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Knowledge Complementarity in Simultaneous Interpreting

Simultane Çeviride Bilginin Bütünleyiciliği

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Abstract: Simultaneous interpreting is initially based on verbal discourse which requires both linguistic and extralinguistic knowledge. Despite the categorization of two different knowledge types, linguistic and extralinguistic knowledge are two inter-dependable and complementary factors. It is possible for interpreters to overcome the lack of linguistic and/or subject knowledge through this natural complementarity to some extent. However, encountering some unknown words or subjects may hamper the comprehension stage and reduce the interpreting quality, particularly among student interpreters. To investigate the complementarity between linguistic and extralinguistic knowledge in simultaneous interpreting, a single group pretest/posttest research design was used in this study. The participants of the study, sixteen interpreting students, interpreted two different technical speeches, one involving unknown words and the other one delivered on an unfamiliar subject. Following the pre-test, training was offered to all participants on natural knowledge complementarity and the effect of the training was investigated with a post-test. The results of the study indicate that, prior to the training on the complementarity, the participants were capable of complementing the lack of linguistic knowledge with extralinguistic knowledge, yet not vice versa. The training offered helped participants to equally complement their lack of knowledge. The statistical data obtained in this study indicate that practices on complementarity between linguistic and extralinguistic knowledge should be applied in interpreter training along with terminology/word knowledge and subject knowledge practices.

Structured Abstract: It is aimed to analyze to what extent the natural complementarity between linguistic and extralinguistic knowledge contributes to a quality simultaneous interpreting performance with a sample of technical speeches in this research. To this end, the research was conducted with a sample of two technical speeches with the purpose of offering a more clear-cut distinction between linguistic and extralinguistic knowledge types. Accordingly, the following research questions will be dwelled upon;

- How can the complementarity between linguistic and extralinguistic knowledge be achieved during simultaneous interpreting?
- How far can training on the knowledge complementarity contribute to the interpreting performances of prospective interpreters?

Despite the research touching upon the importance of both knowledge types in translation and interpreting (Gile, 1995; Kościółkowska-Okońska, 2012; Wu, 1994), studies shedding light on how the lack of such knowledge affects interpreting quality or how it can be compensated are limited. Besides, few empirical studies on this topic are more related to the single effect of extralinguistic or linguistic knowledge than the complementarity relationship. On the other hand, no type of knowledge emerges in isolation, the lack of

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linguistic knowledge in a particular speech can be compensated by broad extralinguistic knowledge or vice versa. In this sense, it goes without saying that the better comprehension and reproduction quality in speech comprehension is closely associated with higher complementarity between two types of knowledge. What happens if the time to complement the lack of one knowledge type with the other one is very limited, *a fortiori*, absent during a speech comprehension activity which requires speech production at the same time? Simultaneous interpreting, as a challenging speech comprehension and production activity conducted with a time constraint, may set a viable example to investigate this natural complementarity. Likewise, an awareness to be raised particularly among prospective interpreters to this end will contribute to the quality of their interpreting performances.

The research on the effect of linguistic and extralinguistic knowledge on SI performance is limited particularly to the scope of advance preparation. In one of the earliest master theses on interpreting, contextual and translation aspects of simultaneous interpreting were researched by Anderson (1979). In this study, it was aimed to analyze linguistic and extralinguistic effects on the interpretation of a message through the sample of twelve professional interpreters. The experiment was conducted under three different test conditions. In the first condition, the complete text of the speech beforehand and in the second condition, a summary of the speech were given to the participants. In the third condition, interpreters were not provided with any prior information before the interpreting task. The findings show no significant difference between these experimental conditions (Anderson, 1979:30) and interpreting performance was not positively affected by prior access of interpreters to linguistic knowledge. Furthermore, no significant difference was found interpreting with a general idea of the speech and with the complete text of the speech prior to the interpreting task. Similar to Anderson's (1979) study, two other studies were conducted by Lamberger-Felber and Alonso Bacigalupe (cited by Gile, 2001). No significant effect of previous availability of the speech texts was found on the quality of interpreting performance. In this regard, Gile (2005:168) reports that the studies of Lamberger-Felber and Anderson could not detect the general effect of extralinguistic knowledge on interpreting performance. He suggests more studies should be carried out to reach a conclusion about the effect of extralinguistic knowledge. The effect of advance preparation on SI performances of professional and student interpreters was also investigated by Díaz-Galaz et al. (2015). In this study, two research groups were formed. Preparation materials regarding the interpreting task were given to the first group half an hour before while the other group received no preparation material or opportunity prior to the interpreting task. Unlike the findings presented in the studies Anderson (1979), Lamberger-Felber and Alonso Bacigalupe, Díaz-Galaz et al. (2015) detected a significant difference between two groups in favor of the group that could prepare for the interpreting beforehand (as cited by Gile, 2001). The dearth of studies on the topic indicates the need for more research to scientifically prove the importance of linguistic and extralinguistic knowledge on simultaneous interpreting. In addition, to the knowledge of the researcher, no study has been conducted to examine the role of knowledge complementarity in simultaneous interpreting so far.

