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MASTER’S THESIS

POST-EDITING SKILLS FOR NEURAL MACHINE
TRANSLATION
FROM ENGLISH TO TURKISH

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DECLARATION

I hereby declare that this master's thesis titled as “**Post-Editing Skills for Neural Machine Translation From English to Turkish**” has been written by myself in accordance with the academic rules and ethical conduct. I also declare that all materials benefited in this thesis consist of the mentioned resources in the reference list. I verify all these with my honor.

01/08/2022

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ABSTRACT

Master's Thesis

Post-Editing Skills for Neural Machine Translation From English to Turkish

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This study examines the performance of Neural Machine Translation (NMT) in Turkish as well as the post-editing skills that may be required particularly for Turkish post-editing. A machine translation (MT) test is performed with five online NMT systems, namely Google Translate, Bing Translator, Yandex.Translate, Reverso, and Watson Language Translator. For this purpose, two technical, two legal, and two medical texts are machine-translated. The raw MT outputs are then assessed using the SCATE MT error taxonomy. The results are analyzed from a post-editing standpoint, demonstrating which mistake types are most frequently amended in the post-editing process. Furthermore, the abilities required to correct faults in these areas are highlighted. The results reveal that agglutinative nature and orthography rules are essential elements of post-editing in Turkish. The three fluency categories that involve the greatest number of errors are grammar, lexicon, and orthography, and their most erroneous subcategories are found to be word form, extra word, and missing word for grammar; lexical choice for lexicon; and punctuation, capitalization, and spelling for orthography. In terms of accuracy, omission, mistranslation, and mechanical categories are the three most erroneous categories. For their subcategories, word sense disambiguation is dominant for mistranslation, and for mechanical, capitalization and other come to the forefront. According to the findings, the necessary Turkish post-editing skills are a thorough understanding of the use and role of Turkish suffixes, grammar and orthography rules, terminology, and lexicology.

Keywords: neural machine translation, post-editing skills, evaluation of machine translation, machine translation error taxonomy.



ÖZET
Yüksek Lisans Tezi
İngilizce-Türkçe Nöral Makine Çevirisi İçin Son-Düzenleme Becerileri
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Bu çalışma, Nöral Makine Çevirisinin (NMÇ) Türkçedeki performansını ve özellikle Türkçe son-düzenleme için gerekli olabilecek son düzenleme becerilerini incelemektedir. Google Translate, Bing Translator, Yandex.Translate, Reverso ve Watson Language Translator olmak üzere beş çevrimiçi NMÇ sistemi ile bir makine çevirisi (MÇ) testi yapılmıştır. Bu amaçla ikişer teknik, hukuki ve tıbbi metnin makine çevirisi yapılmıştır. Ham MÇ çıktıları daha sonra SCATE MÇ hata sınıflandırması kullanılarak değerlendirilmiştir. Sonuçlar, son-düzenleme bakış açısıyla analiz edilerek son-düzenlemede en çok hangi hata türlerinin düzeltildiği gösterilmiştir. Ayrıca bu tür hataları düzeltmek için gereken beceriler vurgulanmıştır. Sonuçlar, bitişken dil yapısının ve yazım kurallarının Türkçe son-düzenlemenin temel unsurları olduğunu ortaya koymaktadır. En sorunlu üç akıcılık kategorisi dilbilgisi, sözcük ve ortografidir. Dilbilgisi için en hatalı alt kategoriler ise sözcük biçimi, fazla sözcük ve eksik sözcük olduğu, sözcük için sözcük seçimi ve ortografi için noktalama işaretleri, büyük harf kullanımı ve yazım olduğu bulunmuştur. Doğruluk açısından çıkarma, yanlış çeviri, mekanik en hatalı üç kategori olduğu tespit edilmiştir. Bunların alt kategorileri ele alınca, yanlış çeviri için kelime anlamını netleştirme baskındır ve mekanik içinse büyük harf kullanımı ve diğer hatalar alt kategorisi ön plana çıkmaktadır. Elde edilen bulgulara göre gerekli Türkçe son düzenleme becerileri, Türkçe son eklerin, dilbilgisi ve imla kurallarının rolünün ve kullanımının tam olarak anlaşılması, terim bilgisi ve sözlük bilgisidir.

Anahtar Kelimeler: nöral makine çevirisi, son-düzenleme becerileri, makine çevirisi değ erlendirmesi, makine çevirisi hata sınıflandırması.



**POST-EDITING SKILLS FOR NEURAL MACHINE TRANSLATION
FROM ENGLISH TO TURKISH**

CONTENTS

THESIS APPROVAL PAGE	ii
DECLARATION	iii
ABSTRACT	iv
ÖZET	vi
CONTENTS	viii
ABBREVIATIONS	x
LIST OF TABLES	xi
LIST OF FIGURES	xiii
LIST OF APPENDICES	xiv
INTRODUCTION	1

CHAPTER ONE

MACHINE TRANSLATION AND POST-EDITING

1.1. POST-EDITING WITH DIFFERENT TYPES OF MT	7
1.1.1. Rule-Based Machine Translation	7
1.1.2. Corpus-Based Machine Translation	9
1.2. POST-EDITING SKILLS	12
1.3. MACHINE TRANSLATION QUALITY ASSESSMENT	13
1.3.1. Automatic Evaluation Metrics	14
1.3.2. Human Evaluation Metrics	15
1.4. LITERATURE REVIEW	17
1.5. METHODOLOGY	35

CHAPTER TWO
NMT ERROR ANALYSIS

2.1. ANALYSIS OF THE TECHNICAL TEXTS	44
2.2. ANALYSIS OF THE LEGAL TEXTS	66
2.3. ANALYSIS OF THE MEDICAL TEXTS	91

CHAPTER THREE
FINDINGS & DISCUSSION

CONCLUSION	135
REFERENCES	138
APPENDICES	

ABBREVIATIONS

ALPAC	Automatic Language Processing Advisory Committee
BLEU	Bilingual Evaluation Undersduy
EBMT	Example-Based Machine Translation
EMT	European Master's in Translation
IBM	International Business Machines
METEOR	Metric for Evaluation of Translation with Explicit Ordering
MQM	Multidimensional Quality Metrics
MT	Machine Translation
MT@EC	Machine Translation @ European Commission
MWE	Multi Word Expression
NIST	National Institute of Standards and Technology
NMT	Neural Machine Translation
PACTE	Procés d'Adquisició de la Competència Traductora i Avaluació
PAHO	Pan American Health Organization
PBMT	Phrase-Based Machine Translation
POS	Part of Speech
RBMT	Rule-Based Machine Translation
SCATE	Smart Computer-Aided Translation Environment
SMT	Statistical Machine Translation
ST	Source Text
SU	Semantically Unrelated
TAUS	Translation Automation User Society
TER	Translation Error Rate
TT	Target Text
UN	United Nations
WHO	World Health Organization
WSD	Word Sense Disambiguation

LIST OF TABLES

Table 1: Overview of the Corpus	p. 37
Table 2: Fluency and Accuracy Errors for the First Technical Text	p. 44
Table 3: Vocabulary Profile of the First Technical Text	p. 45
Table 4: Fluency and Accuracy Errors for the Second Technical Text	p. 46
Table 5: Vocabulary Profile of the Second Technical Text	p. 47
Table 6: Fluency Errors for the First Technical Text	p. 49
Table 7: Fluency Errors for the Second Technical Text	p. 50
Table 8: Grammar Errors for the First Technical Text	p. 53
Table 9: Grammar Errors for the Second Technical Text	p. 53
Table 10: Lexicon Errors for the First Technical Text	p. 55
Table 11: Lexicon Errors for the Second Technical Text	p. 55
Table 12: Orthography Errors for the First Technical Text	p. 57
Table 13: Orthography Errors for the Second Technical Text	p. 57
Table 14: Accuracy Errors for the First Technical Text	p. 59
Table 15: Accuracy Errors for the Second Technical Text	p. 60
Table 16: Mistranslation Errors for the First Technical Text	p. 63
Table 17: Mistranslation Errors for the Second Technical Text	p. 63
Table 18: Mechanical Errors for the First Technical Text	p. 66
Table 19: Mechanical Errors for the Second Technical Text	p. 66
Table 20: Fluency and Accuracy Errors for the First Legal Text	p. 67
Table 21: Vocabulary Profile of the First Legal Text	p. 68
Table 22: Fluency and Accuracy Errors for the Second Legal Text	p. 68
Table 23: Vocabulary Profile of the Second Legal Text	p. 69
Table 24: Fluency Errors for the First Legal Text	p. 72
Table 25: Fluency Errors for the Second Legal Text	p. 72
Table 26: Grammar Errors for the First Legal Text	p. 75
Table 27: Grammar Errors for the Second Legal Text	p. 76
Table 28: Lexicon Errors for the First Legal Text	p. 77
Table 29: Lexicon Errors for the Second Legal Text	p. 77

