the first SI task. In the pre-test SI task, she mispronounced the Turkish equivalents of the terms “Fluidized bed boiler” and “Bubbling fluidized bed boiler” in a way to impede comprehension. However, in both cases, she added their correct equivalents after giving a pause for a few seconds. The table below indicates the target language choices and lexical strategies adopted by the participant to interpret the terms in the pre-test speech:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yakma tesisi	None
Pulverized coal combustion	Pulverize kömür yakma teknolojisi	None
Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Isıl verimlilik	None
Fluidized bed combustion	Akışkan yataklı teknoloji	Approximation and generalization
Slag	Cüruf	None
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection	Kireç püskürtme	None

Table 26: P7 pre-test lexical strategies

In her post-test SI performance, she reproduced the sound of “Baghouse” as she heard it in the source-language speech. Other than this, she succeeded in using the CAI tool effectively and interpreted all the terms accurately as can be seen in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Baghouse	Reproducing the sound
Flue gas	Baca gazı	None

Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 27: P7 post-test lexical strategies

As for her answers to the questionnaire administered after the main tests, similarly to the previous participants, she also found the Excel version of the glossary as distracting. She commented that the CAI tool was advantageous in terms of its plain interface and its feature of filtering irrelevant terms from the main screen. According to her comments, she is normally good at consulting resources in the booth, thus using different materials didn't have a big difference on her SI performance or terminological performance. However, she added that the tool was more responsive to her terminological inquiries, particularly when working under time pressure, compared to conventional methods like Excel.

3.1.8. Participant 8

Participant 8's total score from the pre-test SI task is 88 while his total score from the post-test is 91 out of 100. In sentences 21 and 23 of the first SI task he made omissions.

Source Speech Segment	Target Speech Segment	Back-translation
21. As you may understand from the name, this technology makes use of a fluidized bed.	Omitted	-

23. Basically, it helps solid fuels such as coal to behave like a liquid fuel.	Omitted	-
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Table 28: P8 pre-test SI performance examples

Before sentence 21, he looked up the term “Fluidized bed boiler” in the glossary. Initially, he couldn’t find its equivalent and had to pause for about 4 seconds. As he focused on finding that term too intensively, he had to omit sentence 21. As for sentence 24, he interpreted the term “Slag” as “Tortu” which can be translated as sediment or residue. Since he couldn’t find its equivalent in the glossary at his first try, he decided to use approximation as a lexical strategy. However, he used its accurate equivalent in Turkish when he encountered the same term for the second time as can be seen in the table below:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yakma tesisi	None
Pulverized coal combustion	Kömür tozlaştırma teknolojisi	Generalization
Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Termal verimlilik	Naturalization and transcoding
Fluidized bed combustion	Akışkan yataklı kazan teknolojisi	Approximation
Slag	Tortu and Cüruf	First, approximation and then accurate rendition without lexical strategies
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None

Limestone injection	Kireç püskürtme	None
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Table 29: P8 pre-test lexical strategies

In his post-test SI performance, he could interpret all the terms used in the speech accurately and fluently as can be seen in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 30: P8 post-test lexical strategies

In general, he delivered the messages of the second speech accurately, but he made a few minor deviations from the source speech in segment 13, 16, 21 and 26.

Source Speech Segment	Target Speech Segment	Back-translation
13. Now, I will explain why we need to combine the first technique with a baghouse.	13. İlk tekniği torba filtreyle birlikte kullanırsak daha verimli olur.	13. It will be more efficient if we use the first technique along with the baghouse.

16. These filter units help remove the dust from the flue gas.	16. Bu filtreler de bu baca gazlarından çıkan gazları toplamaya yarıyor.	16. These filters help collect the gases released from the flue gas.
21. Now, what I will tell you is a few words about the technique of using wet scrubbers.	21. Bu ıslak yıkayıcılar tekniğinin kullanılması çok önemli.	21. It is very important to use this technique of wet scrubbers.
26. First of all, they include all the techniques that can be used to minimize emissions.	26. İlk olarak emisyonu azaltmak için kullanılan teknikler var.	26. First of all, there are certain techniques used to reduce emission.

Table 31: P8 post-test SI performance examples

In sentence 13, the idea was to question the reason why electrostatic precipitators needed to be combined with some other techniques such as using a baghouse. However, the participant prematurely came to the conclusion that it would be more efficient to combine both techniques and this impeded coherence of the relevant part in the speech. In sentence 16, he interpreted the word “Dust” as “Gas” altering the meaning of the relevant unit, since the filters are actually used to remove the dust from the flue gas. In sentence 21, he added his own comment without understanding the essence of the sentence. In the source speech, the speaker wanted to add a few words about using wet scrubbers, but the participant interpreted this as “It is very important to use this technique”. Akin to the rest of the group, participant 8 chose the option of “Strongly disagree” for all the statements of the extralinguistic knowledge test, which indicated that he didn’t have any previous knowledge about the topics of the speeches. As for the terminology test, he knew the meaning of “Sulphur dioxide” and “Carcinogen”. He commented that he felt the necessity to look up all the terms used in both speeches during the SI tasks regardless of his previous knowledge. According to his answers given to the statements in the questionnaire, the first glossary made it harder for him to concentrate on the SI task and it was distracting. Therefore, he often felt the necessity

to use lexical strategies as his attempts to perform term query failed. He also added that the glossary which was created via the CAI tool helped him to manage his processing capacity more effectively, hence he felt less tired after the post-test SI task.

3.1.9. Participant 9

Participant 9 scored 89 out of 100 in the pre-test SI task while his score increased to 97 out of 100 in the post-test SI task. He didn't make any omissions neither in the pre-test SI task nor in the post-test SI task. His first SI performance mostly suffered from unidiomatic language choices that he made in the target language. For instance; he interpreted the term "Combustion plant" in the pre-test speech as "Yanma tescisi" while the accurate target language equivalent is "Yakma tescisi". He explained in the follow-up questionnaire that he was sure of the accuracy of his choice; therefore, he didn't search it in the glossary. According to his comments, he performed query for "Coal pulverization", Thermal efficiency", "Fluidized bed boiler", "Slag", "Bubbling fluidized bed boiler" and "Circulating fluidized bed boiler". In the first case, he interpreted "Coal pulverization" as "Kömür pulverizasyonu" by adopting naturalization as a lexical strategy. He explained that it was due to the fact that he couldn't use the search function in first glossary effectively as it takes at least five or six strokes (Ctrl+F shortcut keys, first two or three letters of the term and the Enter key) until the result appears on the screen. However, he succeeded in finding the accurate equivalents of "Pulverized coal combustion", "Thermal efficiency" and "Slag" when he encountered them the second time in the speech. As for "Fluidized bed boiler" and "Bubbling fluidized bed boiler", he managed to find them in the glossary at his first try. Even if he mispronounced the latter at first, he managed to repair this error of delivery. The table below shows the target-language choices and lexical strategies that the participant adopted to interpret the terms in the pre-test speech:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yanma tescisi	Approximation
Pulverized coal combustion	Pulverize kömür yakma teknolojisi	None
Coal pulverization	Kömür pulverizasyonu	Transcoding and naturalization

Thermal efficiency	Termal verimlilik	Naturalization and transcoding
Fluidized bed combustion	Akışkan yataklı yakma	None
Slag	Slag	Reproducing the sound
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection	Kireçtaşı enjeksiyonu	Transcoding and naturalization

Table 32: P9 pre-test lexical strategies

Concerning the post-test SI task, he could generally convey the meaning of the source speech accurately, but with a few minor deviations from the source speech. For instance; he interpreted the phrase “Mixture of different gases” as “Smoke”. In sentence 24, he slightly altered the meaning of the source sentence by omitting its secondary idea and interpreted the sentence as “Using wet scrubbers is a best available technique” while the most accurate interpretation would be “Using wet scrubbers is one of the most commonly used best available techniques”. Moreover, he interpreted all the terms placed in the post-test speech accurately and fluently without any serious deviations from the source language speech as indicated by the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None

Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 33: P9 post-test lexical strategies

According to his answers to the extralinguistic knowledge test, he also didn't know any of the topics covered by the speeches. As for the terminology test, he only knew the meaning of "Boiler", "Carcinogen" and "Sulphur Dioxide" out of 20 terms placed in both pre-test and post-test speeches. His comments and ratings to the questionnaire indicated that he experienced more or less the same problems reported by the rest of the group in terms of performing term query in the Excel version of the glossary. For instance; he complained about the slowness of the search function in Excel. In addition to this, he found the CAI tool user-friendly and fast. He also added that the tool doesn't have a steep learning curve. He also gave a suggestion for improvement for CAI tools in general. Accordingly, the tool could have been more efficient if its search function had been developed based on a predictive model. His suggestion is that a new feature, which automatically corrects spelling errors should be added to the tool to increase its efficacy.

3.1.10. Participant 10

Participant 10's total score from the pre-test SI task is 81 out of 100 and his total score from the post-test is 94 out of 100. He made omission twice in both tests. As for the pre-test SI task, he had to omit sentences 21, 25 and 38.

Source Speech Segment	Target Speech Segment	Back-translation
21. As you may understand from the name, this technology makes use of a fluidized bed.	Omitted	-

25. Normally, when coal burns, it finally produces slag.	Omitted	-
38. As you may understand from the name, this technology is associated with limestone.	Omitted.	-

Table 34: P10 pre-test SI performance examples

It is noteworthy that all these omissions were preceded the terms that were intentionally placed in the speech to direct the participant to consult the glossary. His answers to the questionnaire also indicate that he couldn't focus on listening the messages that followed the terms "Fluidized bed boiler", "Slag" and "Limestone injection". He could find and interpret the first two terms correctly but he couldn't find the third one, so he used "Kireçtaşı yöntemi" instead of "Kireç püskürtme yöntemi" by applying transcoding and generalization together as can be seen in the table below:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yakma tesisi	None
Pulverized coal combustion	Pulverize kömür yakma teknolojisi	None
Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Isıl verimlilik	None
Fluidized bed combustion	Akışkan yatak teknolojisi	Generalization
Slag	Cüruf	None
Boiler	Boiler and Kazan	First, reproducing the sound and then accurate rendition with no lexical strategies.
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None

Circulating fluidized bed boiler	Dolaşımlı akışkan yataklı kazan	None
Limestone injection	Kireçtaşı yöntemi and kireç püskürtme	First, transcoding and generalization and then accurate rendition with no lexical strategies.

Table 35: P10 pre-test lexical strategies

In segment 24 of the pre-test speech, he interpreted the term “Slag” accurately, however his listening and analysis effort suffered, and he omitted the information that the boiler in question is actually used to combust coal in order to reduce the amount of the resulting slag. At first, he said that the boiler is used to create slag and then he added that it is used to reduce slag. However, he missed the logical link between coal combustion and slag. In addition to this, it was observed that he had to pause and his fluency was impeded whenever he performed term query in the Excel version of the glossary. On the other hand, in the post-test SI task his performance increased both in terms of accuracy and fluency. In his second performance, he interpreted all the terms accurately as can be seen in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None

Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None
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Table 36: P10 post-test lexical strategies

According to his answers to the questionnaire, he used the CAI tool for term query throughout the test. Besides, he also used the tool to double-check the terms that he knew prior to the test. Based on his answers to the terminology test, he knew the meaning of “Sulphur Dioxide” and “Particulate matter”. Still, he commented that he also looked up these terms during interpreting to activate his memory. Regarding his answers to the statements included in the extralinguistic knowledge test administered prior to the main tests, he chose “Disagree” indicating that he didn’t have previous knowledge about the topics of the speeches. His answers and comments to the questionnaire indicate that he found the CAI tool helpful and fast. He also added that the tool helped him to economize on time allowing him to coordinate his efforts of listening and analysis and production more effectively.

3.1.11. Participant 11

Participant 11’s total score from the pre-test SI task is 78 out of 100 while his total score from the post-test SI task is 89 out of 100. According to the recordings, his second SI performance improved both in terms of accuracy and target language quality. In the pre-test SI task, he made omissions in sentences 13 and 25.

Source Speech Segment	Target Speech Segment	Back-translation
13. Now, I will explain the reason why we use this process of coal pulverization.	Omitted	-
25. Normally, when coal burns, it finally produces slag.	Omitted	-

Table 37: P11 pre-test SI performance examples

These sentences were preceded by the terms “Slag” and “Coal pulverization”, respectively. His comments to the open-ended question in the questionnaire indicate that he searched these terms in the first glossary, which made it harder for him to listen to the sentences that followed them. In sentence 4, he couldn’t find the accurate equivalent of the term “Combustion plant” and interpreted it as “Combustion tesisleri”. He reproduced the first word of the term and combined it with the Turkish translation of the second word “Plant”. In sentence 34 and 35, he omitted the term “Circulating fluidized bed boiler” in his interpretation as he couldn’t find it in the glossary as can be seen in the table below:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Combustion tesisi	Reproducing the sound and transcoding.
Pulverized coal combustion		Omission
Coal pulverization	Kömür tozlaştırma	None
Thermal efficiency	Isıl verimlilik	None
Fluidized bed combustion	Akışkan yataklı yakma	None
Slag	Cüruf	None
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan	None
Circulating fluidized bed boiler		Omission
Limestone injection	Kireç püskürtme	None

Table 38: P11 pre-test lexical strategies

As a result, his sentences remained incomplete. In most of his sentences, there were minor deviations from the source speech particularly in terms of accuracy of the messages. For instance; in the case of segment 23, he misunderstood its meaning and logic. Accordingly, a fluidized bed boiler helps solid fuels such as coal to behave like a liquid; however, he interpreted this message as “It places solid fuels such as coal on a

liquid bed”, which doesn’t convey the meaning of the relevant source speech segment at all. As for the post-test SI task, he omitted the sentences 5, 6 and 18.