The research design of the study is one group pretest-posttest design. Simultaneous interpreting performance of the participants is the dependent variable of the research and linguistic knowledge and extralinguistic knowledge of the participants are the independent variables. The research group consists of 16 students from the Department of Translation and Interpretation at a state university in Turkey. All the participants voluntarily wanted to take part in the experiment. Following the pre-test, training activities were initiated one week later. The participants were exposed to the training once a week for three subsequent weeks. At the end of the training procedure, a post-test was administered.

The pre-test findings of the study showed that the participants performed significantly higher in the interpreting of speech involving unknown words than the speech delivered on an unfamiliar subject. Accordingly, it can be suggested that the lack of linguistic knowledge of the students was successfully complemented by their extralinguistic knowledge. On the other hand, the same finding cannot be reported regarding the lack of extralinguistic knowledge. The comparatively lower scores obtained from the speech involving delivered on an unfamiliar subject indicate that the participants were not successful in complementing their lack of extralinguistic knowledge with their linguistic knowledge. However, the training was found effective on the interpreting performances of the students. In both group speeches, a significant difference was found between the pre-test and the post-test scores of the participants in favor of the post-test performance. These results indicate that the training offered to the participants on complementarity was efficient. This result is believed to set an example to further training activities applied in interpreting training, particularly on knowledge complementarity. Based on the findings of the research, training programs on

simultaneous interpreting are suggested to touch upon linguistic knowledge and extralinguistic knowledge at the same time during practices. Despite the frequent emphasis on the importance of both linguistic knowledge and extralinguistic knowledge, interpreting students should also be instructed about the knowledge complementarity. The application of the training method applied in this study is believed to contribute to the performances of the students.

Keywords: interpreting studies, interpreter training, linguistic knowledge, extralinguistic knowledge, simultaneous interpreting, subject knowledge, word knowledge

Öz: Simultane çeviri öncelikli olarak hem dilsel hem de dil dışı bilgiyi gerektiren sözlü anlatıma dayanmaktadır. İki farklı bilgi türü olarak sınıflandırmalarına karşın, dilsel ve dil dışı bilgi birbirine bağlı ve birbirini doğal olarak tamamlayan etmenlerdir. Bu doğal bütünlüçilik sayesinde, sözlü çevirmenler dilsel veya dil dışı bilgi eksikliğini diğer bilgi türü ile belirli ölçüde telafi edebilir. Ancak, çevrilecek konuşmada bazı bilinmeyen kelime ya da konularla karşılaşmak, özellikle sözlü çevirmen adayları öğrencilerde anlama sürecini sekteye uğratarak çeviri kalitesini düşürebilmektedir. Simultane çeviride dilsel ve dil dışı bilgi arasındaki bütünlüçiliği incelemek amacıyla, bu çalışmada tek gruplu öntest/sontest araştırma yöntemi uygulanmıştır. Çalışmanın örneklemini oluşturan on altı sözlü çeviri öğrencisi iki farklı teknik konuşmayı çevirmiştir. Konuşmalardan biri çok sayıda bilinmeyen kelime içerirken, diğer konuşma öğrencilerin aşına olmadığı bir konuda yapılmıştır. Öntestten ardından, tüm katılımcılara söz konusu bilgi bütünlüçiliği ile ilgili eğitim verilmiş ve bu eğitimin ardından sontest uygulanmıştır. Çalışmanın sonuçlarına göre, öntest sırasında katılımcılar dilsel bilgi eksikliklerini dil dışı bilgileriyle tamamlayabilmiş, ancak dil dışı bilgi eksikliklerini dilsel bilgi ile tamamlayamamıştır. Verilen eğitim sonunda ise, katılımcılar her iki bilgi türünü de eşit biçimde tamamlayabilmiştir. Bu çalışmada elde edilen istatistik veriler, sözlü çeviri eğitiminde terminoloji/kelime bilgisi ve alan bilgisi çalışmalarının yanı sıra, dilsel ve dil dışı bilgi arasındaki doğal bütünlüçilik konusunda da çalışmalar yapılması gerektiğini göstermektedir.