Table 30: Orthography Errors for the First Legal Text	p. 79
Table 31: Orthography Errors for the Second Legal Text	p. 80
Table 32: Accuracy Errors for the First Legal Text	p. 84
Table 33: Accuracy Errors for the Second Legal Text	p. 85
Table 34: Mistranslation Errors for the First Legal Text	p. 88
Table 35: Mistranslation Errors for the Second Legal Text	p. 89
Table 36: Mechanical Errors for the First Legal Text	p. 91
Table 37: Mechanical Errors for the Second Legal Text	p. 91
Table 38: Fluency and Accuracy Errors for the First Medical Text	p. 92
Table 39: Vocabulary Profile of the First Medical Text	p. 93
Table 40: Fluency and Accuracy Errors for the Second Medical Text	p. 94
Table 41: Vocabulary Profile of the Second Medical Text	p. 94
Table 42: Fluency Errors for the First Medical Text	p. 97
Table 43: Fluency Errors for the Second Medical Text	p. 97
Table 44: Grammar Errors for the First Medical Text	p. 102
Table 45: Grammar Errors for the Second Medical Text	p. 102
Table 46: Lexicon Errors for the First Medical Text	p. 104
Table 47: Lexicon Errors for the Second Medical Text	p. 104
Table 48: Orthography Errors for the First Medical Text	p. 107
Table 49: Orthography Errors for the Second Medical Text	p. 108
Table 50: Accuracy Errors for the First Medical Text	p. 113
Table 51: Accuracy Errors for the Second Medical Text	p. 114
Table 52: Mistranslation Errors for the First Medical Text	p. 119
Table 53: Mistranslation Errors for the Second Medical Text	p. 119
Table 54: Mechanical Errors for the First Medical Text	p. 121
Table 55: Mechanical Errors for the Second Medical Text	p. 122

LIST OF FIGURES

Figure 1: Hype Moments of MT History	p. 6
Figure 2: Post-Editing Skills	p. 13
Figure 3: Comparison of the Features of SCATE to other MT Error Taxonomies	p. 16
Figure 4: SCATE Machine Translation Error Taxonomy	p. 38
Figure 5: Error Percentage of the NMT Systems for the First Technical Text	p. 45
Figure 6: Error Percentage of the NMT Systems for the Second Technical Text	p. 47
Figure 7: Percentage of Overall Fluency Errors for the First Technical Text	p. 49
Figure 8: Percentage of Overall Fluency Errors for the Second Technical Text	p. 49
Figure 9: Percentage of Overall Accuracy Errors for the First Technical Text	p. 59
Figure 10: Percentage of Overall Accuracy Errors for the Second Technical Text	p. 60
Figure 11: Error Percentage of the NMT Systems for the First Legal Text	p. 68
Figure 12: Error Percentage of the NMT Systems for the Second Legal Text	p. 69
Figure 13: Percentage of Overall Fluency Errors for the First Legal Text	p. 71
Figure 14: Percentage of Overall Fluency Errors for the Second Legal Text	p. 72
Figure 15: Percentage of Overall Accuracy Errors for the First Legal Text	p. 83
Figure 16: Percentage of Overall Accuracy Errors for the Second Legal Text	p. 84
Figure 17: Error Percentage of the NMT Systems for the First Medical Text	p. 92
Figure 18: Error Percentage of the NMT Systems for the Second Medical Text	p. 94
Figure 19: Percentage of Overall Fluency Errors for the First Medical Text	p. 96
Figure 20: Percentage of Overall Fluency Errors for the Second Medical Text	p. 97
Figure 21: Percentage of Overall Accuracy Errors for the First Medical Text	p. 113
Figure 22: Percentage of Overall Accuracy Errors for the Second Medical Text	p. 114
Figure 23: Rates of the Error Categories in General for the First Set of Texts	p. 124
Figure 24: Rates of the Error Categories in General for the Second Set of Texts	p. 125
Figure 25: Rates of the Error Categories in General	p. 126
Figure 26: Current Status and Growth Plans of Services Provided by Language Companies	p. 137

LIST OF APPENDICES

Appendix I: First Technical Text NMT Test Error Annotation	app. p. 1
Appendix II: First Legal Text NMT Test Error Annotation	app. p. 25
Appendix III: First Medical Text NMT Test Error Annotation	app. p. 50
Appendix IV: Second Technical Text NMT Test Error Annotation	app. p. 76
Appendix V: Second Legal Text NMT Test Error Annotation	app. p. 98
Appendix VI: Second Medical Text NMT Test Error Annotation	app. p. 122



INTRODUCTION

“To understand a language is to understand how it works” (Kay, 1980: 4). The same can be stated for machine translation (MT): we need to understand how MT works and what it offers to translators, rather than concentrating on what it takes away from us. This way, translators will be positively engaged with the technology that has been shaping the industry for quite a long time. Furthermore, another reason for the need to comprehend this technology is that a lack of knowledge of MT creates fear about it (Rossi and Chevrot, 2019: 189). One of the most significant requirements to overcome this fear is learning post-editing skills. Without these skills, a feeling of hostility toward MT can be easily triggered (O’Brien, 2002: 100). In line with this, Çetiner (2019a: 101) asserts that the feeling of threat that MT might steal the future translators’ jobs decreases after learning about post-editing. Therefore, this thesis aims at complementing the knowledge deficiency for neural machine translation (NMT) into Turkish by revealing the areas that the systems need post-editors for the Turkish output, and furthermore, discovering the skills that are necessary for amending the lacking parts of the NMT systems in order to offer a target language-specific approach to post-editing skills and contribute to the existing literature in Turkey.

The reason why an NMT test has been carried out for this purpose is first and foremost to find out the errors awaiting a post-editor specifically in Turkish. There are some “tricks of the trade” to improve the MT post-editing process (McElhaney and Vasconcellos, 1988: 143), and while some of them are relevant to the nature of machine translation and post-editing, which will be discussed in a separate section, some can be peculiar to each language. Therefore, such a test with common NMT systems might shed a light on this issue with regard to the Turkish language. When combined with general post-editing skills, language-specific post-editing skills to be revealed as a result of this thesis might be helpful to learn in what way NMT systems require post-editors in the Turkish language.

The NMT test to be carried out in this project involves three different text types: technical, legal, and medical texts. The selection of these certain text types depends on the fact that the majority of the MT market involves the translation of texts from the fields of technical, legal, and medical translations. Studies show that these

fields harbor the most common text types that actually require and apply MT in order to meet the increasing translation demand in international organizations, such as Pan American Health Organization (PAHO), European Parliament and etc. (Aymerich, 2005; Poulis and Kolovratik 2012; Jellinghaus et al., 2010; Kirchhoff et al., 2011). Recently, using MT for literary texts has also been a hot topic of study (Tezcan et al., 2019; Moorkens et al., 2018; Toral and Way, 2018). Although it has been argued by many researchers that literary text is beyond the capabilities of MT (Carl et al., 2015: 147), many others observe an improvement in MT for this text type (Toral and Way, 2014; Kuzman et al., 2019; Matusov, 2019). As for the English-to-Turkish MT, findings of a study carried out by Şahin and Dungan (2014) reveal that translating a literary text from scratch is preferable to post-editing it, and using MT does not have any decent effect on facilitating the translation process of a literary text. Although this research was carried out before the introduction of the neural approach to MT systems, Şahin and Gürses (2021: 197) study the NMT systems on literary text for the same language direction and find out that they are “far from replacing humans and that it requires assistance from and intensive editing by humans for English–Turkish translation.” So far in Turkish literary translations, there is only a single case in which a literary translator openly accepts and announces that he used indirect machine translation when translating due to his lack of knowledge of the source language.¹ However, the MT market is not there yet and it is currently being used for certain industries such as automotive, military, healthcare, IT and e-commerce².