Source Speech Segment	Target Speech Segment	Back-translation
5. Well, of course, you may wonder what I really mean by the Large Combustion Plants Directive.	Omitted	-
6. Basically, it provides recommendations for the combustion plants.	Omitted	-
18. Basically, it is a mixture of different gases that are produced when fossil fuels such as coal are burned.	Omitted.	-

Table 39: P11 post-test SI performance examples

Despite these omissions, his general performance was much better in the post-test. Moreover, he interpreted all the terms included in the post-test speech accurately with the help of the CAI tool as indicated in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut En İyi Teknikler	None

Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri	None

Table 40: P11 post-test lexical strategies

Even though he rated the statement “I could understand the ideas in the speech correctly” as “Strongly agree” for both speeches, he sometimes had difficulty in understanding and analysing the ideas according to the recordings of his SI performances, which consequently led to inadequate target language production. For instance, he interpreted sentence 4 as “They talk about the directives in the combustion plants”. However, it originally meant that the techniques in question are mentioned in the Large Combustion Plants Directive.

His answers to the extralinguistic knowledge test indicate that he didn’t have any previous knowledge about the topics of the speeches like the rest of the group and the only term that he knew prior to the experiment was “Sulphur Dioxide”. According to his comments to the open-ended question in the questionnaire, he found the CAI tool useful due to the fact that it reacts quickly to each keystroke and it doesn’t have uppercase or lowercase sensitivity. He also added that the tool has a simple interface, which doesn’t complicate the process of term query as in the case of Excel.

3.1.12. Participant 12

The total score of Participant 12 from the pre-test SI task is 74 out of 100 while his total score from the post-test SI task is 93 out of 100. In addition to the terminological errors that he made in the pre-test SI task, he also often deviated from the source speech, thus his interpretation was incoherent in some cases. In sentence 13, his interpretation was ambiguous as he didn’t exactly pinpoint what he was going to explain next. He interpreted it only as “Now, I will tell you why we do this”. In the relevant source speech sentence, the speaker informed the listeners that she was about to explain the reason why the process of coal pulverization was used. However, he skipped the essence of the sentence. Similarly, in sentence 20, he also skipped the main idea of the sentence. Thus, he adopted generalization as a coping strategy and interpreted the relevant speech

segment as “For example, there are pulverized technologies and we see fluidized bed combustions”. However, the original source speech segment is “Therefore, an alternative technology has been developed, which is fluidized bed combustion”. According to the source speech, the technology of fluidized bed combustion was actually developed as an alternative to prevent air pollution caused by combusting coal. But he missed the logical link here, hence his interpretation turned out to be inaccurate and inconsistent. He also made the same error in segment 24, despite having interpreted the term “Slag” accurately as can be seen in the table below:

Terms of the Pre-test Speech	Target-Language Choices	Lexical Strategies
Combustion plant	Yanma tesisi	Approximation
Pulverized coal combustion	Pulverize kömür yanması	Naturalization and transcoding
Coal pulverization	Pulverizasyon	Naturalization
Thermal efficiency	Termal verimlilik	Naturalization and transcoding
Fluidized bed combustion	Akışkan yataklı yakma	None
Slag	Cüruf	None
Boiler	Kazan	None
Bubbling fluidized bed boiler	Köpüklenme baloncuklaşma gibi teknolojiler	Explaining and generalization
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan	None
Limestone injection	Kireç püskürtme	None

Table 41: P12 pre-test lexical strategies

The segment 24 in the source speech means that using a fluidized bed boiler to burn coal eliminates the slag which would normally be released from the coal. However, Participant 12 understood the opposite of what was intended to be conveyed and interpreted it as “When we use this system to burn coal, it releases slag”. Again, his interpretation was not only inaccurate but also inconsistent with the rest of the speech. As he missed the logical link between slag and the use of fluidized bed boiler, in the

following sections he also thought that it was the slag which helped minimize air pollution instead of the boiler. However, slag is a chemical which adds up to air pollution. As a matter of fact, he found the Turkish equivalent of that term, but he didn't know what it conceptually referred to. So, he missed the logical link between slag and air pollution, too. Regarding his terminological performance, he interpreted "Fluidized bed boiler", "Slag", "Circulating fluidized bed boiler" and "Limestone injection" accurately. On the other hand, he adopted naturalization as a lexical strategy to interpret the term "Coal pulverization" and interpreted it as "Pulverizasyon". As for the term "Bubbling fluidized bed boiler", his attempt to find it in the pre-test glossary failed. Hence, he interpreted its first word literally as "Köpüklenme, baloncuklaşma" and skipped the rest of the term.

In the post-test SI task, his level of concentration was much higher and he didn't make any critical errors which would have impeded comprehension of the target speech. He interpreted all the terms in the post-test speech accurately except for the term "Flue gas desulphurization".

He interpreted that term as "Baca gazının desülfürizasyon tekniği" by partially adopting naturalization as a lexical strategy as can be seen in the table below:

Terms of the Post-test Speech	Target-Language Choices	Lexical Strategies
Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi	None
Electrostatic precipitators	Elektrostatik filtreler	None
Baghouse	Torba filtre	None
Flue gas	Baca gazı	None
Wet scrubber	Islak yıkayıcı	None
Best Available Techniques	Mevcut olan en iyi teknoloji	Approximation
Particulate matter emission	Partikül madde emisyonu	None
Carcinogen	Kanserojen	None
Sulphur Dioxide	Sülfür dioksit	None

Flue gas desulphurization techniques	Baca gazının desülfürizasyonu tekniği	Naturalization
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Table 42: P12 post-test lexical strategies

According to his answers to the extralinguistic knowledge test, he didn't have any previous knowledge regarding the topics of the speeches and the only terms that he knew prior to the experiment were "Sulphur dioxide" and "Particulate matter emission". His responses to the follow-up questionnaire indicated that he found the Excel version of the glossary distracting compared to the glossary created via the CAI tool. He added that the first glossary was slow and typing Ctrl+F and Enter keys increased the risk of misspelling words in his first SI performance.

3.2. GENERAL FINDINGS AND DISCUSSION

3.2.1. SI Performance

The outcomes of the SI tasks showed that most participants provided satisfactory performances with minimal omissions in both cases. This demonstrates that the complexity levels of the pre-test and post-test speeches were suitable for the participants' existing procedural and declarative knowledge. As the primary objective of this thesis was to determine the impact of using a computer-assisted interpreting tool for glossary management, as compared to Excel, the pre-test and post-test speeches were designed considering the same parameters, as explained in Section 3.3.2.

Interestingly, a comparison of scores according to the glossary management method used by participants revealed that the sample group performed significantly better in the post-test SI task. To examine the difference between pre-test and post-test SI performances, a Wilcoxon signed-ranks test was conducted using IBM SPSS 29.0. The results indicated a statistically significant difference in favour of the post-test, with $Z = -3.062$ and $p < 0.05$.

The results of this test can be observed in the tables below:

Test statistics^a	Posttest-Pretest
Z	-3,062 ^b
Asymp. Sig. (2-tailed)	,002

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks

Table 43: Results of the Wilcoxon Signed Ranks Test for SI performances

Consequently, the sample group's mean score increased from 81.9167 in the pre-test to 92.4167 in the post-test. The minimum SI score in the pre-test was 60.00 (Participant 2), while the maximum score was 93.00 (Participant 3). The results showed that the minimum score increased to 86.00 (Participant 2), and the maximum score rose to 99.00 (Participant 3 and Participant 5) in the post-test.

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Pretest	12	81,9167	9,47205	60,00	93,00
Posttest	12	92,4167	4,52183	86,00	99,00

Table 44: Statistical analysis of SI performances of participants

From a qualitative perspective, differences between the pre-test and post-test SI performances of the sample group were observed in terms of errors and interpreting styles when using different glossaries. For example, most participants exhibited an enhanced ability to focus on the ideas and logic of the source-language speech during the post-test, in which they employed the CAI tool for terminology lookup. This improvement was particularly noticeable in sentences preceded by specialized terms that served as problem triggers (Gile, 2009, p.171).

Based on the recordings and participants' comments, this improvement can be attributed to more effective cognitive capacity management. By using the CAI tool, participants were able to dedicate less attention to term queries and concentrate more on listening and analysing the meaning of the relevant speech segments. Furthermore, some participants reported experiencing less fatigue and stress following the post-test (Participant 4 and 8).

3.2.2 Terminological Accuracy and Lexical Strategies

The participants were supplied with two distinct types of glossaries shortly before the pre-test and post-test, as detailed in Section 3.3.3. Both glossaries were prepared, considering the same parameters, but were created and presented in two different formats: Excel and a CAI tool named Interpreter's Help. Each glossary contained

accurate target language equivalents of the terms featured in the pre-test and post-test speeches. Prior to the experiment, all participants were informed that they could consult the provided glossary for terminology look-up during interpretation as needed. Additionally, they were advised that they could employ lexical strategies, as explained by the researcher before the experiment, if they felt that using the glossary was hindering rather than assisting their SI performance. Therefore, consulting glossaries was not deemed mandatory.

The table below presents a summary of the participants' terminological performances when employing different glossary management methods. It demonstrates that each participant interpreted more terms accurately and employed fewer lexical strategies when using the CAI tool. In contrast, when utilizing the Excel version of the glossary, they interpreted fewer terms accurately and relied more on lexical strategies to cope with unknown lexical units:

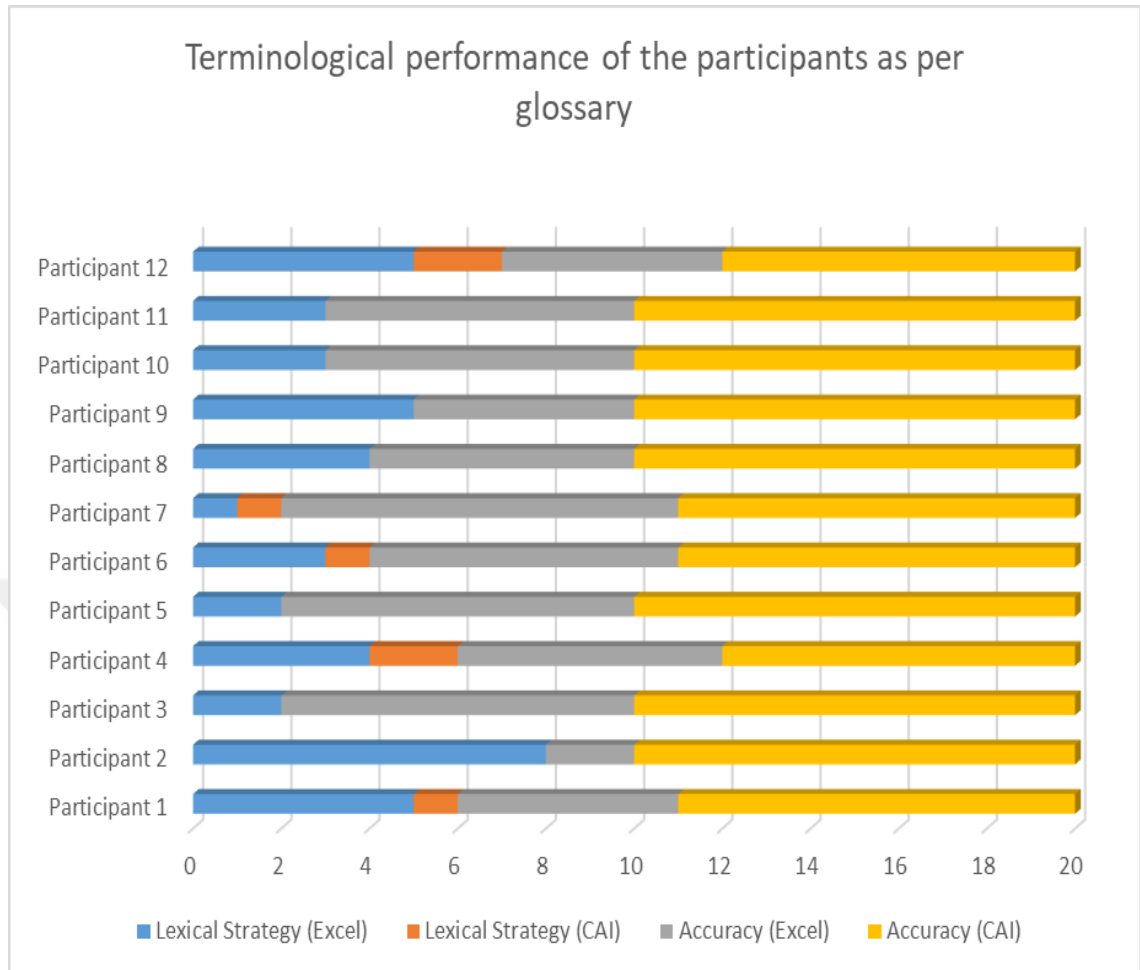


Table 45: Terminological performance of participants as per glossary

In addition to adopting a case-by-case approach to identify the impact of using two different types of glossaries on terminological choices, the total scores of the participants were also tested statistically.

Accordingly, the participants gained 10 points every time when they interpreted each term accurately during each SI task and they gained 0 points when they either omitted each term or interpreted each term inaccurately. As a result, total terminological performance scores were calculated for all participants. Based on these scores, a Wilcoxon signed-ranks test was performed on IBM SPSS 29.0. as can be seen below:

Test statistics^a	Posttest-Pretest
Z	-2,527 ^b
Asymp. Sig. (2-tailed)	,012
a. Wilcoxon Signed Ranks Test b. Based on negative ranks	

Table 46: Results of the Wilcoxon Signed Ranks Test for terminological performances

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Pretest	12	69,1667	29,68267	,00	100,00
Posttest	12	94,1667	7,92961	80,00	100,00

Table 47: Statistical analysis of terminological performances of participants with respect to accuracy

The findings suggest that there was a statistically significant difference between the pre-test and post-test scores of the participants concerning terminological accuracy, favoring the post-test results, with $Z=-2.527$ and $p<0.05$.