Anahtar Kelimeler: Sözlü çeviri çalışmaları, sözlü çevirmen eğitimi, dilsel bilgi, dil dışı bilgi, simultane çeviri, alan bilgisi, sözcük bilgisi

Introduction

The perception of interpreting as a structural process through which language transmission is made with structural concerns is now old fashioned in today's interpreting studies. Back in the 1950s and 1960s, interpreting was viewed primarily as a "linguistic transfer process" (Pöchhacker, 2013: 62-63). Psycholinguistic and social dimensions of interpreting started to be taken into consideration only in the early 1980s. Seleskovitch's interpretive theory, known as *théorie du sens*, was among the earliest theories which moved translation beyond the linguistic approach. In this theory, Seleskovitch (1977: 28) defined interpreting as a "conversion from the source language to sense" rather than a linguistic meaning. In this theory, which emphasized the importance of context, the main focus was on possible plural meanings associated with a single linguistic unit. The sense at this point is disyoked from the lexical and grammatical meaning of linguistic units (Lederer, 2003: 11). Instead, the sense is perceived as a phenomenon comprehended by the interpreter after the words disappear.

In the practical world of interpreting, on the other hand, early trainees seem to be stuck with the linguistic concerns. Training of interpreters at an undergraduate level still focuses on second language acquisition or foreign language improvement at least. In this sense, the importance of broad foreign vocabulary and terminology in specific areas is widely emphasized throughout education. Likewise, interpreter trainers give priority to the teaching of expansive vocabulary for prospective interpreters. What I observe in interpreting courses I assisted and taught at the undergraduate level is the timidity of the students upon encountering unknown words during interpreting. In my personal opinion, the constant and felicitous emphasis on linguistic knowledge, as the primary prerequisite of meaning transfer, during both translation and interpreting courses leads to a false perception among students. Particularly at the beginning of interpreting training, students seem to believe that they

cannot accurately interpret a text involving some degree of unknown words. In such cases, they tend to omit the whole sentence or even paragraphs by promising to study more on terminology before going any further with the interpreting practice. The pressure and stress on students are even higher in simultaneous interpreting, in which time constraint poses the biggest threat to the cognitive load capacity and quality. Simultaneous interpreters cannot completely depend on the use of equipment such as dictionaries or methods such as note-taking as in written translation and consecutive interpreting practices. Instead, they need to turn to long years of training, experience, and practice, which is fundamentally referred to as cognitive baggage. What is ignored by students and overlooked by trainers is the fact that the knowledge needed by a simultaneous interpreter consists of both linguistic and extralinguistic knowledge.

A good variety of studies in the literature of interpreting studies mention the significance of extralinguistic knowledge. Despite different concepts used to define extralinguistic knowledge, there is a consensus on its importance in achieving a quality SI performance. On the other hand, there are also opposing ideas about which type of knowledge should be prioritized during conference preparation and training. One of these views is in favor of terminological preparation based on the assumption that extralinguistic knowledge can be acquired as ad hoc knowledge in the conference environment (Gile, 2001:146)

Despite the research touching upon the importance of both knowledge types in translation and interpreting (Gile, 1995; Kościółkowska-Okońska, 2012; Wu, 1994), studies shedding light on how the lack of such knowledge affects interpreting quality or how it can be compensated are limited. Besides, few empirical studies on this topic are more related to the single effect of extralinguistic or linguistic knowledge than the complementarity relationship. On the other hand, no type of knowledge emerges in isolation, the lack of linguistic knowledge in a particular speech can be compensated by broad extralinguistic knowledge or vice versa. In this sense, it goes without saying that the better comprehension and reproduction quality in speech comprehension is closely associated with higher complementarity between two types of knowledge. What happens if the time to complement the lack of one knowledge type with the other one is very limited, *a fortiori*, absent during a speech comprehension activity which requires speech production at the same time? Simultaneous interpreting, as a challenging speech comprehension and production activity conducted with a time constraint, may set a viable example to investigate this natural complementarity. Likewise, an awareness to be raised particularly among prospective interpreters to this end will contribute to the quality of their interpreting performances.