This research asks three interrelated questions: “What is the current performance of the NMT systems from English to Turkish for technical, legal, and medical texts?”, “What are the challenges of post-editing an NMT output in Turkish?” and “In which areas do translators need to improve themselves in order to assume the role of post-editor?” The aim is to find out what is the challenge of Turkish NMT post-editing and in light of the findings, to reveal the necessary qualifications for an

¹ Osman Akinay, the literary translator, announced on his personal Twitter account that he had used Google Translate to create an English machine-translated output for Jean-Dominique Brierre’s *Milan Kundera, une vie d’écrivain* (2019), from which he translated into Turkish. He explains that the reason for this method is due to his lack of knowledge of French. After his tweets received abundant critical comments, Akinay made long and detailed justifications for using MT, all of which are still accessible, as of May 11th, 2022, on his personal Twitter account: <https://twitter.com/osmanakinay>

² According to a report by Mordor Intelligence published in 2021. Accessed from <https://www.mordorintelligence.com/industry-reports/machine-translation-market#>

English-to-Turkish translator to work as a post-editor. To this end, an NMT test from English to Turkish is carried out, machine-translated outputs are categorized and the findings are interpreted by focusing on the post-editing process. The most failing aspects of the NMT systems are the reasons why NMT systems still need a translator as a post-editor, therefore, the analysis of the current study will also present the areas in which a translator, who works in the mentioned language pair, needs to improve themselves to become a qualified post-editor. This research suggests that the agglutinative nature of the Turkish language will be one of the determinative factors in the post-editing process. Therefore, some categories will be of special importance and the error taxonomy used in the analysis will need to be adopted for the target language. Having said that a distinctive feature of the target language will be a determinant element, it is further suggested that post-editing skills for this language pair will mainly involve Turkish grammar and orthography rules. The significance of this study is hoped to be three folded. First, the results of the NMT test will help us see the current performance of the NMT systems in Turkish. Second, the results of this test will also reveal the problematical areas of NMT in Turkish, which might help both practitioners and system developers. Finally, findings regarding the challenges and skills required in Turkish post-editing might contribute to future studies on post-editing effort and training in Turkey.

This thesis contains three chapters. The first one begins with discussing the intertwining history of MT and post-editing and how the latter has been used in different types of MT. Then, some of the post-editing skills that have been previously suggested by other researchers are discussed and the contribution of the current thesis to the existing literature on post-editing skills is indicated. In the third section of the first chapter, machine translation quality assessment metrics are discussed. The last two parts of the first chapter include the literature review and methodology, respectively. The second chapter carries out the main analysis of this study, supported by tables and figures indicating the number and rate of errors in certain categories for three text types. This chapter divides the analysis into three parts: analysis carried out on the raw MT outputs of the technical texts, legal texts, and finally, medical texts. The last chapter deals with the general discussion of the findings, a comparison of most problematical areas with similar findings in other studies, presenting the

necessary knowledge and skills for fixing the common errors, and finally, offering an MT error taxonomy adopted for Turkish.



CHAPTER ONE

MACHINE TRANSLATION AND POST-EDITING

The history of MT has been recounted in many works (Hutchins and Somers, 1992; Hutchins, 1995; Wilks, 2008; Poibeau, 2017; Koehn, 2020). It goes back to as early as the introduction of computers (Koehn, 2010: 14). It has several milestones such as Georgetown-IBM experiment in 1954, ALPAC report in 1966, introduction of statistical MT in the late 1980s and NMT in 2014. The origin of machine translation as a concrete idea has been associated with Warren Weaver, based on his letter to Robert Wiener in 1947:

Recognizing fully, even though necessarily vaguely, the semantic difficulties because of multiple meanings, etc., I have wondered if it were unthinkable to design a computer which would translate. Even if it would translate only scientific material (where the semantic difficulties are very notably less), and even if it did produce an inelegant (but intelligible) result, it would seem to me worth while. (as cited in Hutchins, 1997: 14)

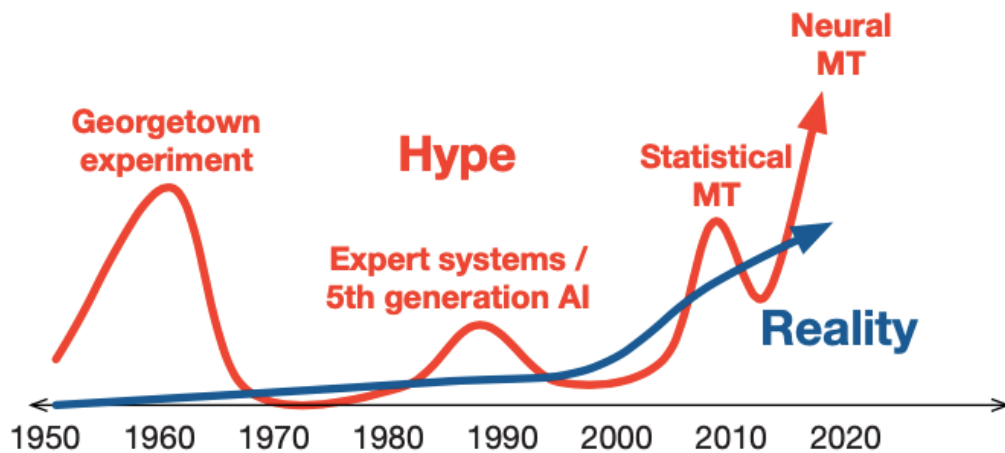
Not too late after this letter, in 1954, the renowned Georgetown-IBM experiment took place. This public experiment of MT from Russian to English was quite a success. According to Hutchins (2004: 103), some newspapers referred to the MT system used in this experiment as “electronic brain”, “robot brain”, or “polyglot brainchild”. In a book chapter, Vasconcellos (2000), who became a secretary of the director of the Institute of Languages and Linguistics at Georgetown University in 1955, gives detailed information about the background of this experiment. The director was Léon Dostert, who had worked as the personal interpreter of Dwight Eisenhower in World War II and also established the first simultaneous interpreting system in the Nuremberg Trials, and introduced this system to the United Nations (UN) (Vasconcellos, 2000: 88, 90). Dostert came up with the idea to develop an MT system after attending a conference at MIT, he had three fundamental ideas regarding the development of an MT system: the corpus should be based on “naturally occurring language”, and an empirical approach should be embraced, and finally, he accepted that it would always require post-editing and the aim of this system was only to reduce human intervention (Vasconcellos, 2000: 91). The hype created by this experiment was so immense, it paved the way for other MT research and enabled ample funding

(Hutchins, 2004: 113). Moreover, it had an impact in Turkey and almost resulted in an English-Turkish machine translation system. Rudolph C. Troike (1991), then head of a subbranch of a Georgetown University English Language Programme in Turkey, recounts that in 1961, Dostert came into his office in Ankara and said:

I've just come back from talking with the commanding general of the American military advisory group here, and promised him that we would have an English-to-Turkish machine translation program operational by the end of six months. Since you are the only one here who knows anything about MT, you're in charge. Let me know if you need any help. (Troike, 1991: 469)

Although it was never accomplished, the possibility of it sheds light on the boost that the Georgetown-IBM experiment created. So much so that it might be only matched by the introduction of the neural approach. The evolution of MT through its milestones, i.e. hype moments, are depicted by Koehn (2020), with a line indicating the reality:

Figure 1: Hype Moments of MT History



(Koehn, 2020: 30)

According to Koehn (2020: 30), expectations from MT have been either too high or too low compared to the real practice. The reality involves human intervention as a necessity, which is called post-editing. As indicated above, post-editing has been an integral part of MT since the planning phase of the Georgetown-IBM experiment. Whether rule-based (RBMT) or neural, post-editing has been used with every MT approach that is thought to be the state-of-the-art at their period.