3.2.3. Responses and comments of the participants to the questionnaire

Following both the pre-test and post-test SI tasks, a questionnaire employing a 5-point Likert scale was administered to the participants. The aim of the questionnaire was to ascertain their perceptions concerning their SI performances, the usage of two different types of glossaries, and their interaction with both materials during the SI process. The questionnaire comprised nine statements and one open-ended question, which sought to gather additional comments and insights from the participants regarding their experiences. The results are presented below, with each statement considered separately

Statement 1. I could understand the ideas in the speech correctly.

As shown in the chart, after the pre-test SI task, 9 participants (75%) strongly agreed and 2 participants (17%) agreed with the first statement. Only one participant (Participant 4) was uncertain about their response, accounting for 8% of the participants.

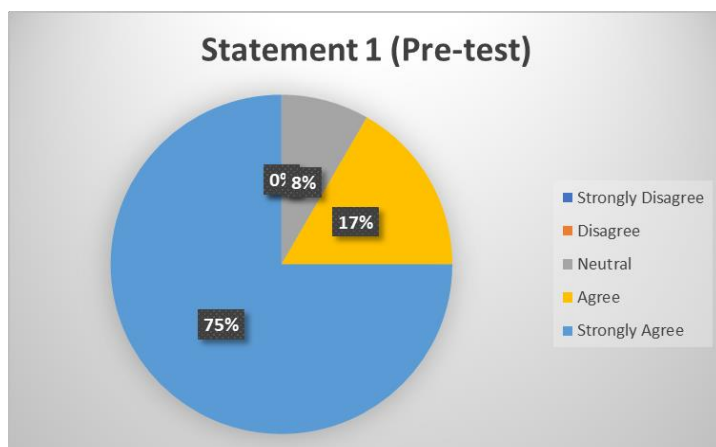


Chart 1: Responses of the sample group to statement 1 in the questionnaire following the pre-test

In response to the same statement after the post-test, 10 participants (83%) strongly agreed and 1 participant (Participant 2) agreed (8%) with the statement. The same participant (Participant 4) remained uncertain about their response, accounting for 8% of the participants.

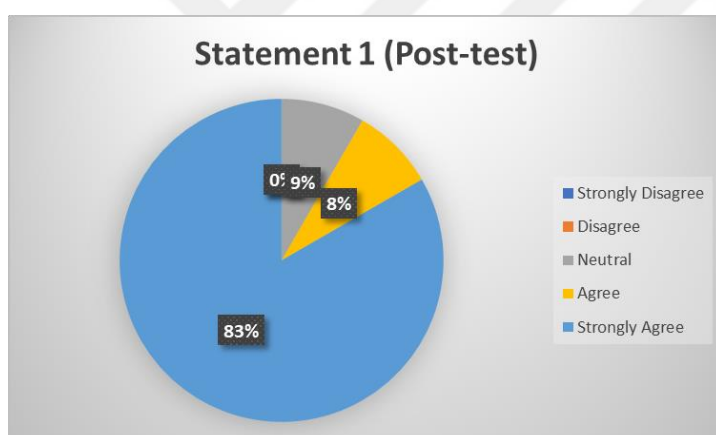


Chart 2: Responses of the sample group to statement 1 in the questionnaire following the post-test

The findings indicate that participants did not face major difficulties in comprehending the concepts presented in both speeches, enabling them to focus more on tackling the lexical challenges introduced by the researcher within the speeches.

Statement 2: I could interpret the terms in the speech correctly.

Regarding the pre-test SI task, 6 participants (50%) agreed and 2 participants disagreed (17%) with the second statement following the pre-test SI task. Meanwhile, 4 participants were uncertain about their response (33%):

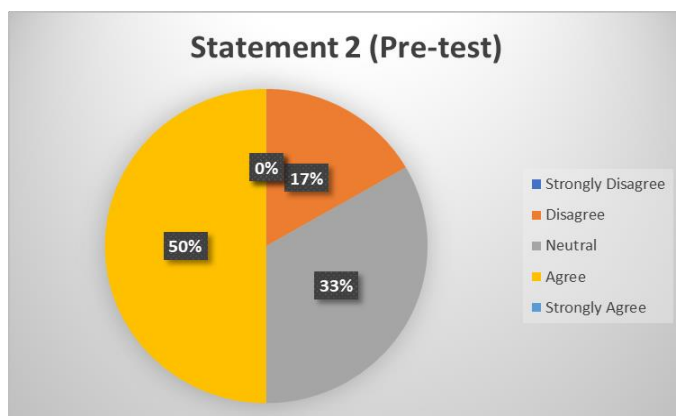


Chart 3: Responses of the sample group to statement 2 in the questionnaire following the pre-test

In response to the same statement after the post-test, 6 participants (50%) strongly agreed and 6 participants agreed (50%) with the second statement:

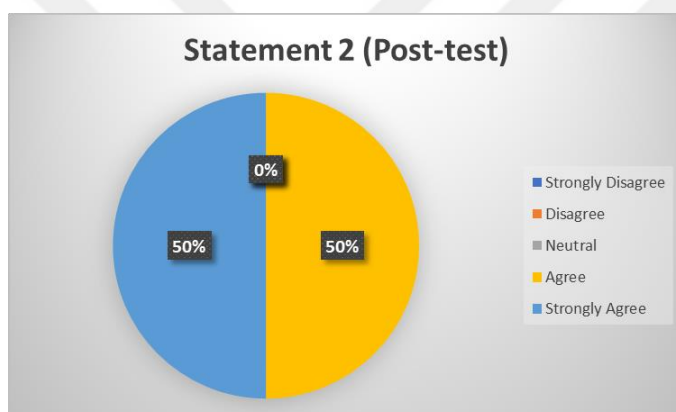


Chart 4: Responses of the sample group to statement 2 in the questionnaire following the post-test

According to these results, the participants felt more confident about having interpreted the terms used in the post-test speech accurately when they used the CAI tool.

Statement 3: I could make use of the glossary to interpret the terms used in the speech.

Participants were asked to evaluate the usefulness and practicality of the glossary they used during each SI task using statement 3. As shown in the chart below, after the pre-test SI task, 3 participants (25%) strongly agreed and 6 participants (50%) agreed with the third statement. Only one participant (Participant 1) was unsure about their response (8%), while one participant (Participant 2) disagreed (8%), and one participant (Participant 11) strongly disagreed (8%) with the statement:

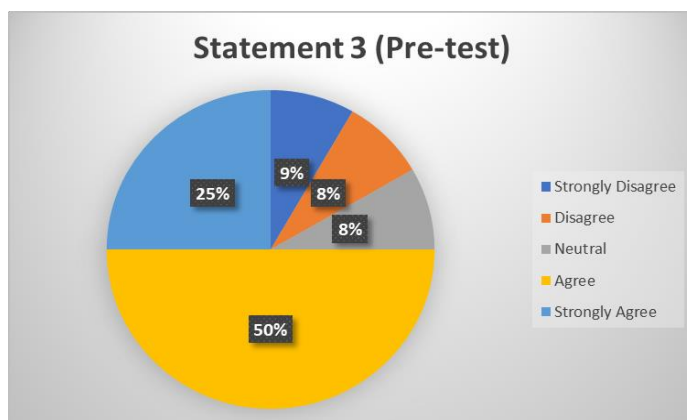


Chart 5: Responses of the sample group to statement 3 in the questionnaire following the pre-test

It is noteworthy that all the participants (100%) strongly agreed with the same statement following the post-test as can be seen below:

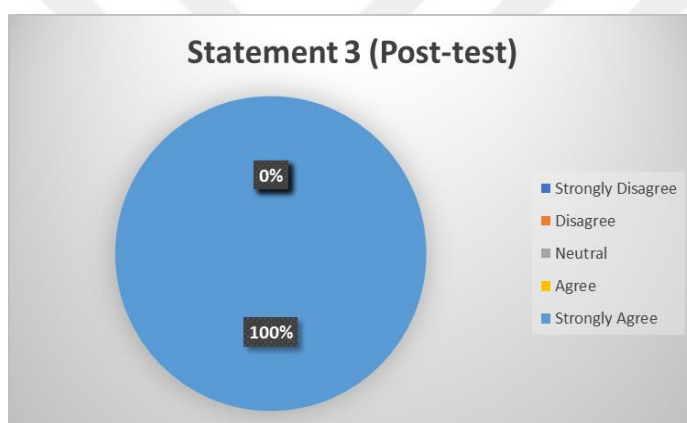


Chart 6: Responses of the sample group to statement 3 in the questionnaire following the post-test

These findings suggest that all participants were able to benefit from the use of the CAI tool for glossary management during the post-test SI task.

Statement 4: The glossary that was provided to me was helpful during the interpreting task.

As depicted in the chart, following the pre-test SI task, 4 participants (33%) strongly agreed and 5 participants (42%) agreed with Statement 4, which sought to determine if they considered the glossary as helpful. One participant (Participant 2) was unsure about their response (8%), while 2 participants (17%) strongly disagreed with the statement. These results can be seen in the charts given below:

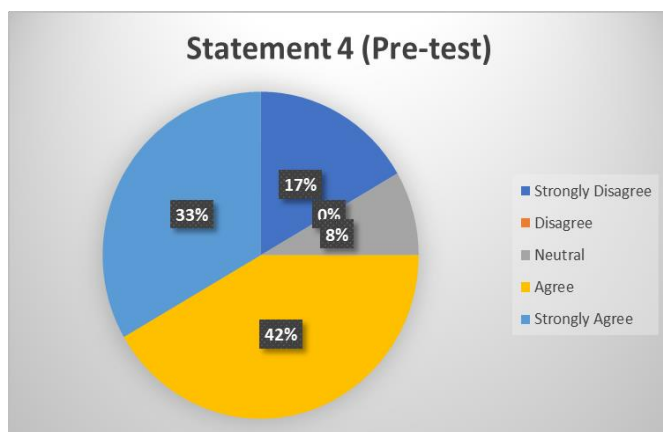


Chart 7: The sample group's responses to statement 4 in the questionnaire following the pre-test

In a similar vein to the responses given to Statement 3 after the post-test SI task, all participants (100%) strongly agreed with Statement 4 following the post-test, as depicted below:

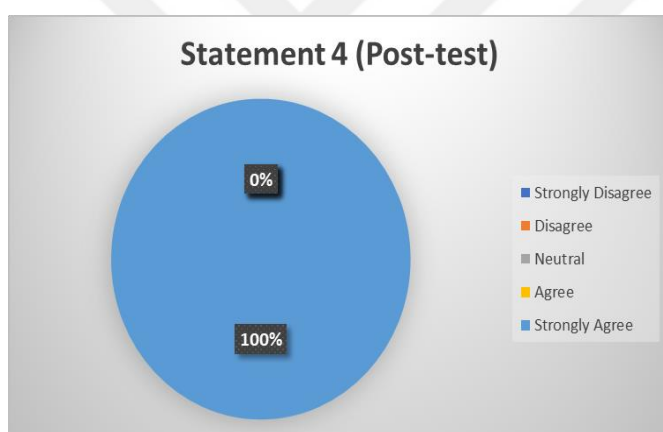


Chart 8: Responses of the sample group to statement 4 in the questionnaire following the post-test

The results indicate that all participants considered the CAI tool as an aid during SI rather than as a hindrance.

Statement 5: The glossary made it harder for me to concentrate on the interpreting task.

This statement sought to determine whether using each specific glossary disrupted the participants' SI performance by impairing their concentration during the task. As depicted in the chart, 2 participants (17%) strongly agreed and 4 participants agreed with the statement following the pre-test SI task. Meanwhile, 3 participants (25%) were unsure

about their response, and 2 participants (17%) disagreed with the statement. Additionally, 2 participants (16%) strongly disagreed with the statement:

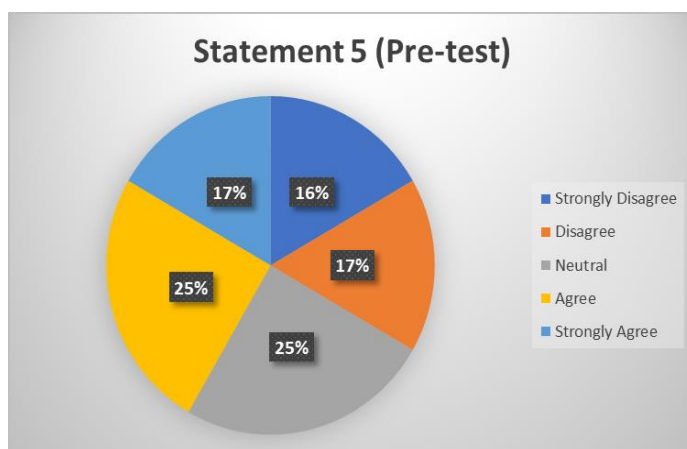


Chart 9: Responses of the sample group to statement 5 in the questionnaire following the pre-test

Regarding the post-test SI task, 10 participants (83%) strongly disagreed with the statement, and 1 participant (9%) disagreed with the statement. Additionally, 1 participant was unsure about their response (8%):

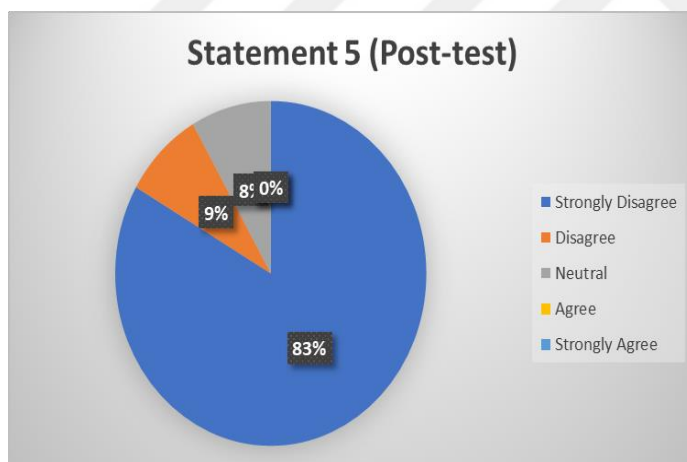


Chart 10: Responses of the sample group to statement 5 in the questionnaire following the post-test

According to the responses of the participants nearly all of them found the CAI tool less distracting than Excel as a glossary management program during SI.