In this regard, it is aimed to analyze to what extent the natural complementarity between linguistic and extralinguistic knowledge contributes to a quality simultaneous interpreting performance with a sample of technical speeches in this research. As the scope of the study is confined only to the complementarity between linguistic and extralinguistic knowledge, subject areas such as law and economics, which require phraseology knowledge were excluded. In this sense, the research was conducted with a sample of two technical speeches with the purpose of offering a more clear-cut distinction between linguistic and extralinguistic knowledge types.

To this end, the following research questions will be dwelled upon;

- How can the complementarity between linguistic and extralinguistic knowledge be achieved during simultaneous interpreting?
- How far can training on the knowledge complementarity contribute to the interpreting performances of prospective interpreters?

Literature Review

How knowledge affects our comprehension of language has been extensively studied in the field of linguistics, particularly second language acquisition. In these studies, it can be observed that

terms such as ‘word knowledge’ (Hagoort et al. (2004), ‘semantic knowledge’ (Dascal, 2003), ‘language knowledge’ (Dudschig et al., 2016) are used interchangeably to define linguistic knowledge while ‘world knowledge’ (Dudschig et al., 2016; Martin et al., 2016; Gile, 1995), ‘encyclopedic knowledge’ (Setton, 1999) and ‘non-linguistic knowledge’ (Dudschig et al., 2016; Setton, 1999) are used to define extralinguistic knowledge. To better conceptualize these terms, ‘linguistic knowledge’ is defined as the knowledge obtained from previous experiences with language while ‘extralinguistic knowledge’ is defined as the knowledge obtained from previous experiences with the world. The research carried out in the fields of speech comprehension and production, language use, cognitive aspects of language and second language acquisition have already focused on finding out what extent each of these knowledge types affects the cognitive process of the human mind during the comprehension stage. These studies highlight the distinction between linguistic and extralinguistic knowledge.

The ongoing debate regarding sentence comprehension puts forth two different processes, being one-step or two-step. The former refers to the integration of both linguistic and extralinguistic knowledge at the same time during sentence comprehension while the latter refers to the priority of language knowledge followed by non-linguistic knowledge later on (Dudschig et al., 2016). One key study in this field was conducted by Hagoort et al. (2004). In this study, it was investigated whether the human brain differentiates its reaction by world knowledge or word knowledge violations. The participants of the research read sentences offered in three different versions and electroencephalogram and functional magnetic resonance imaging techniques were used to record their brain activities meanwhile. Among the three versions, two of which had semantic and world-knowledge violations, the only one sentence was accurate. The brain activities of the participants showed that the human brain integrates word and world knowledge simultaneously (Hagoort et al., 2004: 440).

In another study, Dudschig et al. (2016) use EEG recording to reveal how linguistic and nonlinguistic violations are processed during sentence comprehension of the sentence. In this study, 40 sentences were semantically violated and 40 sentences were also world knowledge violated. Participants were asked to react if the sentences are correct by pushing the button in front of them. In parallel with the results of the Hagoort et al.’s (2004) research, no clear-cut difference was found between reactions of the participants to semantic violations and world knowledge violations in sentences (Dudschig et al., 2016: 48).

These are examples of research conducted on native language speakers. However, sentence comprehension in a foreign language is known to differ from native language comprehension (Martin et al., 2016: 207). A similar sentence violation method was used by Martin et al. (2016) on L2 readers. The research group consisted of eighteen Spanish-English bilinguals who started to learn English as L2 at school age. The results of this study showed the simultaneous integration of word and world knowledge in second language comprehension as well.

In the literature of translation studies, Kim (2006) conducted one of the few studies on the use of extralinguistic knowledge in translation. The study mainly focused on the question of how extralinguistic knowledge contributes to the translator's inference for the comprehension of a source text. To this end, translations of the participants from L2 to L1, a questionnaire, and a think-aloud study were used to collect data from professional translators, translation students and language learners who did not receive any translation course. At the end of this research, extralinguistic knowledge was found to be effective in achieving a higher quality translation. Another finding of the study revealed that neither better language proficiency nor more experience in translation ensured a better quality translation, but a better expert or specialized background knowledge had the utmost effect (Kim, 2006: 297).