1.1. POST-EDITING WITH DIFFERENT TYPES OF MT

Allen (2003:297) states that post-editing is “to edit, modify and/or correct pre-translated text that has been processed by an MT system from a source language into (a) target language(s)”. As for Schäfer (2003: 3), it is “the task of polishing up the raw MT output to an acceptable, end-user friendly text quality”. Hutchins and Somers (1992: 152) define the role of the post-editor as “to correct output from the MT system to an agreed standard”, which implies different levels of post-editing, namely rapid, minimal and full post-editing. Wagner (1985: 1) defines rapid post-editing as “correcting only the most serious errors so as to give reasonable comprehensibility and accuracy, without any guarantee of quality” and the full post-editing as “an attempt to convert raw machine translation into a product indistinguishable from human translation”. In between, there is minimal post-editing, which is a rather “fuzzy and wide-range category” and the amount of change it includes depends on the choice of the client or the translator (Allen, 2003: 304). However, it is accepted that the publishable quality is achieved by full post-editing (TAUS 2016a: 16), therefore, this thesis will deal with this type of post-editing. In this section, major MT approaches are defined and their real-life implementations with post-editing are exemplified.

1.1.1. Rule-Based Machine Translation

The rule-based machine translation (RBMT) was the dominant MT approach for decades. As the name indicates, they make use of linguistic rules introduced into the system by experts, as well as dictionaries. For the definition of rule-based MT systems, Bennet and Gerber (2003) state that they

internally store predefined grammar rules and symbolic representations, The grammar allows linguists to catalog the types of linguistic phenomena that the system needs to use. When planning an MT system for a new language pair, the job of linguists and engineers is to identify appropriate mappings and parsing techniques between the set of phenomena realized in the new source and/or target languages and the system's grammar. The symbolic representation is the data structure in the computer that holds all of the grammatical information about a unit of text, and allows the parser to add incrementally new information as it is discovered, and query the information already stored. (Bennet and Gerber, 2003: 177)

However, the above-defined process is quite costly and time-consuming and the impact of a rule to be added is hard to guess (Sumita and Iida, 1991: 185). Furthermore, when confronted with large real-life texts, the rules introduced by the experts have trouble with a lack of coverage of language phenomena and rule disagreements, resulting in dissatisfying translation quality (Liu and Zhang, 2015: 111).

One of the earliest applications of MT began in the 1970s. As the number of official languages of the European Union increased, so did the volume of translations, and the European Commission turned to machine translation in order to meet the increasing demand (Poibeau, 2017: 63). In 1976, the Commission started to use SYSTRAN, a rule-based MT system which was the state-of-the-art MT technology at that time (Senez, 1998: 1).

According to Senez (1998: 1-2), with the development of the internet, SYSTRAN came to be used by all institutions of the European Union and it meant an increase in the user population. The European Commission established a help desk for machine translation. While it was responsible for answering questions and preparing texts for SYSTRAN on the user side, on the technical side, it reported problems regarding the system to the developers and the end-user feedback to the linguists. The staff of this help desk was also responsible for post-editing. As the number of texts to be machine-translated and post-edited increased, the European Commission decided to set up a separate rapid post-editing unit within the help desk, called PER (*post-édition rapide*).

The same rule-based approach was also used in PAHO for the English-Spanish language pair with two MT systems specifically developed within the Organization: SPANAM in 1980 and ENGSPAN in 1985 (Vasconcellos and León, 1985: 122). At the end of 1986, these two MT systems together translated 4,469,037 words between English and Spanish, and all of them were post-edited by in-house translators trained in post-editing (Vasconcellos, 1986: 133-134). As the two organizations' high performance has shown, post-editing started to be carried out in the early years of actual MT implementations.

1.1.2. Corpus-Based Machine Translation

Another approach to MT, the corpus-based was introduced with the idea to overcome the information-gathering problem observed in the rule-based approach (Aslan, 2019: 87). Also called “data-driven”, these systems make use of algorithms to learn the translation patterns by exploiting bilingual corpora in a certain language pair (Bennett and Gerber, 2003: 178-170). There are three corpus-based approaches, which are example-based (EBMT), statistical (SMT), and neural (NMT). The example-based approach, introduced by Makoto Nagao (1984), uses given example sentences and their translations to detect the similarity or difference between certain word groups (Nagao, 1984: 173). Nagao (1984: 174) argues for using the examples, typical usages of verbs in dictionaries and thesauri, which the human translators use normally, in machine translation. EBMT consists of three major components: (1) matching source chunks against examples, (2) determining the associated translation chunks, and (3) combining them to produce the target output (Wong and Webster, 2015: 138). Nagao (1984: 176) also defines this approach as “machine translation by analogy”. Sumita et al. (1990: 204) argue that EBMT overcomes RBMT in several aspects: computational cost, improvement cost, system building cost, context-sensitive translation, robustness, reliability, and example independency. However, the limitation of this approach is that when there are no examples in the corpora that could be used for reference, the MT output is word-for-word or the systems produce nothing (Poibeau, 2017: 95). Thus, this approach has always offered only a partial coverage even for general texts and it has sometimes been included as a module of more comprehensive systems (Poibeau, 2017: 96).

Statistical machine translation also depends on bilingual text corpora; however, instead of using examples as a base for an analogy, it uses “techniques of statistical information extraction from large databases” (Brown, et al., 1988: 171). Although, it was Warren Weaver (1955) who first discussed the basics of this approach in 1949, its actual development as an MT system began with the researchers at IBM (Brown, et al., 1988; Brown, et al., 1990; Brown et al., 1993). SMT systems create translations depending on a probabilistic translation procedure carried out from parallel texts, and since they are not customized to any single pair of languages, SMT systems are

language neutral (Liu and Zhang, 2015: 201). For instance, Koehn (2005) builds 110 SMT systems using the Europarl, involving the proceedings of the European Parliament in 11 official languages. Moreover, with enough parallel text to learn from, SMT systems can be developed within quite a short period (Lopez, 2008: 2). All these features considered, the statistical approach has become quite a dominant research subject and a widely implemented machine translation system.

As discussed above, the European Commission has a long history of using MT and post-editing. In 2010, the European Commission introduced its own MT system developed from the in-house translations of the Commission, called MT@EC and it was based on the statistical approach (Brown, 2016: 2). In her presentation, Mai (2016), who is a translator in the European Commission, states that SMT systems are not machines that translate “it is a machine for recycling human translations”. It is used as a plug-in offered within the CAT tool and it is up to translators to choose the machine-generated output and post-edit or translate from scratch (Mai, 2016: 7). Mai (2016: 12) lists the benefits of using MT@EC as “lexical inspiration”, “usable phrases”, “less typing”, speeding the translation, and a “good terminology in technical texts. One of the disadvantages that she gives as an example is that the translators using MT@EC indicate that they dislike the shift from translation to post-editing because “there is so little left to really just translate from” (Mai, 2016). Although the translators regard this as a disadvantage, it can be considered an advantage for the European Commission itself since it requires less work and therefore less personnel, which was the aim of the Directorate-General for Translation at the time (DG Translation, 2017: 3).