Statement 6: I could find the Turkish equivalents of all the terms that I searched in the glossary during interpreting.

The chart shows that 5 participants (47%) strongly agreed and 3 participants (25%) agreed with statement 6. Meanwhile, 1 participant (Participant 2) disagreed, and 2 participants (17%) strongly disagreed with the statement.

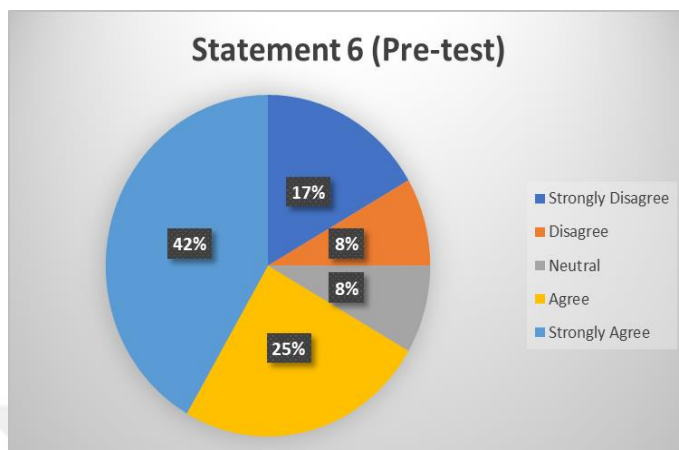


Chart 11: Responses of the sample group to statement 6 in the questionnaire following the pre-test

After the post-test, the number of participants who strongly agreed with the statement increased to 9 participants (75%), while the number of those who agreed with the statement remained the same at 3 participants (25%).

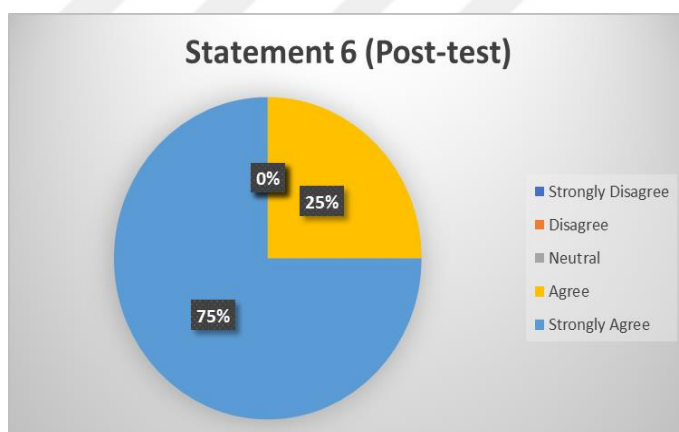


Chart 12: Responses of the sample group to statement 6 in the questionnaire following the post-test

These findings indicate that almost all participants were able to successfully locate the Turkish equivalents of the terms they searched for in the CAI tool during simultaneous interpretation.

Statement 7: I used lexical strategies to cope with the challenges on the lexical level because it was difficult to use the glossary.

As presented in the chart, the responses of the participants to this statement only partially reflected the reality when the recordings of SI performances of the participants were analysed. Only 1 participant strongly agreed with the statement and only 4 participants (25%) agreed with it following the pre-test SI task. 3 participants (25%) were unsure about the answer and 5 participants (42%) disagreed with the statement. However, in reality all the participants used at least one lexical strategy to deal with difficulties on the lexical level when they used Excel for glossary management.

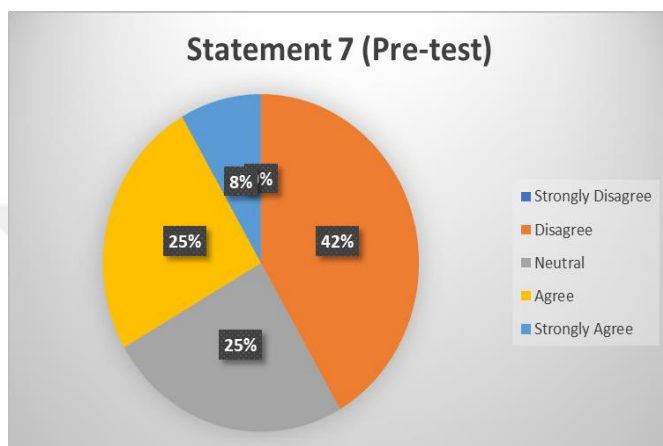


Chart 13: Responses of the sample group to statement 7 in the questionnaire following the pre-test

As for their responses to the same statement following the post-test, 6 participants (50%) strongly disagreed and 2 participants (17%) disagreed with the statement as can be seen below:

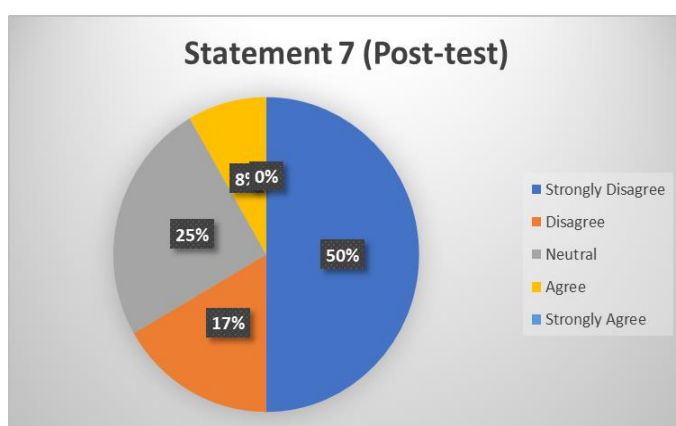


Chart 14: Responses of the sample group to statement 7 in the questionnaire following the post-test

These results reveal that more than half of the participants felt that they did not need to employ strategies to overcome lexical challenges, as they found it easier to use the CAI tool to locate the exact equivalents of the terms in the post-test speech.

Statement 8: I used the glossary all the time to cope with the challenges on lexical level.

As shown in the chart below, following the pre-test SI task, only 1 participant (17%) strongly agreed and 5 participants (41%) agreed with the statement. Meanwhile, 3 participants (25%) were not sure, and 2 participants (17%) disagreed with the statement.

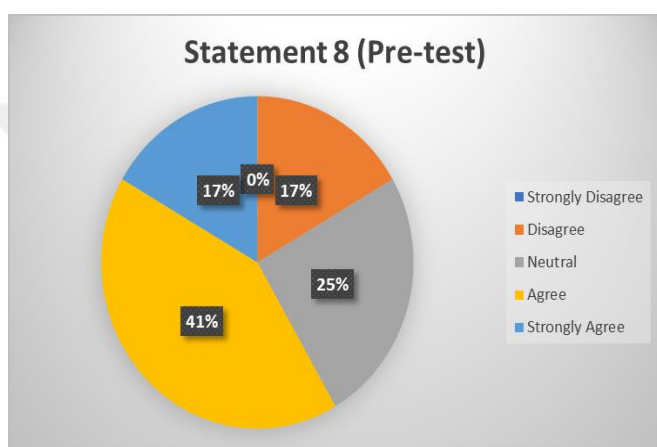


Chart 15: Responses of the sample group to statement 8 in the questionnaire following the pre-test

As for the post-test task, 7 participants (67%) strongly agreed and 3 participants (25%) agreed with having used the glossary (the CAI tool) all the time to overcome lexical challenges during SI:

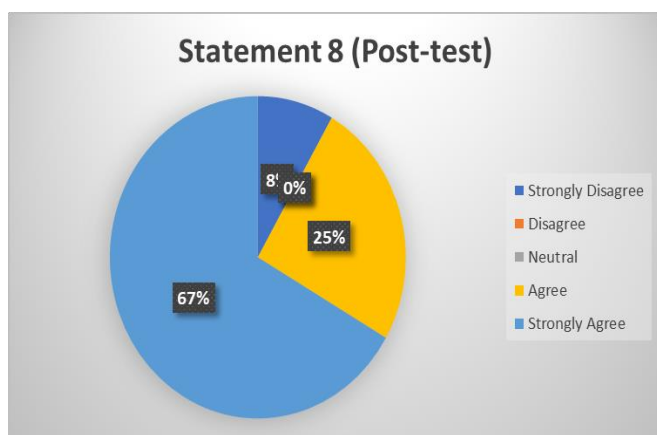


Chart 16: Responses of the sample group to statement 8 in the questionnaire following the post-test

According to these responses, participants often resorted to using glossaries when they encountered lexical issues in both cases.

Statement 9: I had to omit some of the terms in my interpretation since it took a long time for me to find their equivalents in the glossary.

According the responses, 1 participant (Participant 5) strongly agreed (8%) and 2 participants (17%) agreed with statement 9 after the pre-test SI task. 6 participants (50%) disagreed and 3 participants (25%) strongly disagreed with the statement.

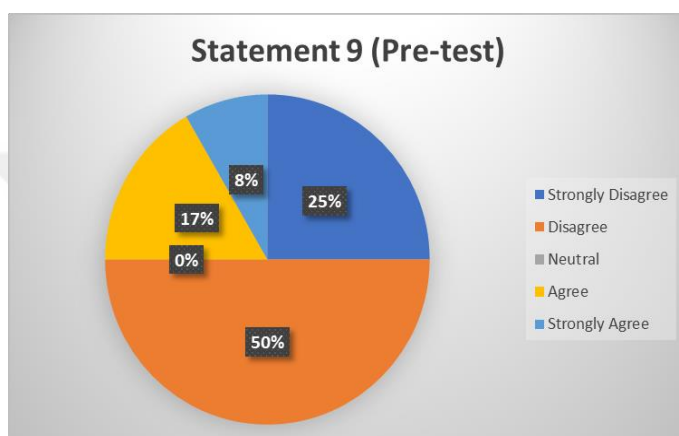


Chart 17: Responses of the sample group to statement 9 in the questionnaire following the pre-test

On the other hand, the responses given after the post-test SI task indicated that 10 participants (83%) strongly disagreed and 2 participants (17%) disagreed with the same statement as can be seen in the chart below:

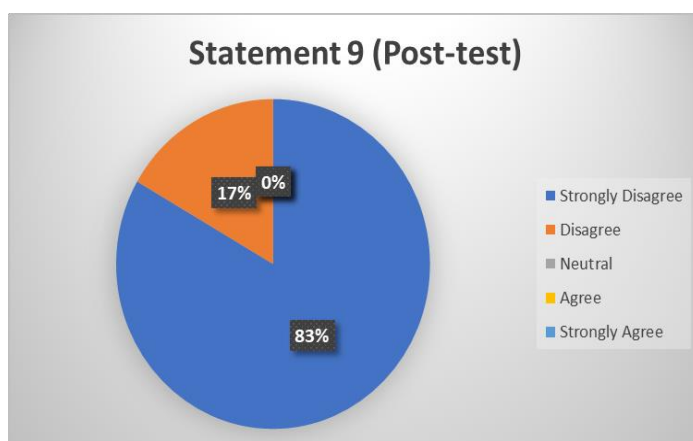


Chart 18: Responses of the sample group to statement 9 in the questionnaire following the post-test

These results reveal that all the participants felt that they didn't have to omit any of the terms used in the post-test speech. On the contrary, all the participants commented that the CAI tool was fast and responsive to their inquiries.



CONCLUSION AND SUGGESTIONS

In this thesis, the impact of using a computer-assisted interpreting (CAI) tool for term query on the simultaneous interpreting (SI) performances and terminological performances of beginner interpreters was assessed.

For the purposes of this study, a one-group pre/post-test design was employed. The participants were 12 novice interpreters who had recently graduated from Hacettepe University Faculty of Letters, Department of Translation and Interpretation, Division of English Translation and Interpretation. Their simultaneous interpretation (SI) performances were evaluated based on a rating scale developed by Lee (2008), and their perceptions regarding their own performances and the use of different glossary formats were assessed through a 5-point Likert scale questionnaire.

In this chapter, we will revisit and discuss the main research questions and sub-questions, analyzing their implications for interpreting practice and training in light of the findings of this study. Additionally, suggestions will be provided for further research.

The first research question investigated whether using Interpreters' Help, a computer-assisted interpreting (CAI) tool, resulted in significantly higher simultaneous interpreting scores compared to the use of MS Excel for glossary management. Significant differences were observed in the simultaneous interpreting scores of participants who used two separate glossary management methods (MS Excel and Interpreters' Help as a CAI tool). The Wilcoxon signed-ranks test findings indicated a statistically significant difference in general SI performance when using the two separate glossary management methods. These results are consistent with previous research highlighting the positive influence of CAI tools on interpreting performance. For instance; Gacek (2015) demonstrated that using InterpretBank, a terminology management tool, in the booth improved interpreters' SI performance in terms of terminological accuracy and completeness. Similarly, Prandi (2018) found that using a CAI tool reduced cognitive load during terminology search and delivery, leading to enhanced terminological rendition in technical conferences. These prior studies, in conjunction with the current research, underscore the potential benefits of using CAI tools for the purpose of glossary management. Building upon findings of this thesis, it can be argued that the use of CAI tools like Interpreters' Help can lead to improved SI performance by reducing the cognitive load associated with searching for terminology during interpreting tasks. This reduction in cognitive load enables interpreters to allocate more cognitive resources to

other aspects of interpreting, such as understanding the overall meaning and analysing the logical structure of the source speech, which ultimately results in better target language quality and delivery.