The research on the effect of linguistic and extralinguistic knowledge on SI performance is limited particularly to the scope of advance preparation. In one of the earliest master theses on interpreting, contextual and translation aspects of simultaneous interpreting were researched by Anderson (1979). In this study, it was aimed to analyze linguistic and extralinguistic effects on the interpretation of a message through the sample of twelve professional interpreters. The experiment was conducted under three different test conditions. In the first condition, the complete text of the speech beforehand and in the second condition, a summary of the speech were given to the participants. In the third condition, interpreters were not provided with any prior information before the interpreting task. The findings show no significant difference -between these experimental conditions (p.30) and interpreting performance was not positively affected by prior access of interpreters to linguistic knowledge. Furthermore, no significant difference was found interpreting with a general idea of the speech and with the complete text of the speech prior to the interpreting task. The fact that the texts used in this particular study were not technical enough to test the effect of extralinguistic knowledge might have caused this finding which does not offer a clear-cut result (Gile, 2001: 147). Similar to Anderson's (1979) study, two other studies were conducted by Lamberger-Felber and Alonso Bacigalupe (cited by Gile, 2001). No significant effect of previous availability of the speech texts was found on the quality of interpreting performance. In this regard, Gile (2005: 168) reports that the studies of Lamberger-Felber and Anderson could not detect the general effect of extralinguistic knowledge on interpreting performance. He suggests more studies should be carried out to reach a conclusion about the effect of extralinguistic knowledge.

The effect of advance preparation on SI performances of professional and student interpreters was also investigated by Díaz-Galaz et al. (2015). In this study, two research groups were formed. Preparation materials regarding the interpreting task were given to the first group half an hour before while the other group received no preparation material or opportunity prior to the interpreting task. Unlike the findings presented in the studies Anderson (1979), Lamberger-Felber and Alonso Bacigalupe, Díaz-Galaz et al. (2015) detected a significant difference between two groups in favor of the group that could prepare for the interpreting beforehand (as cited by Gile, 2001). Since the research group in this study could touch upon linguistic and extralinguistic knowledge of the speech and topic prior to interpreting task, it can be suggested that this study also underlines the positive contribution of linguistic and knowledge to a quality SI Performance.

The dearth of studies on the topic indicates the need for more research to scientifically prove the importance of linguistic and extralinguistic knowledge on simultaneous interpreting. In addition, to the knowledge of the researcher, no study has been conducted to examine the role of knowledge complementarity in simultaneous interpreting so far.

Methods

The research design of the study is one group pretest-posttest design. Simultaneous interpreting performance of the participants is the dependent variable of the research and linguistic knowledge and extralinguistic knowledge of the participants are the independent variables.

The content validity of the texts of the speeches to be interpreted by the participants was ensured by expert opinion. Experts were professional interpreters and academicians who have experience in both interpreting and teaching. SPSS 23.0 was used to detect the reliability of the experiment texts via Cronbach's Alpha. Accordingly, the reliability of the speech texts was detected to be statistically high (0.92 for the first and 0.95 for the second speech text).

The effect of the variables in question on interpreting was tested to administer the effectiveness of the study as well as to foresee the shortcomings of the main study with a pilot test that was applied prior to the main test. Participants of the pilot test were 10 final year students enrolled in the Department of Translation and Interpretation at a private university in the fall semester

of the 2016-2017 academic year. Participants' feedbacks and performance evaluation guided the researcher to shorten the speeches and re-record them at a slower pace for the main test.

Data Collection Tools

Vocabulary Test and Extralinguistic Knowledge Test were prepared by the researcher and applied prior to the main experiment to test the knowledge of the participants regarding the speech vocabulary and content. Accordingly, the speech text titled Touch-Screen Technologies (Tw) was found to include linguistic units unknown to the participants. The second text titled Continuous Processing (Ts) was found not to include any unknown linguistic units, yet it was delivered on a subject unfamiliar to the participants.

The participants interpreted these speeches from English (B language) to Turkish (mother tongue of the participants in the conference interpreting laboratory). Each speech text was pre-recorded by the researcher in a sound-proof environment at normal reading speed. The first speech lasted for 3.31 minutes and the second speech lasted for 3.40 minutes on average. The participants were given a ten-minute break following the end of the first speech.

Participants

The research group consists of 16 students, 5 postgraduate and 11 undergraduate, in the English Division of the Department of Translation and Interpretation at a state university in Turkey in the spring semester of the 2016-2017 academic year. All the participants voluntarily wanted to take part in the experiment. The undergraduate students had been found successful in the Aptitude Test for Interpreting held at the beginning of the spring semester in the 2015-2016 academic year. Other criteria for the selection of the participants was the successful completion of consecutive interpreting course, and to be actively enrolled in the course simultaneous interpreting course at the time of the study. The academic and linguistic levels of the participants were found to be equal in the simultaneous interpreting test administered by the professor of both graduate and undergraduate interpreting courses at the beginning of the semester.