The latest approach in the MT is known as neural machine translation. This approach uses artificial neural networks, inspired by the activity of actual neurons in the human brain (Koehn, 2020: 31). Although the introduction of NMT systems is probably the highest point in MT history, it did not happen overnight. Using neural networks in MT has been in discussion since the 1980s (Allen, 1987; Waibel et al., 1991; Forcada and Neco, 1997; Castaño et al., 1997); however, the data used in these studies were not large enough and the computers of the era were not developed enough to meet the requirements of training an MT engine with neural approach (Koehn, 2020: 39). As Forcada (2017: 292) puts it, NMT is also a corpus-based approach; however,

it is different from EBMT and SMT since its computational approach, which is based on neural networks, is entirely different. This difference makes the NMT far more successful than its predecessors, on which further evidence is presented in section 1.4.

The working procedure of NMT can be basically defined as follows:

NMT builds on an encoder-decoder framework: the encoder transforms a source-language sentence into continuous-space representations through a recurrent neural network (RNN), from which the decoder generates a target-language sentence using another RNN. (Cheng, 2019: 1-2).

Post-editing in NMT is quite widespread. Big language service providers such as RWS Moravia are using their own NMT systems to offer MT plus post-editing for the clients (Scozzari, 2019). Google offers app translation services while outsourcing them to language service providers and having them post-edit using Google's Polyglot platform³. In 2017, the European Commission switched from SMT to NMT, naming their new translation engine as eTranslation (CEF Digital, 2017). This NMT system is not only used by the Directorate-General for Translation but also by other European Institutions and the public administrations of the member countries (DG Translation, 2020: 10).

In the light of the above historical overview, it is clear that post-editing has been used since the early years of MT. Today, research shows that post-editing will continue to increase more and more. Moreover, according to the results of the report prepared by Lommel and DePalma on machine translation in Europe (2016: 4), in the future years, post-editing will be a key driver of development in the European language services market with a 36% annual growth rate, while the human translation will grow around 4% per year. Similarly, European Language Industry Survey (ELIS, 2022: 14) predicts a growth potential of 64% for post-editing services. Thus, it can be claimed that acquiring post-editing skills is important for current and future agents who wish to provide service in this growing market.

Kay's (1980: 10) statistical argument claims that unless an MT system can convey the correct, for instance, pronouns 100%, it would not make any difference whether the MT system translates the pronouns 5% or 99% correctly since there is no automatic way to tell where it fails and the post-editor has to check all the pronouns in

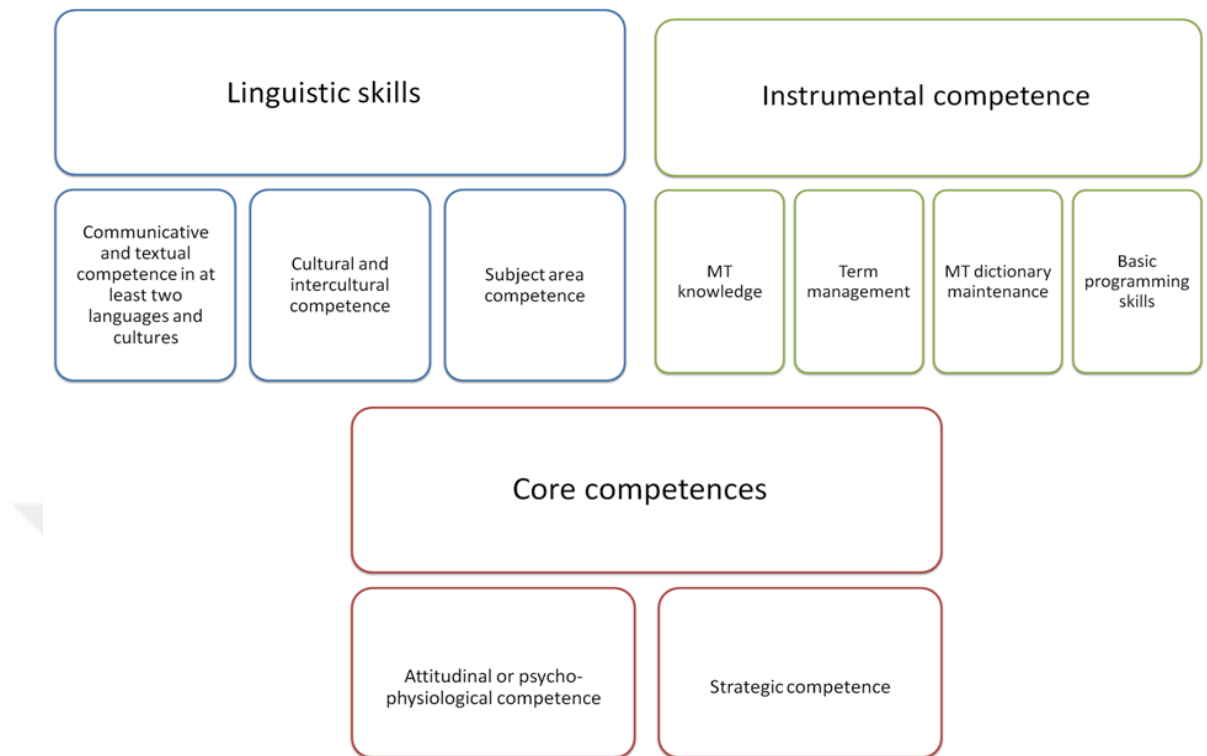
³ Polyglot is a closed platform that can be accessed only through a task assignment link. The reference for this information is the author of the thesis himself, who works as a freelance translator and post-editor for an international translation agency that offers MT post-editing services on this platform.

the MT output. He considers such an MT system to be not so useful. However, the above-discussed real-life MT implementations prove otherwise. If the burden of correcting a bad MT system would be the same as correcting a successful MT system, then the research into developing a better MT system would not have come this far. As the results of this study will show, the burden of correcting certain MT systems cannot be compared with others.

1.2. POST-EDITING SKILLS

Guidelines, standards, and research on post-editing skills all confirm that it has its own set of competencies. For instance, the International Standard (ISO 18587, 2017: 7) lists the post-editor skills as translational, linguistic, textual, cultural, technical competency, capability for research, and also expertise in the domain. Moreover, the post-editor needs to have a comprehensive familiarity with MT technology and a rudimentary comprehension of frequent MT errors. For O'Brien (2002: 102-103), these skills are MT knowledge, terminology management, using controlled language, programming, and text linguistics. Nitzke et al. (2019) approach the issue from a risk management perspective based on the inquiry of whether and how to post-edit. The research concludes that risk assessment, strategic, consulting, and service are core competencies, and bilingual, extralinguistic, instrumental, research, revision, translation, machine translation, and post-editing are sub-competences (Nitzke et al., 2019: 248-250). In another research based on the processes and tasks involved in post-editing, Rico and Torrejón (2012: 169) name three main categories of post-editing skills: linguistic skills, instrumental and core competencies, and further subcategories for each. Figure 2 illustrates these skills.

Figure 2: Post-Editing Skills



(Rico and Torrejón, 2012: 169)

It appears that so far the research on post-editing competencies proposes some common skills, such as linguistic, MT knowledge, and strategic skills that would be useful in any language. While agreeing with previous studies, this thesis additionally proposes that language-specific post-editing skills should be of high importance, especially for distant language pairs like English and Turkish. Therefore, this thesis will be complementary to previous literature with an offer to concentrate on the possible post-editing skills that could be beneficial for solving the MT issues that result from the structure of the target language.

1.3. MACHINE TRANSLATION QUALITY ASSESSMENT

The translation is a multifaceted process, it involves many factors such as cognitive, linguistic, and technical, which together make it quite complex. Similarly, this complexity is also observed in the quality assessment of a translated piece. One of the main factors is, as Mauser et al. (2008: 3089) indicate, that there is no single correct

way to translate a text, and furthermore, two translations of the same source text might be entirely dissimilar in terms of word choices and sentence structures; however, both of them can be absolutely valid. This is, of course, also true for evaluating machine translation. This complexity has made it impossible to have one universal method for evaluating the output of machine translation. There are a number of machine translation quality assessment metrics that can be used for different intentions but they are divided into two main categories based on their method of evaluation: automatic and human evaluation. This chapter will present some of the popular metrics of both categories.