The second main research question explored whether there was a significant difference in the terminological performances of participants who used two separate glossary management methods (MS Excel and Interpreters' Help as a CAI tool). The study found a significant increase in the total terminological performance scores when participants used Interpreters' Help as compared to MS Excel for glossary management. This finding supports the notion that CAI tools can effectively enhance the accuracy of terminology searches, thus improving overall SI performance. Furthermore, the results revealed that participants employed fewer lexical strategies during the post-test SI task when using Interpreters' Help, which may indicate reduced processing capacity requirements (Gile, 2009).

As part of the second main research question the first sub-question aimed to find out whether the participants used any lexical strategies to interpret the terms included in the main tests. The data collected from the study showed that the participants frequently employed various strategies to reformulate the specialized terms during the pre-test SI task, instead of using the accurate target-language equivalents that were provided in the first glossary. The strategies used by the participants included naturalization, reproducing the sound as heard in the source-language speech, transcoding, generalization, approximation, explaining, and omission. However, in the post-test SI task, the participants' first choice of strategy was to use the glossary provided to them. As a result, nearly all of the participants were successful in finding the exact target-language equivalents of the terms in the second glossary, and therefore, they did not need to use lexical strategies to interpret the specialized terms used in the post-test speech. Consequently, the participants were able to interpret more terms accurately in the post-test.

In parallel with the first sub-question, the second sub-question investigated whether the lexical strategies used by the participants varied from one glossary management method to another. The data showed that the use of lexical strategies during the post-test SI task was relatively infrequent, with only seven instances recorded. These strategies included reproducing the sound as heard twice, omission once, explaining once, naturalization twice, and approximation once. In contrast, during the pre-test SI task, the sample group employed a range of lexical strategies, either solely or in combination, 64 times in total.

These strategies included naturalization (20 times), transcoding (17 times), approximation (8 times), reproducing the sound as heard (7 times), omission (6 times), generalization (5 times), and explaining (once). Some participants even used multiple strategies at the same time, such as naturalization and transcoding.

The third research question aimed to understand the general perception of the participants towards the use of a CAI tool for glossary management purposes.

Based on the participants' responses to the questionnaire, it was found that 100% of them strongly agreed that the CAI tool, Interpreters' Help, was helpful during the post-test SI task. In contrast, only 33% of the participants strongly agreed that the glossary presented in Excel format was helpful during interpreting. The participants' responses to statement 3 showed a similar pattern, as 100% of them strongly agreed that they were successful in making use of the CAI tool to interpret the terms used in the post-test speech, while only 25% of them strongly agreed with the same statement for the glossary presented in Excel format. In addition, the majority of participants (67%) always preferred consulting the CAI tool to deal with difficulties on the lexical level during SI performance, while only 17% of all participants preferred consulting the Excel version of the same glossary whenever they encountered a new specialized term in the pre-test speech. The participants' responses to statement 7 also revealed that more than half of them felt that it was easier to perform term queries through the CAI tool rather than using strategies to reformulate specialized terms in the target language.

Moreover, participants' comments revealed that they found the CAI tool, Interpreters' Help, to be efficient, useful, and customizable. In comparison, the Excel version of the glossary was perceived as challenging to navigate, primarily due to its interface, which features various windows, cells, boxes, bars, rows, and columns. Additionally, participants reported that they had to press multiple keys to locate a term in an Excel spreadsheet, making term inquiries cumbersome. Conversely, participants concurred that all three CAI tools presented in the study were fully interpreting-oriented and offered simpler user interfaces, facilitating the organization and retrieval of terms saved by the interpreter. Participants also noted that Interpreters' Help held an advantage over the other presented CAI tools, as it featured a web-based structure that eliminated the need for software downloads. This characteristic made it more convenient to share glossaries with boothmates and collaborate on glossaries. Furthermore, two participants found it beneficial that Interpreters' Help was platform-independent, allowing glossaries saved in its cloud to be accessed from any device, including mobile phones and tablets.

Overall, the findings of the quantitative data analysis demonstrated a significant improvement in participants' SI performances in the post-test when using the CAI tool. This was evident in the increased mean scores and more accurate interpretation of terms. Furthermore, the qualitative data analysis revealed that the majority of participants experienced enhanced focus on the ideas and logic of the source-language speech during the post-test when using the CAI tool. This can be attributed to the more effective management of cognitive capacity, as participants were able to dedicate less attention to term queries and concentrate more on listening and analysing the meaning of the relevant speech segments. Moreover, some participants reported experiencing less fatigue and stress following the post-test as demonstrated by the questionnaire results. Accordingly, nearly all participants successfully found the Turkish equivalents of the terms they searched for in the CAI tool during SI. Additionally, more than half of the participants felt that they did not need to employ strategies to overcome lexical challenges, as they found it easier to use the CAI tool to locate the exact equivalents of the terms in the post-test speech.

As explained above, the results of both quantitative and qualitative analyses indicated that using the CAI tool improved the general SI performances and terminological performances of the participants in terms of accuracy, providing evidence that the CAI tool was an effective glossary management method that saved time and reduced interference during SI.

Additionally, participants expressed a more positive attitude toward using the CAI tool. The study's findings suggest that the CAI tool, namely Interpreters' Help, was an effective method of glossary management and contributed to better SI performance and terminological performance of the novice interpreters despite their limited experience in performing SI in real life.

In accordance with the findings of this study, it can be concluded that using a CAI tool for glossary management during SI can be advantageous compared to a traditional electronic glossary. Accordingly, employing a CAI tool for glossary management positively influences novice interpreters' performance and enhances their cognitive capacity management, despite their limited experience in performing simultaneous interpreting. The findings of this thesis also revealed that the participants, who were recent graduates embarking on their careers, expressed positive attitudes towards integrating technology into the SI booth.

However, as mentioned before, it is also important to acknowledge the limitations of this study, which include a small sample size and the use of only one CAI tool (Interpreters' Help). Thus, further research can be conducted to enhance our understanding of the effectiveness of CAI tools in general.

Firstly, a similar study can be conducted with a larger sample to increase generalization of the findings. Furthermore, different speeches on various topics with varying level of complexity and difficulty can be used as materials.

Secondly, future research could investigate how CAI tools effect interpreting performances of more experienced interpreters. Although the study focused on beginner interpreters, it would be interesting to examine whether the positive effects of using the CAI tool for terminology search remain consistent in more advanced interpreting settings.

Thirdly, future research could investigate the impact of different types of CAI tools on interpreting performance. While the Interpreters' Help tool was found to be effective in the present study, it would be interesting to compare it to other existing CAI tools or develop new ones to determine the most effective tool for improving SI performance and terminology query.

Fourthly, future research could examine the feasibility of employing CAI tools integrated with automatic speech recognition technology to identify terminology and numbers during SI in the booth. Researchers can investigate the effects of such tools on fluency and overall communication effectiveness from a pragmatic perspective.

Moreover, further research could delve into the specific features and customizability of CAI tools that would better accommodate the needs of interpreters, ultimately leading to the development of more advanced and user-friendly tools for the interpreting profession.

In summary, future research in the areas mentioned above could help to further advance our understanding of the impact of CAI tools on interpreting performance and provide useful insights for integrating technology in work processes of interpreters and developing more user-friendly applications with interpreters as the target group.

BIBLIOGRAPHY

- Abbasbeyli, E. (2015, May 22). The role of dragomans in the Ottoman Empire. https://aiic.org/document/937/AIICWebzine_2014_Issue65_4_ABBASBEYLI_The_Role_of_Dragomans_in_the_Ottoman_Empire_EN.pdf
- AIIC and ISO Standards (n.d.). Aiic.org. Retrieved April 5, 2023, from <https://aiic.org/site/world/about/profession/standards>
- Angelelli, C. (2004). *Revisiting the interpreter's role: A study of conference, court, and medical interpreters in Canada, Mexico, and the United States*. John Benjamins Pub.
- Austermuhl, F. (2001). *Electronic tools for translators* (1st ed.). Routledge. <https://doi.org/10.4324/9781315760353>
- Baigorri Jalón, J., Mikkelsen, H., & Olsen, B. S. (2014). *From Paris to Nuremberg: The birth of conference interpreting*. John Benjamins Publishing Company.
- Bilgen, B. (2009). *Investigating terminology management for conference interpreters*. [MA thesis, University of Ottawa].
- Bühler, H. (1986). Linguistic (semantic) and extralinguistic (pragmatic) criteria for the evaluation of conference interpretation and interpreters. *Multilingua* 5 (4), (pp. 231-235).
- Büyüköztürk, Ş. (2021). *Sosyal bilimler için veri analizi el kitabı* (29 b.). Ankara: Pegem A Yayıncılık.
- Cabré, M. T., & Cabré, M. T. (1999). *Terminology: Theory, methods and applications*. Benjamins.
- Carl, M. & Braun, S. (2018). Translation, interpreting and new technologies. In K. Malmkjaer (Ed.), *The Routledge handbook of translation studies and linguistics* (pp. 374-390). London: Routledge.
- Chiaro, D., & Nocella, G. (2004). Interpreters' perception of linguistic and non-linguistic factors affecting quality: A survey through the World Wide Web. *Meta*, 49(2), 278–293). <https://doi.org/10.7202/009351ar>
- Corpas Pastor, G. & May Fern, L. (2016). *A survey of interpreters' needs and their practices related to language technology*. [Technical report, Universidad de Málaga].
- Corpas Pastor, G., & Duran-Munoz, I. (Eds.). (2018). *Trends in e-tools and resources for translators and interpreters*. Brill/Rodopi.
- Costa, H., Corpas Pastor, G., & Durán Muñoz, I. (2014). A comparative user evaluation of terminology management tools for interpreters. *Proceedings of the 4th International Workshop on Computational Terminology (Computerm)* (pp. 68–76). <https://doi.org/10.3115/v1/W14-4809>

- De Groot, A. M. B. (2000). A complex-skill approach to translation and interpreting. In S. Tirkkonen-Condit & R. Jääskeläinen (Eds.), *Tapping and mapping the processes of translation and interpreting* (pp. 53–68). Amsterdam: John Benjamins.
- Déjean Le Féal, K. (1990). Some thoughts on the evaluation of simultaneous interpretation. In D. Bowen & M. Bowen (Eds.), *Interpreting—Yesterday, today, and tomorrow* (pp. 154-160). Binghamton NY, SUNY.
- Delisle, J., & Woodsworth, J. (2012). *Translators through history*. Amsterdam. John Benjamins Publishing Company.
- Desmet, B, Vandierendonck, M. & Defrancq, B. (2018). Simultaneous interpretation of numbers and the impact of technological support. In C. Fantinuoli (Ed.), *Interpreting and technology* (pp. 13–27). Berlin: Language Science Press. DOI:10.5281/zenodo.1493291
- Diriker, E. (2010). Simultaneous conference interpreting and technology. In Gambier, Yves, van, Doorslaer, Luc, *Handbook of translation studies* (p. 329). Philadelphia, PA, USA, John Benjamins Publishing Company.
- Doğan, A. (2020). *Sözlü çeviri çalışmaları ve uygulamaları* (6th Edition) (pp. 53-54). Ankara: SFN.
- Doğan, A. (2022). Sözlü ve yazılı çeviri odaklı söylem çözümlemesi. Siyasal Kitabevi.
- Ericsson, K. A., & Smith, J. (1991). Prospects and limits of the empirical study of expertise: An introduction. In K. A. Ericsson & J. Smith (Eds.), *Toward a general theory of expertise: Prospects and limits* (pp. 1-39). Cambridge University Press.
- Eysenck, M. W. & Keane, M. T. (1990). *Cognitive psychology a student's handbook*. Hove and London (UK), Hillsdale (USA): Lawrence Erlbaum Associates.
- Fantinuoli, C. (2012). *InterpretBank: Design and implementation of a terminology and knowledge management software for conference interpreters*. [Doctoral Dissertation, University of Mainz].
- Fantinuoli, C. (2016). InterpretBank. Redefining computer-assisted interpreting tools. In *Proceedings of the Translating and the Computer 38 Conference in London* (pp. 42-52). Editions Tradulex, Geneva.
- Fantinuoli, C. (2017a). Computer-assisted preparation in conference interpreting. In *Translation & Interpreting*, 9(2), 24-37.
- Fantinuoli, C. (2017b). Speech recognition in the interpreter workstation. In *Proceedings of the Translating and the Computer 39* (2017), 25-34.
- Fantinuoli, C. (Ed.) (2018). *Interpreting and technology*. Berlin: Language Science Press.
- Ferreira, A., & Schwieter, J. W. (Eds.) (2015). *Psycholinguistic and Cognitive Inquiries into Translation and Interpreting* (Vol. 115) (p.45). John Benjamins Publishing Company. <https://doi.org/10.1075/btl.115>.