Training Procedure

Following the pre-test, training activities were initiated one week later. The participants were exposed to the training once a week for three subsequent weeks. At the very beginning of the training procedure, the participants were instructed theoretically about three main stages of simultaneous interpreting (comprehension, deverbalization, and reformulation) within the scope of the Effort Model (Gile, 1995), Massaro's Model (1975), and the natural knowledge complementarity. The short theoretical part of the training was followed by practice. Two speech texts were prepared by the researcher to illustrate the impact of unknown linguistic units on an unknown subject. One of these texts was about a popular social media application and it included many unknown words to the participants who were asked to interpret it simultaneously. It was observed that all the participants interpreted the speech easily. At the end of the interpreting, the students suggested that they did not find the text challenging despite the unknown words because they were already informed about the application, its specifications, and usage elaborated in the speech. The exact equivalence for most of the unknown words was found by most of the participants. This practice aimed to show the participants that they can easily compensate for the lack of linguistic knowledge if they have a relatively good subject knowledge on the topic of the speech delivered.

In the following week, six other speech texts were used. The first three texts were prepared from subjects that were familiar to the participants. However, these texts included many unknown linguistic units. The other three texts included all well-known linguistic units with simplified grammar use. Yet, the participants were unfamiliar to the subjects of these texts. These practices were prepared based on Gile's (1995:90-95) teaching model which aims to raise awareness of students towards the challenging parts of the speeches and offers suggestions on how these

challenges can be overcome through knowledge complementarity. The participants were provided with detailed feedback at the end of each simultaneous interpreting performance. While giving feedback, the researcher offered specific examples of knowledge complementarity extracted from the voice records of the students. Discussions sessions were held with the students to reflect on possible strategies that could have been applied to overcome the problems that might have arisen from lack of linguistic and/or extralinguistic knowledge.

In the final week of the training, two different speech texts were used as a follow-up test with purpose of observing the effect of this training on the simultaneous interpreting performances of the participants. The simultaneous interpreting performances of the participants were recorded and scored as a follow-up test.

Following the training procedure, a post-test was applied. The post-test included the identical texts used in the pre-test. This application is assumed to have no or minimum interfering effect on the performances of the students for the following reasons; the participants received no feedback on their simultaneous interpreting performances on the pre-test texts, the interval between the pre-test and post-test is believed to be long enough so that the participants cannot possibly remember the particular information mentioned in the texts and the pre-test texts were not used or mentioned again up until the application of the post-test. It is aimed to measure whether the complementarity between linguistic knowledge and extralinguistic knowledge could be successfully used by the participants to overcome their lack of knowledge during SI pursuant to the three-week training. The change between the pre-test, follow-up test and post-test performances of the participants is presented in tables (see Table 1, Table 2 and Table 3) and charts (see Chart 1 and Chart 2) below.

Performance Evaluation

With the aim of ensuring an objective and systematic assessment and scoring of the SI performances of the participants, Lee's (2008:169) rating scale was used in this study. The scale consists of three main criteria in interpreting quality; accuracy, target language quality, and delivery. In the first two criteria, the scoring grade is from 0 to 6 and in the delivery criterion, it is from 0 to 3. In order to score each of these three criteria easily, each sentence of the interpreting speeches used in this research was divided into 30 sentences. The total simultaneous interpreting performance score of the participants was the summation of the scores obtained from each criterion specified in the rating scale.

Data Analysis

SPSS 23.0 was used for all statistical analysis of the data obtained in the study. Kolmogorov Smirnov (K-S) Test was conducted to test the normality of the scores given to the simultaneous interpreting performances of the participants according to Lee's (2008) rating scale. As the result showed the normal distribution of the data, Paired-Sample T-Test among parametric tests, was applied to measure standard deviation, mean and *p*-values. Differences between both the speech including unknown words (Tw) and the text of the speech delivered on an unfamiliar subject (Ts) and between pre-test and post-test results, a t-test was administered

Results

Pre-test results of the interpreting performances of the participants on two technical speech texts are presented in Table 1.

Table 1: Pre-Test Results of the Performances on Tw and Ts

	Text Type	N	Mean	Std.deviation	t	p
Paired Samples T-Test	Tw	16	320.31	79.35	6.78	.001
	Ts	16	211.88	61.27		

Tw: The text of the speech involving unknown words

Ts : The text of the speech delivered on a familiar subject

Table 1 presents that the mean score obtained from the interpreting performances of the participants is 320.31 on Tw and 211.88 on Ts. The paired samples correlation found for the performances on two different speeches in the technical subject area is .61 and the p-value is 0.001. A statistically significant difference is demonstrated between Tw and Ts scores in favor of Tw ($p=0.00 < 0.05$).