1.3.1. Automatic Evaluation Metrics

Automatic metrics compare the raw MT output with reference translation(s) carried out by humans. Some automatic metrics produce a score for the quality of MT based on the match of n-grams, a continuous sequence of n elements of a particular text, between the raw MT output and reference translation, while some others give their score by calculating the amount of edit that the raw MT output requires to reach the reference translation (Popović, 2018: 130). They are considered to be cheaper, faster, and reproducible. One of the earliest automatic MT evaluation metrics is Word Error Rate (WER). Also known as Edit Distance, WER calculates the necessary insertions, deletions, and substitutions for the MT output to meet the reference translation (Castilho et al., 2018: 25). However, WER does not allow word reordering and this causes some viable translations, which does not match with the reference in terms of their word order, to receive poor scores. Therefore, Tillmann et al. (1997) introduced the Position-independent Error Rate (PER) that disregards word order and computes the difference in the number of words in the MT output and reference translation. Aiming to calculate the amount of human labor necessary to post-edit the MT output translations to meet the reference translation, Translation Error Rate (TER), introduced by Snover et al. (2006) is calculated according to the number of amendments needed to turn the MT output into the translation reference. One of the most popular automatic metrics is the Bilingual Evaluation Understudy (BLEU) proposed by Papineni et al. (2002). It is a precision measure that compares the

closeness of the MT output to the reference translation(s) and gives a score between 0 and 1 (Papineni et al., 2002: 315). Metric for Evaluation of Translation with Explicit Reordering (METEOR) (Banerjee and Lavie, 2005) works similar to BLEU but calculates its score on matching unigrams but its difference is that the words sharing the same stem and meaning are considered valid for matching. Most of the automatic metrics are developed to help MT systems improve. This is the reason behind the argument for being faster and cheaper than human evaluation. However, for a study such as this one, the automatic metrics lack a significant feature: granularity. The aim of the evaluation performed within this thesis is to pinpoint the lacking aspects of machine translation, single out them and discuss how they can be addressed in terms of post-editing skills.

1.3.2. Human Evaluation Metrics

As the name clearly indicates, human evaluation metrics involve human experts that review the MT output and tag the errors. According to research by Doherty (2013: 11), agents in the translation industry mostly prefer human evaluation for MT quality assessment. Human, or manual, evaluation goes back to as early as 1966, the (in)famous ALPAC (1966: 67-75) report was one of the first and most well-known examples of a quality assessment performed by field experts. Two general categories for human evaluation of MT are adequacy and fluency. Adequacy is commonly described as the degree to which the translation conveys the content of the source-language unit to the target; and fluency is the degree to which the machine translation adheres to the target language's rules (Castilho et al., 2018: 18). In measuring adequacy and fluency, various methods can be used by the evaluators such as Likert-type scales, ranking, error annotation and correction (Rivera-Trigueros, 2022: 597).

Flanagan (1994) presents a set of fine-grained categories, which are not hierarchical, derived by monitoring the most common mistakes (such as spelling, rearrangement, category, conjunction, and clause boundary). Vilar et al. (2006) categorize the errors of MT into five major types using a hierarchical scheme: omissions, incorrect words, word order, unfamiliar words, and punctuation. However, this typology does not differentiate errors as accuracy and fluency. Costa et al (2015)

propose five main levels for MT evaluation: orthography, lexis, grammar, semantic, and discourse. While each of these levels has its own sublevels, the proposed typology does not differentiate the errors between accuracy and fluency. Lommel et al. (2014) use the distinction between accuracy and fluency and developed the Multidimensional Quality Metrics (MQM), which is customizable with many subcategories to choose from. Daems et al. (2013), on the other hand, takes adequacy and acceptability as the main categories. There are further subcategories such as grammar, syntax, lexicon, spelling and typos, style and register, and coherence for acceptability; meaning shift for adequacy (Daems et al., 2013: 65). Tezcan et al. (2015) proposes SCATE Error Taxonomy, which is the one used in this thesis. SCATE is developed with a few key properties: MT-specific errors, accuracy and fluency distinction, error annotation both on the source and target text, and multiple errors annotated in the same text range (Tezcan et al., 2015: 224). Most importantly, the error categories are linguistically motivated, which allows us “to examine the relationship between linguistic errors and the MT quality or the post-editing effort” (Tezcan et al, 2015: 224). This feature makes the taxonomy a good fit for the purposes of this thesis since it is aimed to connect the annotated errors to the post-editing process. The difference between features of the aforementioned error classifications and SCATE is illustrated below:

Figure 3: Comparison of the Features of SCATE to other MT Error Taxonomies

	Flanagan	Vilar	Lommel	Costa	Daems
distinction of accuracy and fluency	–	–	✓	–	✓
source-target mappings	–	–	–	–	–
multiple annotations in the same span	✓	✓	–	✓	✓
error hierarchy	–	✓	✓	✓	✓
linguistically motivated categories	✓	–	✓	✓	✓
detailed guidelines	–	–	✓	–	✓

(Tezcan et al, 2015: 225)

1.4. LITERATURE REVIEW

Machine translation has been quite a popular topic in recent decades. According to the Scopus database, 7008 works have been published with MT as a keyword between 2000 and 2017 (Vasiljevs et al., 2019: 2). Of course, these studies involve a wide range of perspectives on the subject, ranging from programming an MT system from scratch (Way and Gough, 2003; Nagy, 2021) to ethics regarding the use of MT (Kenney and Winters, 2020; Bowker, 2021; Tomalin et al., 2021). Since this research focuses on NMT post-editing, exclusively on the challenges and skills of post-editing in Turkish, relevant articles are selected, and different approaches to post-editing are also involved.

Before the introduction of the neural system, Lotz and Rensburg (2016), observed the development of Google MT between 2010-2013 for Afrikaans and English language pairs. Each year, the authors entered the same two texts, one slide text from a lecture presentation with 312 words and a news report with 438 words in order to assess the usability of MT for University students. They adopted the Framework for Standardized Error Making of the American Translators, which is normally used for human translations, to use it for MT output. The authors carried out the error annotation process themselves. They found that for the slide text, capitalization, grammar, and mistranslation categories are the most erroneous categories. While the number of capitalization errors decreased over time, grammar errors decreased in the second year but kept increasing in the later years, in the end, the number of errors was equal for 2010 and 2013. Mistranslation, on the other hand, decreased only in 2012 but kept escalating in the other years. The results also showed a decline in untranslated words. For the news report, the omission is the category with the highest number of errors and it almost doubled when the numbers in 2010-2013 are compared. As for overall errors, Google MT produced fewer errors in both text types in the first three years; however, it increased in the last year. Based on this unpredictable nature of Google MT, authors argue that “the system needs a radical breakthrough for a new leap forward in quality” (Lotz and Rensburg, 2016: 93). When the year of publication of the paper is considered, it can be stated that this breakthrough was soon brought about by the introduction of the neural-based system. After that

point, researchers started to compare the new system to its precursors. Şahin (2015) studies the same MT system in the same years for English-to-Turkish. However, the method of analysis is solely carried out by the data received from the participants who are third-year students in a translation department in Turkey. The comments received from the participants of this study reveal a similar finding to that of Lotz and Rensburg (2016): MT quality from English to Turkish is still insufficient. Some even claimed that post-editing the MT outputs with such quality is as difficult as translating from scratch, and some are even harder and misleading (Şahin, 2015: 56).