- Free Text Complexity Analyzer (n.d.). Retrieved April 15, 2023, from <https://www.lumoslearning.com/llwp/free-text-complexity-analysis.html>
- Gacek, M. (2015). *Softwarelösungen für DolmetscherInnen*. [Master's thesis, University of Vienna].
- Gaiba, F. (1998). *The origins of simultaneous interpretation: The Nuremberg trial* (pp.16-32). University of Ottawa Press.
- Garzone, G., & Viezzi, M. (Eds.) (2002). *Interpreting in the 21st century: Challenges and opportunities: selected papers from the 1st Forlì conference on interpreting studies*, 9-11 November 2000. J. Benjamins.
- Gerver, D. (1976). Empirical studies of simultaneous interpretation: A review and a model. In R. Brislin (Ed.), *Translation, applications & research* (pp.165-207). New York: Gardner Press.
- Gile, D. (1995). *Regards sur la recherche en interprétation de conférence*. Lille: Presses universitaires de Lille.
- Gile, D. (2009). *Basic concepts and models for interpreter and translator training* (Rev. ed). John Benjamins Pub. Co.
- Gile, D. (2009). Conference interpreting, historical and cognitive perspectives. In M. Baker, & G. Saldanha (Eds.), *Routledge encyclopaedia of translation studies* (pp. 51-56). New York: Routledge.
- Gile, D. (2017). Testing the Effort Models' tightrope hypothesis in simultaneous interpreting—A contribution. *HERMES-Journal of Language and Communication in Business*, 12(23), 153. <https://doi.org/10.7146/hjicb.v12i23.25553>
- Gillies, A. (2019). *Consecutive interpreting: A short course*. Routledge, Taylor & Francis Group.
- Goldman-Eisler, F. (1972). Segmentation of input in simultaneous translation. *Journal of Psycholinguistic Research*, 1, 127-140.
- Herbert, J. (1952). *The interpreter's handbook: How to become a conference interpreter*. Geneva: Georg.
- Hutchins, J. & H. Somers (1992). *An introduction to machine translation*. London: Academic Press Ltd.
- Hyönä, J., Tömmola, J. & Alaja, A. (1995). Pupil dilation as a measure of processing load in simultaneous interpreting and other language tasks. *The Quarterly Journal of Experimental Psychology* 48A (3), 598–612.
- International Organization for Standardization. (2014). Retrieved March 10, 2022, from <https://www.iso.org/obp/ui/#iso:std:iso:13611:ed-1:v1:en>
- Irabien, D. B. (2010). *Information and communication technologies in conference interpreting: A survey of their usage in professional and educational settings*. [Unpublished doctoral dissertation, Universitat Rovira I Virgili, Tarragona].

- Jones, R. (2002). *Conference interpreting explained* (pp. 92-114). Manchester: St. Jerome Publishing.
- Kahneman, D. (1973). *Attention and effort*. Englewood Cliffs, NJ: Prentice Hall.
- Kalina, S. (2005). Quality assurance for interpreting processes. *Meta*, 50(2), 768–784. <https://doi.org/10.7202/011017ar>
- Kopczynski, A. (1994). Quality in conference interpreting: Some pragmatic problems. In S. Lambert & B. Moser-Mercer (Eds.), *Bridging the gap: Empirical research on simultaneous interpretation* (pp. 87-99). Amsterdam/Philadelphia, Benjamins.
- Kurz, I. (2001). Conference interpreting: Quality in the ears of the user. *Meta*, 46(2), 394–409. <https://doi.org/10.7202/003364ar>
- Lee, J. (2008). Rating scales for interpreting performance assessment. *The interpreter and translator trainer*, 2(2), 165–184.
- LookUp, a terminology entry model adapted to the workflow of interpreting (n.d.). Retrieved March 6, 2022, from <http://www.lookup-web.de/philosophy/aboutus/index.html>
- Mack, G. (2002). Die Beurteilung professioneller Dolmetsch Leistungen, In J. Best & S. Kalina. (Hrsg.), *Übersetzen und Dolmetschen. Eine Orientierungshilfe* (p. 110-119). UTB 2329, Tübingen, Francke Verlag.
- Mark, G. & Cattaruzza, L. (1995). User surveys in simultaneous interpretation: a means of learning about quality and/or raising some reasonable doubts. In TOMMOLA, J. (Ed.), *Topics in interpreting research* (pp. 37-49). Turku: University of Turku.
- Massaro D. W. & Shlesinger, M. (1997). Information processing and a computational approach to the study of simultaneous interpretation. *Interpreting 1 (1/2)*, 13–53.
- Mellinger, C. D. (2019). Computer-assisted interpreting technologies and interpreter cognition: A product and process-oriented perspective. *Revista Tradumàtica. Tecnologies de la Traducció*, 17, 33–44. <https://doi.org/10.5565/rev/tradumatica.228>
- Mikkelsen, H., & Jourdenais, R. (Eds.) (2015). *The Routledge handbook of interpreting* (1st ed.). Routledge. <https://doi.org/10.4324/9781315745381>
- Moser-Mercer, B. (1992). Banking on terminology conference interpreters in the electronic age. *Meta*, 37(3), 507–522. <https://doi.org/10.7202/003634ar>
- Moser-Mercer, B. (1997). Beyond curiosity: Can interpreting research meet the challenge? In J. H. Danks, S. B. Fountain, M. K. McBeath & G. M. Shreve (Eds.), *Cognitive processes in translation and interpreting*. Thousand Oaks, CA: Sage Publishing, 176–195.
- Moser-Mercer, B. (2003). Remote interpreting: Assessment of human factors and performance parameters. *AIIIC Webzine*, Summer 2003.

https://aiic.org/document/516/AI-ICWebzine_Summer2003_3_MOSER_MERCER_Remote_interpreting_Assessment_of_human_factors_and_performance_parameters_Original.pdf

- Mouzourakis, P. (1996). Videoconferencing. Interpreting. *International Journal of Research and Practice in Interpreting*, 1(1), 21–38. <https://doi.org/10.1075/INTP.1.1.03MOU>
- O'Hagan, M. (2020). *The Routledge handbook of translation and technology* (p. 271). Routledge.
- Ortiz, L. E. S., & Cavallo, P. (2018). Computer-assisted interpreting tools (CAI) and options for automation with automatic speech recognition. *Tradterm*, 32, 9–31. <https://doi.org/10.11606/issn.2317-9511.v32i0p9-31>
- Paneth, E. (1957/2002). An Investigation into conference interpreting. In F. Pöchhacker, & M. Schlesinger (Eds.), *The interpreting studies reader*. New York: Routledge.
- Post-test glossary created within Interpreters' Help for the Post-test SI task (n.d.). Retrieved May 10, 2023, from <https://interpretershelp.com/users/sinemmuqla/glossaries/pre-test-post-test>
- Pöchhacker, F. (1994). *Simultandolmetschen als komplexes Handeln*. Tübingen: Günter Narr Verlag.
- Pöchhacker, F. (2001). Quality assessment in conference and community interpreting. *Meta*, 46(2), 410–425. <https://doi.org/10.7202/003847ar>
- Pöchhacker, F. (2004). *Introducing interpreting studies*, New York: Routledge.
- Prandi, B. (2017). *Designing a multimethod study on the use of CAI tools during simultaneous interpreting* [Conference presentation]. 39th Conference Translating and the Computer.
- Prandi, B. (2018). An exploratory study on CAI tools in simultaneous interpreting: Theoretical framework and stimulus validation. In C. Fantinuoli (Ed.), *Interpreting and technology* (pp. 29–59). Berlin: Language Science Press.
- Prandi, B. (2020). The use of CAI tools in interpreter training: where are we now and where do we go from here? In *TRAlinea Special Issue: Technology in interpreter education and practice*. <http://www.intralinea.org/specials/article/2512>.
- Practical guide for professional conference interpreters (n.d.). Aiic.org. Retrieved April 8, 2023, from https://aiic.org/document/547/AIICWebzine_Apr2004_2_Practical_guide_for_professional_conference_interpreters_EN.pdf
- Project INTELITERM (n.d.). Retrieved March 5, 2022, from <http://www.lexytrad.es>
- Project EXPERT (n.d.). Retrieved March 5, 2022, from <http://expert-itn.eu/>

- Rinne, J. O., Tommola, J., Laine, M., Krause, B. J., Schmidt, D., Kaasinen, V., Teräs, M., Sipilä, H. & Sunnari, M. (2000). The translating brain: Cerebral activation patterns during simultaneous interpreting. *Neuroscience Letters* 294, 85-88.
- Rodríguez N, Schnell B. (2009). A look at terminology adapted to the requirements of interpretation. *Language Update*, 6(1), 21-27.
- Rozan, J. F. (1956). *La prise de notes en interpretation consecutive*. Genève: Georg.
- Rütten, A. (2007). *Informations- und Wissensmanagement im Konferenzdolmetschen*. Frankfurt am Main: Peter Lang.
- Rütten, A. (2021). Why and in what sense do conference interpreters need special software? *Linguistica Antverpiensia, New Series – Themes in Translation Studies*, 3. <https://doi.org/10.52034/lanstts.v3i.110>.
- Sager, J. C. (1990). *A practical course in terminology processing*. Amsterdam: John Benjamins. DOI: 10.1075/z.44
- Seeber, K. G. (2007). Thinking outside the cube: Modeling language processing tasks in a multiple resource paradigm. *Interspeech 2007*, 1382–1385. <https://doi.org/10.21437/Interspeech.2007-21>
- Seeber, K. G. (2011). Cognitive load in simultaneous interpreting: Existing theories — new models. Interpreting. *International Journal of Research and Practice in Interpreting*, 13(2), 176–204. <https://doi.org/10.1075/intp.13.2.02see>
- Séleskovitch, D. 1998. *Interpreting for international conferences (3rd revised edition)*. Arlington, VA: Pen and Booth.
- Setton, R. (1999). *Simultaneous Interpretation: A cognitive-pragmatic analysis*, (Vol. 28) (p. 50). John Benjamins Publishing Company. <https://doi.org/10.1075/btl.28>.
- Setton, R., & Dawrant, A. (2016). *Conference interpreting – A trainer's guide*, (Vol. 121), 20-46. John Benjamins Publishing Company. <https://doi.org/10.1075/btl.121>
- Shlesinger, M. (1997). Quality in simultaneous interpreting. In Y. Gambier, D. Gile, & C. Taylor (Eds.), *Conference interpreting: Current trends in research* (pp. 123-131). Amsterdam: John Benjamins.
- Shreve, G. M. (2006). The deliberate practice: Translation and expertise. *Journal of Translation Studies*, 9(1), 27–42.
- Stoll, Christoph (2009). *Jenseits simultanfähiger Terminologiesysteme*. Trier: Wvt Wissenschaftlicher Verlag.
- Takeda, K., & Baigorri-Jalón, J. (Eds.) (2016). *New Insights in the history of Interpreting*, (Vol. 122). John Benjamins Publishing Company. <https://doi.org/10.1075/btl.122>
- Talaván Zanon, N. (2011). *A university handbook on terminology and specialized translation*. Netbiblo. <https://doi.org/10.4272/978-84-9745-929-7>

- Test glossary created within Interpreters' Help for the training (n.d.). Retrieved May 2, 2023, from <https://interpretershelp.com/users/sinemmuqla/glossaries/test>
- Treisman, A. (1965). The effects of redundancy and familiarity on translating and repeating back a foreign and a native language. *British Journal of Psychology* 56.
- Türkiye Konferans Tercümanları Derneği Genel Çalışma Koşulları ve Tarafların Sorumlulukları (n.d.). Retrieved 10 April, 2023, from Tktd.org. <https://www.tktd.org/tktd-calisma-kosullari/>
- Wadensjö, C. (1998). *Interpreting as interaction*, London and New York, Longman.
- What it takes (n.d.). Aiic.org. Retrieved April 5, 2023, from <https://aiic.org/site/world/conference/whatittakes>
- Wickens, C. D. (2002). Multiple resources and performance prediction. Theoretical Issues. *Ergonomics Science*, 3(2), 159–177. <https://doi.org/10.1080/14639220210123806>
- Will, M. (2015). Zur Eignung simultanfähiger Terminologiesysteme für das Konferenzdolmetschen. *Trans-kom*. https://www.trans-kom.eu/bd08nr01/trans-kom_08_01_09_Will_Konferenzdolmetschen.20150717.pdf
- Will, M. (2020). Computer aided interpreting (CAI) for conference interpreters. Concepts, content and prospects. *ESSACHESS, Journal for Communication Studies*, vol. 13, no 1(25) / 2020: 37-71 eISSN 1775-352X.
- Xu, R. (2015). *Terminology preparation for simultaneous interpreters* [Doctoral dissertation, University of Leeds].

APPENDIX 1

QUESTIONNAIRE

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I could understand the ideas in the speech correctly. Additional comments:					
2. I could interpret the terms in the speech correctly. Additional comments:					
3. I could make use of the glossary to interpret the terms used in the speech. Additional comments:					
4. The glossary that was provided to me was helpful during the interpreting task. Additional comments:					
5. The glossary made it harder for me to concentrate on the interpreting task. Additional comments:					

6. I could find the Turkish equivalents of all the terms that I searched in the glossary during interpreting. Additional comments:					
7. I used lexical strategies to cope with the challenges on the lexical level because it was difficult to use the glossary. Additional comments:					
8. I used the glossary all the time to cope with the challenges on the lexical level. Additional comments:					
9. I had to omit some of the terms in my interpretation since it took a long time for me to find their equivalents in the glossary. Additional comments:					
10. Additional comments that you may want to add regarding the glossary program that you used during the test:					

APPENDIX 2

PRE-TEST SPEECH

Distinguished participants,

Thank you for inviting me to speak today. My name is Emma. I am very pleased to be here. It is always a great pleasure to be in Turkey. It is so nice to see all of you here. Before we start, I 'd like to extend my gratitude to each and every one of you for being here. I hope this workshop will be beneficial for all of us.

Today, I will be talking about two technologies.

These technologies are used for generating electricity.

I'm not going to go into detail, but I will try to give you an overview.

The technologies that I will explain are used in **combustion plants**.

Well, of course, you may wonder what I really mean by a combustion plant.

So, before moving any further let me explain it simply, it basically generates electricity.

In such power plants the main source of energy is coal.

Now I will start with the first technology which we call **pulverized coal combustion**.