Accordingly, the participants performed significantly higher in the interpreting of Tw speech than Ts speech. The higher performance scores of the participants in the speech including a good number of unknown words suggest that the lack of linguistic knowledge was successfully complemented by their extralinguistic knowledge.

The use of approximate meaning was found to be the most commonly used strategy (14 out of 16) particularly to find an equivalent to the unknown words. The participants could find an accurate equivalent to most unknown words, as detected by the vocabulary test at the beginning of the experiment, and they could occasionally interpret with the exact meaning. Some examples of how the participants used the approximate meaning can be found as follows:

The word stylus was detected to be unknown to the participants in the vocabulary test performed at the beginning of the pre-test. This unknown word was included in Tw in the following sentence “*when the user puts pressure on the surface of the screen, either with a stylus or finger...*”. Interpreting the text simultaneously, the participants used the Turkish terms of *kalem* (pen) or *akilli telefon kalemi* (pen for smartphones) to define stylus. The accurate interpreting of such a specific unknown word can also be explained through extralinguistic knowledge, which is the knowledge of touch screen technology and its use in daily life. The sentence offers two ways of touching a smartphone screen and one of the ways is a finger. Although the word describing the second way was uttered with an unknown linguistic unit, the participants did not hesitate to find the equivalent of the word and all could accurately anticipate the meaning based on their knowledge of smartphone and touch screen technology.

On the other hand, the same finding cannot be reported regarding the lack of extralinguistic knowledge. The comparatively lower scores obtained from the Ts speech indicate that the participants were not successful in complementing their lack of extralinguistic knowledge with their linguistic knowledge.

The differences between the pre-test and post-test results of the interpreting performances of the participants on Tw (see Table 2) and on Ts (see Table 3) are presented below.

Table 2: Post-Test Results of the Performances on Tw

	Text type	N	Mean	Std.deviation	t	p
Pre-Test		16	320.31	79.35	-5.30	.001
Post- Test	Tw	16	361.13	81.05		

Tw: The text of the speech involving unknown words

Table 2 presents that the mean score obtained from the SI performances of the participants was 320.31 in the pre-test, which increased to 361.13 in the post-test on Tw. The paired samples correlation found for the performances in two different tests conducted on the speech is .93 and the p-value is 0.001. A statistically significant difference was found between the pre-test and the post-test scores of the participants in favor of the post-test ($p=0.00 < 0.05$).

Table 3: Post-Test Results of the Performances on Ts

Text type	N	Mean	Std.deviation	t	p
Pre-Test	16	211.88	61.27	-8.78	.001
Post- Test Ts	16	344.00	64.84		

Ts : The text of the speech delivered on a familiar *subject*

Table 3 presents that the mean score obtained from the SI performances of the participants was 211.88 in the pre-test, which raised to 344.00 in the post-test on Ts. The paired samples correlation found for the performances in two different tests conducted on the speech is .55 and the p-value is 0.001. A statistically significant difference was found between the pre-test and the post-test scores of the participants in favor of the post-test ($p=0.00 < 0.05$).

In both groups of the speeches, a significant difference was found between the pre-test and the post-test scores of the participants in favor of the post-test performance. These results indicate that the training offered to the participants on complementarity was efficient. The charts presented below illustrate the changes in the scores of the pre-test, follow-up test, and post-test to better understand and discuss the contribution of the training offered.

Chart 1: Improvements in the Performances on Tw

The changes in the interpreting performances on the first text are presented in the Chart 1. Accordingly, the pre-test scores (304) of the participants increased to (309) in the follow-up test and to (361) in the post-test.

Chart 2: Improvements in the Performances on Ts

The changes in the interpreting performances on the second text are presented in the Chart 2. Accordingly, the pre-test scores (195) of the participants increased to (303) in the follow-up test and to (344) in the post-test.