There are many studies that compare NMT to other MT approaches in different language pairs using a wide range of metrics and taxonomies. A number of studies use BLEU, an automatic machine translation assessment metric proposed by Papineni et al. (2002), as the basis of the evaluation (Koehn and Knowles, 2017; Junczys-Dowmunt et al., 2016; Dowling et al., 2018). However, as indicated previously, automatic evaluation metrics fail for measuring the quality of NMT systems. They have been found insufficient for evaluating either fluency or accuracy (Stent et al., 2005). Another research argues that BLEU can be “cheated” and low-quality translation can receive high points from the metric (Smith et al., 2016: 279). Wołk and Marasek (2015) compare NMT with SMT between Polish and English for medical texts. They train the machine translation systems with data including more than one million sentences extracted from a corpus that is prepared using the European Medicines Agency documents. Evaluation of the MT outputs is made with a few automatic metrics: BLEU, METEOR, NIST, and TER. While the results provided by BLEU, METEOR, and NIST reveal that the trained SMT system is better than the most common NMT system and NMT system trained within the research, TER shows the opposite, indicating the common NMT is the best and followed by the trained NMT. While TER reveals the least amount of amendments needed to be made by a human, other systems indicate to what degree the MT output matches with the provided translation. As the authors indicate, NMT systems frequently change a word with a viable option; however, automatic metrics perceive them as a mistake. Therefore, it is concluded that these metrics are not suitable for the evaluation of NMT systems and the actual results should be better for NMT than they computed. This finding also confirms the evaluation method of the current study.

Therefore, studies that prefer fine-grained analysis choose human evaluations. For instance, Bentivogli et al. (2016) carried out the first comparison between NMT and phrase-based machine translation (PBMT) in order to reveal the different factors involved in the quality gap between the output of two systems. The study involves an NMT system and three PBMT systems with different approaches: standard, hierarchical, phrase-based, and syntax-based combinations. The language pair of the study were English and German. The machine-translated texts are evaluated both with automatic metrics and also errors are manually categorized into the following groups: morphological, lexical, and word order errors. The corpus of the study is gathered from the results of the English-German task performed within the International Workshop on Spoken Language Translation 2015, which involves translated transcripts of the TED talks. Automatic metrics used in the study show that NMT outperforms all types of PBMT by a wide margin. Results of Bentivogli et al. research show that while the translation quality decreases for all systems as the sentence gets longer, NMT performs better in long sentences. However, when the sentences get over 35 words, NMT's quality lowers remarkably. As for the fine-grained analysis results, NMT produces morphologically better sentences than the other systems, making 19% fewer errors at a minimum. Similarly, NMT is again the best approach in the lexicon category and makes %17 fewer errors in this category than PBMT systems. Furthermore, NMT outperforms all PBMT in terms of word ordering. Especially, the amount of verb ordering errors, which is especially difficult because different clauses require different verb positions in German, decreases by 70% in NMT compared to that of PBMT. Nevertheless, NMT does not show a clear improvement in the ordering of articles. The authors conclude that NMT shows a huge improvement over PBMT and it decreases the post-editing effort significantly.

Similarly, Castilho et al. (2017) compare NMT to SMT in various language pairs using both automatic metrics and human evaluation. Three text types are tested in this research: e-commerce, patents, and online courses. For e-commerce, data for training and testing involved product images and listings in German and English. Human evaluators assessed the machine-translated outputs for multi-modal adequacy and then ranked them without knowing which MT approach generated the given translation. Both automatic metrics and human evaluators mostly favored the output

of PBMT for this text type. For patents, MT systems trained with over 350 million words were used. Engines were tested for translation titles and abstracts using an automatic metric, and then evaluators ranked randomly presented translations and annotated the main errors in different sentences. Annotation categories were “punctuation, part of speech, omission, addition, wrong terminology, literal translation, and word form” (Castilho et al., 2017: 114). According to the results of the automatic metric, while NMT produces somewhat better translations than SMT for titles, it is the opposite for abstracts. Human evaluators usually preferred SMT outputs over NMT. There was some major differentiation between the two engines for certain categories. Omission errors formed 37% of all NMT errors, while the rate was only 8% in SMT. Sentence structure, on the other hand, was high in SMT, 35%, but low in NMT, 10%. Evaluators found 25% of SMT outputs errorless, while the same rate was 2% in NMT. For the last text type, which is online courses, PBMT and NMT systems were tested for translations from English to German, Greek, Portuguese, and Russian. The total amount of training data for English to target languages was over a hundred million sentence pairs, which were extracted from texts, subtitles used in lecture videos, and also student forums and comments. Apart from automatic metrics, human translators evaluated the MT outputs for post-editing effort, fluency and accuracy. Also, Castilho et al. carried out an error classification process within the categories of omission, addition, mistranslation, word order, and inflectional morphology. Results showed that NMT outperforms SMT for translations into all target languages. However, the difference between them for Italian was quite small. Both automatic metrics and humans considered NMT as requiring less post-editing effort in all languages, except the temporal effort for Russian. While evaluators regarded NMT as more fluent, the statistical difference was not significant. The gap was even smaller for accuracy, NMT was considered to be more successful with a margin of 0.06 at maximum. Furthermore, SMT is considered to be better in German in terms of accuracy. More errors were annotated in SMT outputs and segments with no errors were more in NMT. NMT was better in the categories of word order, and inflectional morphology for all languages, whereas SMT made less in omission, addition, and mistranslation errors in Greek, fewer omission errors in Portuguese, and fewer mistranslation errors in Russian. According to evaluators, fewer NMT lines required

post-editing, however, with a quite small margin. For temporal effort required in post-editing, NMT showed an insignificant improvement in German, Greek, and Portuguese, it was worse than SMT in Russian. Participants stated that NMT errors were more difficult to detect. As for rankings, NMT was higher in all languages. Researchers concluded that NMT is quite promising. However, PBMT still outperforms it in certain domains. Furthermore, there were some inconsistencies for different language pairs, showing that the improvements in NMT are not so much clear-cut as indicated by automatic evaluations.

Van Brussel et al (2018), on the other hand, use SCATE taxonomy, which will be employed in this thesis. In this study, instead of training a unique MT system, they test commercially available systems. The original SCATE project began in 2014 and used SYSTRAN as RBMT and Google Translate as PBMT, which was prior to the introduction of NMT to Google. Van Brussel et al. (2018) added the new Google Translate as an NMT system to the results of the previous study. They have prepared a corpus from the fields of non-fiction, external communication, and journalism, each involving 665 sentences from the Dutch Parallel Corpus. These texts were translated from English to Dutch. They have used six annotators to detect and classify the errors. Results of the study show that NMT makes significantly less amount of errors and produces more fully correct sentences than both RBMT and PBMT. For accuracy, mistranslation appears to be the most problematic category for all three systems. Word Sense Disambiguation is the subcategory of mistranslation with most errors. Another significant finding of the study is that while NMT makes fewer omissions than PBMT, the average number of words omitted per error in NMT is 1.5, it is 1.09 for PBMT and 1.07 for RBMT. Furthermore, NMT's omission errors are less visible compared to the other two systems and it is capable of producing a fluent target sentence while omitting up to 4 words. For Fluency errors, the authors find out that NMT is better than PBMT and RBMT. The categories with the most errors are Grammar and Lexicon. Results reveal that NMT shows a great improvement over other systems in all categories except for lexicon. As for grammar errors, the subcategories with the most errors are missing words, word form, extra word, and word order, respectively. Overall, the study concludes that NMT shows great improvement; however, its nature of covering its errors and creating a fluent text makes its output hard to post-edit.

Studies show that NMT outperforms previous approaches but it has significant deficiencies to carry out a translation on its own, in short, it still needs a human intervention as a post-editor, just as the previously developed approaches do. Of course, studies on post-editing go long before the introduction of NMT. Schäfer (2003) differentiates post-editing from translation and proofreading, defining it as a linguistic task on its own. The author states that the post-editing process is much more than checking the output created by MT, it has its own skills for identifying MT errors, which are argued to be recurring. According to Schäfer (2003), the post-editing process involves these phrases: output check, editing, and proofreading, respectively. This research also proposes an MT error categorization based on common errors that are amended by post-editors within the SAP translation projects. The objective of this typology is to inform the post-editors about the general MT errors, to produce a standardized structure for future research, and lastly, to introduce necessary amendments and improvements for the relative MT system. The taxonomy has four main error categories: lexical, syntactic, grammatical, and defective input. Lexical errors have further subcategories: general vocabulary, terminology, homographs, and idioms. Syntactic errors involve sentence analysis, syntagmatic structures, and word order. The subcategories for grammatical errors are tense, number, and active-passive voice. Schäfer argues that there are some common error categories identified in various research with various systems and language pairs. Even the taxonomy used for the testing carried out within this study shares many categories with the one proposed by the author. However, SCATE is adapted for NMT and, through differentiating between source and target level errors, is way more detailed.