As you may understand from the name, this technology is about coal combustion.

Now, let us take a brief look at it to have a better understanding.

To put it simply, it starts with a process of breaking the coal into smaller pieces.

This process of breaking coal into smaller pieces is called **coal pulverization**.

Now, I will explain the reason why we use this process of coal pulverization.

The aim here is to increase the surface size of the coal by breaking it into smaller pieces.

When we increase the surface size of the coal, we are able to generate more energy.

This is because when the coal has a larger surface, it also has higher efficiency and this is called **thermal efficiency**.

Certainly, you may think that it is a good thing to have more thermal efficiency.

But actually, it is not that advantageous considering its' environmental impact.

This is because when we pulverize the coal, it causes more air pollution.

Therefore, an alternative technology has been developed which is called **fluidized bed combustion**.

As you may understand from the name, this technology makes use of a fluidized bed.

This system has a structure at the bottom, which looks like a real bed.

Basically, it helps solid fuels such as coal to behave like a liquid fuel.

When we use this system to burn coal, it doesn't produce a chemical which is called **slag**.

Normally, when coal burns, it finally produces slag.

But thanks to this new technology, now we are able to minimize pollution.

Now, let's take a brief look at the main parts of this technology.

First of all, this technology makes use of a device which is called a **boiler**.

Currently, there are only two different types of boilers.

The first one that I will tell you is used very commonly and it has a very long name.

The first boiler is called **bubbling fluidized bed boiler**.

If we have to use a solid fuel that is difficult to break, we will need a bubbling fluidized bed boiler.

This boiler can work effectively even if the fuel is difficult to break.

Now, let's take a look at the second boiler which is called **circulating fluidized bed boiler**.

If you are looking for a greener solution, the answer is a circulating fluidized bed boiler.

I am telling you this, because this boiler allows to use a specific technic.

This specific technic is called **limestone injection**.

As you may understand from the name, this technology is associated with limestone.

In this technique, water is mixed with limestone and then injected to the boiler.

As a result, the power plant releases less emissions to the air, thus it is more environmentally friendly.

Now, before going any further, I'd like to stop right here, because I want to give the floor over to my dear colleague.

APPENDIX 3

POST-TEST SPEECH

Thank you, my dear colleague. Hello everyone. Before I start, I'd like to thank you for inviting me to this workshop. It is a great pleasure for me to be here. I always enjoy sharing my knowledge and experience with my Turkish colleagues. Before moving on, I'd also like to once again thank you all for making this event possible.

Today, I will be talking about some techniques.

These techniques are used to reduce the emissions caused by electricity generation.

I'm not going to go into detail, but rather I will try to give you an overview.

First of all, we need to know that these techniques are mentioned in the **Large Combustion Plants Directive**.

Well, of course, you may wonder what I really mean by the Large Combustion Plants Directive.

Basically, it provides recommendations for the combustion plants.

In this directive, the main concern is to reduce air pollution resulting from combustion.

Now I will start with the first technique mentioned, which is **electrostatic precipitators**.

You may not know what it means but I will try to explain to you what I mean by electrostatic precipitators.

To put it simply, they are used to collect the dust that comes from combustion plants.

What we need to know is that this technique is not very effective/ when used alone.

Therefore, it needs to be combined with other techniques such as using a **baghouse**.

Now, I will explain why we need to combine the first technique with a baghouse.

To put it simply, we use it for collecting much smaller particles from the air.

A baghouse consists of/ different filter units.

These filter units help remove the dust from the **flue gas**.

Before moving on to the next technique, I need to clarify the meaning of the flue gas.

Basically, it is a mixture of different gases that are produced when fossil fuels such as coal are burned.

We also need to know that a typical flue gas contains some chemicals which lead to air pollution.

The third technique that I want to mention is using **wet scrubbers**.

Now, what I will tell you is a few words about the technique of using wet scrubbers.

This is one of the oldest techniques that has been used to control emissions.

Compared to the other two techniques that I have mentioned, this one is less costly.

Therefore, it is one of the most commonly used **best available techniques**.

Well, before moving any further I will tell you what I mean/ by the best available techniques.

First of all, they include all the techniques that can be used to minimize emissions.

These techniques can be used in power plants to reduce their environmental impact.

So far, we have seen some techniques that are used to reduce **particulate matter emissions**.

Now, you may wonder why people have invented several techniques to prevent these particulate matter emissions.

First of all, these emissions are so small in size that people can inhale them easily.

For this reason, they are the most harmful form of air pollution.

Second of all, these emissions are so dangerous that they have been classified as **carcinogens**.

Yes, my dear friends, they have been listed as carcinogens.

Unfortunately, particulate emissions are not the only source of worry.

This is because when fossil fuels are burned, they release other dangerous emissions, as well.

One of these dangerous emissions is **sulphur dioxide**.

As I said earlier, fossil fuel combustion is the main source of sulphur dioxide.

It is a toxic gas which affects all living organisms including humans, animals and plants.

That's why, European Union has recommended some techniques to prevent it, too.

And these techniques are called **Flue Gas Desulphurization Techniques**.

Now, I'd like to stop here. Before moving any further, we need give a 5-minute break.

Thank you for listening.

APPENDIX 4

PRE-TEST GLOSSARY IN EXCEL FORMAT

	A	B
1	EK-4: Ön test sırasında kullanılacak olan sözlükçe	
2	English	Turkish
3	Abolish	Lağvetmek
4	Abstain	Kaçınmak
5	Abundance	Bolluk
6	Agricultural Development Programme (ADP)	Tarımsal Kalkınma Programı (ADP)
7	Agricultural land	Tarımsal alan
8	Agro-environmental measures	Tarımsal çevresel tedbirler
9	Air contamination	Havanın kirlenmesi
10	Airborne	Hava yoluyla taşınan
11	Ambient air	Ortam havası
12	Animal welfare	Hayvan refahı
13	Background document	Destek belgesi
14	Baghouse	Torba filtre
15	Balance deficit	Bilanço açığı
16	Balance of current accounts	Cari işlemler dengesi
17	Balance of trade	Ticaret dengesi
18	Balance sheet	Bilanço
19	Ballot paper	Oy pusulası
20	Bankrupt	İflas etmiş
21	Bargaining power	Pazarlık gücü
22	Batch	Küme
23	Benchmark	Ölçü değer
24	Benefit-cost ratio	Fayda maliyet oranı
25	Best available techniques	Mevcut en iyi teknikler
26	Bilateral agreement	İki taraflı anlaşma
27	Bilateral agreement	İki taraflı anlaşma
28	Bilateral surveillance	Çift taraflı gözetim
29	Bill of exchange	Polçe
30	Bill of lading	Koşimento
31	Bio-availability	Biyo yararlanım
32	Biofuel	Biyoyakıt
33	Biological agent	Biyolojik ajan
34	Biological diversity	Biyo çeşitlilik
35	Blank ballot	Boş oy
36	Boiler	Kazan
37	Border post	Sınır karakolu
38	Bovine animal	Büyükbaş hayvan
39	Brand name	Ticari isim

39	Brand name	Ticari isim
40	Breathable gas	Solunabilir gaz
41	Breeder	Yetiştirici
42	Bribery	Rüşvetçilik
43	Broadcast	Yayın
44	Brokerage	Komisyonculuk
45	Browse	Tarama
46	Brucellosis	Malta humması
47	Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan
48	Budgetary equilibrium	Bütçe denkliliği
49	Buffer zone	Tampon bölge
50	Bulk cargo	Dökme mal
51	Burden sharing	Külfet paylaşımı
52	Cable diplomacy	Telefon diplomasisi
53	Call account	İhbarlı hesap
54	Capacity decrease	Kapasite düşüşü
55	Capital resource	Sermaye kaynağı
56	Carbon monoxide poisoning	Karbon monoksit zehirlenmesi
57	Carcinogenic potency	Kanserojenlik gücü
58	Carcinogens	Kanserojenler
59	Card blanche	Sınırsız yetki
60	Card issuer	Kart çıkaran
61	Cash against goods	Mal mukabili ödeme
62	Cause a damage	Hasar vermek
63	Ceasefire	Ateşkes
64	Censorship	Sansür
65	Central bank	Merkez bankası
66	Cereals	Hububat
67	Chemical fertilizer	Kimyevi gübre
68	Chemical waste	Kimyasal atık
69	Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan
70	Civil liability	Hukuki sorumluluk
71	Civil service	Amme görevi
72	Classes of undertakings	Teşebbüs türleri
73	Clearence of accounts	Hesapların ibrası
74	Clearing and settlement system	Takas ve ödemeler sistemi
75	Climate change	İklim değişikliği
76	Climatic conditions	İklim koşulları
77	Clinical superiority	Klinik üstünlük
78	Clutch	Debriyaj

79	Co-decision procedure	Ortak karar usulü
80	Coal pulverization	Kömür tozlaştırma
81	Coal site	Kömür sahası
82	Code of Civil Procedure	Hukuk Muhakemeleri Usulü Kanunu
83	Code of good practice	İyi uygulama kodu
84	Code of obligations	Borçlar Kanunu
85	Code of Penal Procedure	Ceza Muhakemeleri Kanunu
86	Codify	Tedvin etmek
87	Cogeneration	Eş üretim
88	Cohesion Fund	Uyum Fonu
89	Coin	Para basmak
90	Collateral bond	Munzam teminatlı tahvil
91	Combustion plant	Yakma tesisi
92	Composition	Oluşum
93	Compulsory arbitration	Zorunlu tahkim
94	Concomitantly	Birlikte
95	Customs Code	Gümrük Kodu
96	Defective goods	Ayıplı mallar
97	Defined benefit plan	Belirlenmiş katkı planı
98	Deforestation	Ormansızlaştırma
99	Demographic representativeness	Demografik temsil edilebilirlik
100	Dependant territory	Bağımlı toprak
101	Electricity from cogeneration	Eş üretim elektriği
102	Electrostatic precipitators	Elektrostatik filtreler
103	Energy Charter Treaty	Enerji Şartı Anlaşması
104	Energy efficiency	Enerji verimliliği
105	Engine performance	Motor performansı
106	Environmental impact	Çevresel etki
107	Environmental management	Çevresel yönetim programı
108	Exclusive economic zone	Münhasır ekonomik bölge
109	Farmer registrations	Çiftçi kayıtları
110	Feasibility report	Fizibilite raporu
111	Field work	Saha çalışması
112	Final draft	Nihai taslak
113	Flue gas	Baca gazı
114	Flue gas desulphurization techniques	Baca gazı arındırma teknikleri
115	Flued boiler	Silindirik kazan
116	Flueless	Bacasız
117	Fluency	Akıcılık
118	Fluency test	Akıcılık testi
119	Fluently	Akıcı bir şekilde
120	Fluey	Grip olma durumu

121	Flugelhorn	Trombet benzeri bir enstrüman
122	Flugelhornist	Trompet benzeri enstrümanı çalan kimse
123	Fluid	Sıvı
124	Fluidally	Akıcı bir şekilde
125	Fluidized bed combustion	Akışkan yataklı yakma
126	Food safety	Gıda güvenliği
127	Global warming	Küresel ısınma
128	Governance	Yönetişim
129	Green paper	Yeşil Kitap
130	Greenhouse	Sera
131	Greenhouse gas	Sera gazı
132	Ground water yield	Yeraltı suyu verimi
133	Group of the Greens	Yeşiller Grubu
134	Growth initiative	Gelişme girişimi
135	Guidelines	İlkeler
136	Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi
137	Law on pasture	Mera kanunu
138	Legislative act	Yasama işlemi
139	Legislative alignment	Mevzuat uyumu
140	Legislative initiative	Yasama inisiyatifi
141	Legislative procedure	Yasama usulü
142	Legislator	Kanun koyucu
143	Legitimacy deficit	Meşruiyet açığı
144	Lender of last resort	Borç veren son merci
145	Letter of attorney	Vekaletname
146	Level of return	Getiri seviyesi
147	Limestone injection	Kireç püskürtme
148	Limitation of noise emission	Gürültü emisyonlarının kısıtlanması
149	Limited liability	Sınırlı sorumluluk
150	Listing rules	Kotasyon kuralları
151	Litigate	Dava açmak
152	Livestock	Çiftlik hayvanları
153	Local administration	Mahalli idare
154	Lockout	Lokavt
155	Long steel production	Uzun çelik üretimi
156	Loophole	Eksiklik
157	Partial integration	Kısmi entegrasyon
158	Particulate matter emissions	Partikül madde emisyonları
159	Patent infringement suit	Patent ihlal davası
160	Paternity	Babalık
161	Payment of benefit	Yardım ödemesi
162	Permissible noise level	İzin verilebilir gürültü düzeyi

	A	B
163	Pharmaceutical preparation	Farmasötik müstahzar
164	Pollutant Release and Transfer Register	Avrupa Kirlenici Salınım ve Taşınım Kaydı
165	Polluter pays principle (PPP)	Kirleten Öder Prensibi
166	Pollution prevention	Kirliliğin önlenmesi
167	Poultry	Kümes hayvanları
168	Precautionary approach	İhtiyatlı yaklaşım
169	Pulverized coal combustion	Pulverize kömür yakma teknolojisi
170	Radiation protection	Radyasyondan korunma
171	Radioactive contamination	Radyoaktif kirlilik
172	Radioactive substance	Radyoaktif madde
173	Rate of yield	Verimlilik oranı
174	Refinery	Rafineri
175	Refining plant	Aritma tesisi
176	Regional investment	Bölgesel yatırım
177	Regulation	Düzenleme
178	Regulatory body	Düzenleyici kurum
179	Regulatory committee	Düzenleyici Komite
180	Slag	Cüruf
181	Slaughter house	Mezbaha
182	Soil products	Toprak ürünleri
183	Soil products	Toprak ürünleri
184	Solidarity	Dayanışma
185	Solvency requirement	Yükümlülük karşılama yeterliliği
186	Solvent	Ödeme gücü olan
187	Source material	Birincil kaynak
188	Source of finance	Finansman kaynağı
189	Source of verification	Doğrulama kaynağı
190	Sovereign base	Egemen üs
191	Sulphur dioxide	Sülfür dioksit
192	Summary description	Özet tanım
193	Summary statement	Özet Beyan
194	Summit meeting	Zirve toplantısı
195	Supply of land	Arazi arzı
196	Sustainable agriculture	Sürdürülebilir tarım
197	Sustainable agriculture	Sürdürülebilir tarım
198	Tagging of bovines	Büyükbaş hayvanların küpelenmesi
199	Tariff ceiling	Tarife tavanı
200	Technical barrier	Teknik engel
201	Temporary relief	Geçici muafiyet
202	Thermal efficiency	Isıl verimlilik
203	Thermal power plant	Termik santral
204	Trailer	Römork