The charts above clearly show a higher effect of the training on the second speech (see Chart 3) rather than the first one (see Chart 2). In other words, training contributed to the compensation of extralinguistic knowledge by linguistic knowledge. It can be inferred that the participants could overcome particularly the challenge caused by the lack of extralinguistic knowledge with the contribution of the training. On the other hand, the relatively lower effectiveness of the training on the first speech can be attributed to the fact that the participants had already been successful in the first speech which required the compensation of the lack of linguistic knowledge with extralinguistic knowledge. Despite the lower interval between the pre-test and post-test scores of the participants in the first speech, a statistically significant difference was found between the pre-test and post-test scores in both speeches. This finding proves the positive contribution of the training on how the students achieved complementarity between linguistic knowledge and extralinguistic knowledge.

Discussion

Good command of source/target languages and good extralinguistic knowledge are frequently mentioned among the fundamental competencies of a quality interpreter. The competency of knowledge is required not only to comprehend and analyze the message to be rendered, but also to overcome the challenges caused by the time-constraint in simultaneous interpreting. The lack of linguistic and extralinguistic knowledge first damages the comprehension stage of SI, which is vital to ensure the quality of the upcoming stages, namely deverbalization and reformulation. Furthermore, it puts an extra burden on short-term memory. However, simultaneous interpreting does not take place in a structured and artificial environment. In a conference, language can be used in both formal and informal ways during and between speeches. Although a comprehensive terminology study is an indispensable part of every preparation stage of an interpreting task, the interpreter can still encounter unknown linguistic units at any given time. Likewise, it is impossible to acquire all the extralinguistic knowledge regarding a subject and any speech can be delivered on an unfamiliar subject in or out of a conference program. Raising the awareness of prospective interpreters towards knowledge

complementarity, in this regard, can enable them to perform better at interpreting in such challenging and unexpected cases. Bearing this in mind, this study was conducted to detect the complementarity between linguistic and extralinguistic knowledge as well as how the lack of knowledge affects simultaneous interpreting performance.

The findings of the study show better interpreting performance on unknown words (Tw) than the unfamiliar subject (Ts). Accordingly, it can be asserted that the lack of extralinguistic knowledge impaired interpreting performance more than the lack of linguistic knowledge did. This result of the present study is parallel with findings of the study conducted by Kim (2006) in terms of positing the higher contribution of extralinguistic knowledge in interpreting performance. Based on this finding, it can also be suggested that the participants were relatively more successful in complementing their lack of linguistic knowledge with extralinguistic knowledge. The scores obtained from the second speech (Ts) were much lower, suggesting that the participants could not rely on their linguistic knowledge to overcome the comprehension problem caused by their lack of extralinguistic knowledge. This result was unexpected to some degree in consideration of the importance attributed to linguistic knowledge rather than extralinguistic knowledge at interpreting classes. Despite the presence of critical unknown words in the first speech, most of the participants were capable of anticipating the accurate meaning during simultaneous interpreting. Accordingly, the participants were in more need of training on the complementarity between linguistic knowledge and extralinguistic knowledge to be able to overcome the problems posed by the lack of extralinguistic knowledge. In line with this finding, the training was detected to be more effective in the second speech (Ts) compared to the first one (Tw). As demonstrated in the charts above (see Chart 1 and Chart 2), interpreting performances of the participants improved more in the second speech (Ts). As for the strategy use of the participants, using the approximate meaning was the most commonly preferred strategy in the first speech to cope with the unknown words, omitting was preferred by the majority of the participants to cope with the problems in the second speech delivered on an unfamiliar subject in the pre-test. This difference in the strategy use indicates that the participants experienced comprehension problems more in the second text (Ts) delivered on an unfamiliar subject. The post-test results show that the participants changed their strategy use. Using the approximate meaning replaced omission in the first speech. This change is assumed to be a result of the training offered since knowledge complementarity contributed to a better comprehension phrase of SI.

Conclusion

The findings of this research show the efficacy of the training offered on the complementarity between linguistic knowledge and extralinguistic knowledge on the interpreting quality of the participants. The difference between the interpreting quality of the participants before and after the training was found to be statistically significant. This result is believed to set an example to further training activities applied in interpreting training, particularly on knowledge complementarity. Based on the findings of the research, training programs on simultaneous interpreting are suggested to touch upon linguistic knowledge and extralinguistic knowledge at the same time during practices. Despite the frequent emphasis on the importance of both linguistic knowledge and extralinguistic knowledge, interpreting students should also be instructed about the knowledge complementarity. The application of the training method applied in this study is believed to contribute to the performances of the students.

This study is also assumed to bring contribution by adding further empirical results to the literature within the framework of the discussion of the role played by linguistic and extralinguistic knowledge in interpreting quality with a particular focus on knowledge complementarity.

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