199	Tariff ceiling	Tarife tavanı
200	Technical barrier	Teknik engel
201	Temporary relief	Geçici muafiyet
202	Thermal efficiency	Isıl verimlilik
203	Thermal power plant	Termik santral
204	Trailer	Römork
205	Transitional stage	Geçiş dönemi
206	Transport infrastructure	Taşıma altyapısı
207	Treatment facility	Arındırma tesisi
208	Warehouse	Ambar
209	Waste oil	Atık yağ
210	Waste recycle	Atık geri dönüşümü
211	Water collection basin	Su toplama havzası
212	Water pollution	Su kirliliği
213	Wet scrubbers	Islak yıkayıcılar
214	Wetland	Sulak alan
215	Wheat	Buğday
216	Working group	Çalışma grubu
217	World Bank	Dünya Bankası
218		
219		
220		

APPENDIX 5

POST-TEST GLOSSARY WITHIN INTERPRETERS' HELP

Glossary link: <https://interpretershelp.com/users/sinemmucla/glossaries/pre-test-post-test>

Sample Page

The screenshot shows a web browser window with the URL <https://interpretershelp.com/users/sinemmucla/glossaries/pre-test-post-test>. The page title is 'INTERPRETERS' HELP'. The user is logged in as 'sinemmucla' and is viewing the 'Pre-test-Post-test' glossary. The page has a search bar and a table with two columns: 'English' and 'Turkish'. The table contains 8 rows of glossary entries. The last modified date is 'Dec 4, 2022' and the glossary has '215 lines, 2 columns'.

English	Turkish	
Energy Charter Treaty	Enerji Şartı Anlaşması	03.12.2022 03.12.2022
Energy efficiency	Enerji verimliliği	03.12.2022 03.12.2022
Engine performance	Motor performansı	03.12.2022 03.12.2022
Environmental impact	Çevresel etki	03.12.2022 03.12.2022
Environmental management	Çevresel yönetim programı	03.12.2022 03.12.2022
Exclusive economic zone	Münhasır ekonomik bölge	03.12.2022 03.12.2022
Farmer registrations	Çiftçi kayıtları	03.12.2022 03.12.2022
Feasibility report	Fizibilite raporu	03.12.2022

APPENDIX 6

EXTRALINGUISTIC KNOWLEDGE TEST

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I am informed about a combustion plant.					
2. I can explain some of the available combustion technologies.					
3. I am informed about the Large Combustion Plant Directive.					
4. I can explain the Best Available Techniques (BATs) recommended for the combustion plants.					

APPENDIX 7

TERMINOLOGY TEST

The list of the terms used in the pre-test speech

Combustion plant	Yakma tesisi
Pulverized coal combustion	Pulverize kömür yakma teknolojisi
Coal pulverization	Kömür tozlaştırma
Thermal efficiency	Isıl verimlilik
Fluidized bed combustion	Akışkan yataklı yakma
Slag	Cüruf
Boiler	Kazan
Bubbling fluidized bed boiler	Köpüren akışkan yataklı kazan
Limestone injection	Kireç püskürtme
Circulating fluidized bed boiler	Dolaşımli akışkan yataklı kazan

The list of the terms used in the post-test speech

Large Combustion Plants Directive	Büyük Yakma Tesisleri Direktifi
Electrostatic precipitators	Elektrostatik filtreler
Baghouse	Torba filtre
Flue gas	Baca gazı
Wet scrubbers	Islak yıkayıcılar
Best available techniques	Mevcut En iyi Teknikler
Particulate matter emissions	Partikül emisyonları
Carcinogones	Kanserojenler
Sulphur dioxide	Sülfür Dioksit.
Flue gas desulphurization techniques	Baca gazı arındırma teknikleri

APPENDIX 8

RATING SCALE FOR SI PERFORMANCE ASSESMENT

RATING SCALES (BANDS)

CRITERIA (EXAMPLES)	BAND	EXTENT OF FAITHFUL DELIVERY OF MESSAGE	LISTENING ABILITY
Accuracy: - the quality of faithfully conveying the message of the speech with semantic and pragmatic equivalence i.e. reproducing the same meaning and intended effect - Deviations from the ST should be considered in terms of the effect on the coherence/logic and faithful rendering of the message - Examples of deviations: omissions, additions, and unjustifiable changes of the meaning	6	The message was delivered accurately with intended effect.	<i>Complete understanding of the message of the original speech</i>
	5	The message was generally delivered with intended effect but a few minor deviations from the source text were found, which did not significantly affect the overall meaning or coherence.	<i>Good understanding of the message of the original speech</i>
	4	The overall message was delivered but some deviations from the source text with an impact on the meaning and effect but coherence was maintained.	<i>Adequate understanding of the message of the original speech</i>
	3	The message was delivered inaccurately with many deviations from the source text and coherence was compromised.	<i>Inadequate understanding of the message of the original speech</i>
	2	The message was delivered inaccurately with serious deviations from the source text and incoherence.	<i>Poor understanding of the message of the original speech</i>
	1	The interpreted message was incoherent and completely inconsistent with the source text.	<i>Very limited understanding of the message of the original speech</i>
	0	Test abandoned/unfinished.	
	Mark	/6	
CRITERIA (EXAMPLES)	BAND	GRADUATION OF TARGET LANGUAGE PRODUCTION	TARGET LANGUAGE PROFICIENCY
TL Quality: - the quality of rendering in TL needs to be linguistically correct and appropriate in the context	6	Excellent target language production with few linguistic errors and appropriate target language expressions.	<i>Excellent language proficiency</i>
	5	Very good target language production with a few minor linguistic errors that do not hinder immediate target language comprehension and generally appropriate target language expressions.	<i>Very good language proficiency</i>

Examples of deviations from language norms : incorrect pronunciation, accent, and stress; incorrect grammar, unidiomatic language; interference from the source language; inappropriate language in the target culture and for the target audience (register misuse)	4	Good target language production with a few linguistic errors that may hinder immediate comprehension, but quite understandable. A few minor inappropriate target language expressions were found.	<i>Good language proficiency</i>
	3	Adequate target language production with some linguistic errors that hinder comprehension and some inappropriate target language expressions.	<i>Adequate language proficiency</i>
	2	Inadequate target language production with many linguistic errors and inappropriate target language expressions were consistently found.	<i>Inadequate language proficiency</i>
	1	Poor target language production with inappropriate target language expressions	<i>Poor language proficiency</i>
	0	Test abandoned/unfinished	
	Mark	/6	
CRITERIA (EXAMPLES)	BAND	EXTENT OF DELIVERY	PUBLIC SPEAKING ABILITY
Delivery: - quality of good public speaking - successful communication Examples of deviations: inarticulate speech, pauses, hesitation, false starts, fillers, irritating noise, repetition, excessive repairs or self-correction, unconvincing voice quality and monotonous intonation, & irritatingly slow speech rate	3	Excellent delivery with few deviations	<i>Excellent presentation/communication</i>
	2	Good delivery with a few deviations	<i>Good presentation/communication</i>
	1	Poor delivery with some deviations	<i>Poor presentation/communication</i>
	0	Test abandoned/unfinished	
	Mark	/3	
Total mark		/15	

APPENDIX 9

ETHICS BOARD APPROVAL FORM

	T.C. HACETTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ Rektörlük	Tarih: 05/04/2023 14:42 Sayı: E-35853172-300-00002780957  00002780957		
Sayı : E-35853172-300-00002780957 5.04.2023 Konu : Sevim Sinem BÖYÜKBAŞ Hk. (Etik Komisyon İzni)				
SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE				
İlgi : 16.03.2023 tarihli ve E-12908312-300-00002749164 sayılı yazınız. Enstitünüz Mütercim Tercümanlık Anabilim Dalı İngilizce Mütercim Tercümanlık Yüksek Lisans Programı öğrencilerinden Sevim Sinem BÖYÜKBAŞ'ın Prof. Dr. Aymil DOĞAN danışmanlığında hazırladığı "Bilgisayar Destekli Sözlü Çeviri Aracının Andaş Çeviri Performansına Etkisi" başlıklı tez çalışması, Üniversitemiz Senatosu Etik Komisyonunun 28 Mart 2023 tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur. Bilgilerinizi ve gereğini rica ederim.				
Prof. Dr. Sibel AKSU YILDIRIM Rektör Yardımcısı				
Bu belge güvenli elektronik imza ile imzalanmıştır.				
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> Belge Doğrulama Kodu: EE24B5D0-0805-4F1F-90FB-1D65CF2D69AC Adres: Hacettepe Üniversitesi Rektörlük 06100 Sıhhiye-Ankara E-posta: yazim@hacettepe.edu.tr İnternet Adresi: www.hacettepe.edu.tr Elektronik Ağ: www.hacettepe.edu.tr Telefon: 0 (312) 305 3001-3002 Faks: 0 (312) 311 9992 Kp: hacettepeuniversitesi@hs01.kep.tr </td> <td style="width: 50%; text-align: right;"> Belge Doğrulama Adresi: https://www.turkiye.gov.tr/hs-cbys Bilgi için: Duygu Didem İLERİ Bilgisayar İşletmeni Telefon: . </td> </tr> </table>			Belge Doğrulama Kodu: EE24B5D0-0805-4F1F-90FB-1D65CF2D69AC Adres: Hacettepe Üniversitesi Rektörlük 06100 Sıhhiye-Ankara E-posta: yazim@hacettepe.edu.tr İnternet Adresi: www.hacettepe.edu.tr Elektronik Ağ: www.hacettepe.edu.tr Telefon: 0 (312) 305 3001-3002 Faks: 0 (312) 311 9992 Kp: hacettepeuniversitesi@hs01.kep.tr	Belge Doğrulama Adresi: https://www.turkiye.gov.tr/hs-cbys Bilgi için: Duygu Didem İLERİ Bilgisayar İşletmeni Telefon: .
Belge Doğrulama Kodu: EE24B5D0-0805-4F1F-90FB-1D65CF2D69AC Adres: Hacettepe Üniversitesi Rektörlük 06100 Sıhhiye-Ankara E-posta: yazim@hacettepe.edu.tr İnternet Adresi: www.hacettepe.edu.tr Elektronik Ağ: www.hacettepe.edu.tr Telefon: 0 (312) 305 3001-3002 Faks: 0 (312) 311 9992 Kp: hacettepeuniversitesi@hs01.kep.tr	Belge Doğrulama Adresi: https://www.turkiye.gov.tr/hs-cbys Bilgi için: Duygu Didem İLERİ Bilgisayar İşletmeni Telefon: .			
				

APPENDIX 10

ORIGINALITY REPORT

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ YÜKSEK LİSANS TEZ ÇALIŞMASI ORJİNALLİK RAPORU
HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ MÜTERCİM TERCÜMANLIK ANABİLİM DALI BAŞKANLIĞI'NA	
Tarih: 04/05/2023	
Tez Başlığı: BİLGİSAYAR DESTEKLİ SÖZLÜ ÇEVİRİ ARACININ ANDAŞ ÇEVİRİ PERFORMANSINA ETKİSİ Yukarıda başlığı gösterilen tez çalışmamın a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 160 sayfalık kısmına ilişkin, 04/05/2023 tarihinde şahsım/tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı %9. 'dur. Uygulanan filtrelemeler: 1- ☒ Kabul/Onay ve Bildirim sayfaları hariç 2- ☒ Kaynakça hariç 3- ☒ Alıntılar hariç 4- ☐ Alıntılar dâhil 5- ☒ 5 kelimeden daha az örtüşme içeren metin kısımları hariç Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim. Gereğini saygılarımla arz ederim.	
Tarih ve İmza 04.05.2023	
Adı Soyadı: Sevim Sinem Büyükbaş Öğrenci No: N20130978 Anabilim Dalı: Mütercim Tercümanlık Programı: İngilizce Mütercim Tercümanlık Yüksek Lisans	
<u>DANIŞMAN ONAYI</u> UYGUNDUR. _____	



**HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
MASTER'S THESIS ORIGINALITY REPORT**

**HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
TRANSLATION AND INTERPRETATION DEPARTMENT**

Date: 04/05/2023

Thesis Title: EFFECT OF COMPUTER ASSISTED INTERPRETING TOOL ON SIMULTANEOUS INTERPRETING PERFORMANCE

According to the originality report obtained by myself/my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 04/05/2023 for the total of 160 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled as above, the similarity index of my thesis is 9%.

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I declare that I have carefully read Hacettepe University Graduate School of Social Sciences Guidelines for Obtaining and Using Thesis Originality Reports; that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

I respectfully submit this for approval.

Date and Signature
04.05.2023

Name Surname: Sevim Sinem Büyükbaş

Student No: N20130978

Department: Translation and Interpretation

Program: English Translation and Interpretation Master of Arts

ADVISOR APPROVAL

APPROVED.