Accepting the fact that raw MT outputs are no match to human translated texts, some researchers argue that the post-edited text should be compared to human translation. For instance, Friederer and O'Brien (2009) aim to compare the quality of post-edited text and human-translated text. To this end, they extracted 30 sentences from another study by one of the researchers (O'Brien, 2006a), each of them was available as source text, post-edited machine-translated, and human-translated texts, from English to German. The human evaluation process should have been carried out by 15 raters but 4 of them could not complete it due to personal reasons. The rest evaluated these different versions of translations according to the parameters of clarity,

accuracy, and style without knowing which of the given translations is generated by MT. The authors' postulation was that professionals would choose human-translated text over post-edited text. However, the results proved otherwise. As for clarity, the difference was not significant: evaluators considered both post-edited and human-translated texts "mostly understandable" (Friederer and O'Brien, 2009: 62). Moreover, in terms of accuracy, post-edited texts were deemed to be better with a significant difference. Finally, regarding style, human translators outscored post-editors and the difference was significant. Overall, results indicated that post-edited texts are rated equal to human translations, or better, except for the category of style. However, the evaluators of this study were professional translators and most of the users of MT might not regard style as an important aspect if they can comprehend the information they want. Thus, it is clear that machine translation plus post-editing can actually be a variant of human translation.

Similarly, Garcia (2011) tests whether translators should post-edit or translate from scratch. The aim of the article is based on a feature of computer-assisted translation tools, which offers MT for segments with no match. Google Translate Toolkit, which is now unavailable, performs this as default. The researcher asks whether this might work for all types of tasks. To this end, translator trainees both post-edit the given MT output and translate from scratch in Google Translate Toolkit and meanwhile, time spent on both activities and the quality of the final text is measured. There are 49 student participants who translate from English to Chinese, vice versa, and post-edit MT outputs for both languages. The selected texts are about 250 words. The time spent on the given task and the quality of the final text are observed for both tasks. Results show that machine translation plus post-editing is faster than translating manually, which gets faster when translating into a second language. Additionally, the quality of the post-edited texts is higher than manually translated texts.

In a similar line, Jia et al (2019) look into the differences between post-editing an NMT output and translating the same text from scratch. For this purpose, the authors carry out an experiment with Google Translate and also a from-scratch translation of English domain-specific and generic texts to Chinese. The participants are 30 translation students who are in the first year of the postgraduate translation program.

The analysis instruments of the study are keylogging, monitor recording, survey, retrospective procedures, and quality evaluation of the final texts. One of the findings is that post-editing NMT was only considerably quicker than translating from scratch for domain-specific texts; however, it significantly lowered the cognitive effort for both text categories. Furthermore, it has also been found that post-editing and manually translated texts are equal in terms of fluency and correctness. Another significant finding is that students generally had a favorable attitude toward post-editing, but they also identified numerous problems in the post-editing process. These problems are considered to be the impact of their previous training in translation, lacking post-editing expertise, and the confusing post-editing rules.

Furthermore, the effort involved in post-editing has been a topic of research on its own. For instance, in his extensive study, Krings (2001) investigates the post-editing effort on the cognitive level. This multilayered research compares post-editing with and without access to the source text in terms of its effort and economic costs. He found out that post-editing without a source text is faster than post-editing with a source text. When compared to human translation, post-editing with the source text increases the cognitive load since it requires dealing with three texts: the source text, machine-translated text, and the post-edited target text. Another significant finding of this research is that while MT outputs that are assessed to be high quality by the experts are post-edited faster than those with low quality, which is expected, MT outputs with the average quality required more post-editing effort than the MT outputs with low quality. Explanation of this finding is, as stated previously, such a post-editing process involves frequently comparing the source text, MT output, and target text, whereas post-editing a low-quality MT output is close to translation proper, as it involves less adherence to the output and the most of the work is carried out on the ST and TT. The researcher makes use of the Think-Aloud Protocol, which involves post-editors speaking about their thoughts during the act of post-editing. Since Krings (2001), post-editing effort has been a point of discussion in much research. Following Krings, O'Brien (2005) aims to find the most suitable measuring method for the temporal, technical, and cognitive effort of post-editing and makes use of keyboard monitoring and Choice Network Analysis, which compares different translation versions of certain text segments by multiple translators. She later goes on to further investigate the post-

editing effort in many other works (O'Brien, 2006b; O'Brien, 2017; Teixeira and O'Brien, 2017). Zaretskaya et al. (2016) also approach post-editing from a similar perspective. They analyze the impact of different MT error types on post-editing time and effort. Firstly, the results indicate that annotators do not agree with each other and therefore the post-editing is subjective and differs among post-editors. Furthermore, some issues take longer to solve, although they don't always necessitate numerous editing procedures.⁴ The current study does not involve a post-editing process carried out by participants; however, the findings might help ease the post-editing time and effort in Turkish since the results will summarize the main problematical areas of MT in Turkish and challenges of post-editing, i.e. it will give a hint to post-editors about what to especially look for.

Another approach to the subject, which might both bring a common understanding to the process and also reduce the post-editing effort by providing necessary skills, is post-editing training. In her preliminary work, O'Brien (2002) dwells upon this issue by asking why there should be a course on post-editing. The answer has a fourfold explanation. First, the global translation market is expanding fast and MT plus post-editing can be a solution. Second, the skills necessary for post-editing and translation are different. Third, students who have received post-editing courses will be accustomed to the MT and ready to work with it. Lastly, such a course has the potential to boost machine translation adoption by enhancing translators' views on the technology and its capacity. O'Brien further argues that the target audience of such a course is the students of translation departments. However, for O'Brien, this does not mean that translating and post-editing are similar and, as indicated previously, translation and post-editing skills are different; therefore, skills required to be a post-editor might not be offered in translator training. Reasons for these are, first, the cognitive process of both activities differ. As for the practical level, whereas translation involves two texts, a source text and a target text, post-editing has three texts, the third one being raw MT output. After stating the differences between post-editing and translation, or revision, O'Brien indicates the skills that a post-editor should possess. After listing several skills mentioned in previous studies, such as

⁴ Post-editing time and effort has been discussed in many other studies. See for instance Koponen, 2012; Specia, 2011; Carl et al., 2011; Tatsumi, 2009.

subject area expertise, good knowledge of the source and target languages, basic computer skills, and positive thoughts towards MT, the author adds a few of her own suggestions. These are MT knowledge, skills regarding terminology management, controlled language, programming and text linguistics. Lastly, O'Brien gives an outline for a post-editing course, involving theoretical and practical aspects. The course starts with the theoretical component and it involves certain introductions to relevant topics such as post-editing, MT technology, and controlled language. Then, it further includes advanced terminology management, text linguistics and basic programming. The second part of the course, the practical aspect, comprises performing post-editing of various text types generated by different MT systems. Students should analyze the MT outputs based on different variables, such as system settings, using terminology and linguistic rules. They should get accustomed to creating and using term banks and transferring them to other platforms. The author believes that such an extensive outline should be given as a separate program. If not, it can be divided into two semesters. She argues that such a course should be taught in post-graduate departments, if not, in the last year of the undergraduate translation training department.

A year later, Belam (2003) writes on the benefits of adding post-editing to the syllabus of an MT course taught at the University of Exeter to the final year students of modern languages. As the theoretical part of the course, students learn the basic concepts of MT and post-editing. They learn types of post-editing such as rapid, minimal and full. Later, they receive a practical assignment where they have to rapid post-edit an MT output and discuss the process. Belam states that students require specific guidelines for post-editing. In order to come up with a rapid and minimal post-editing guideline, they held a workshop. In this workshop, students form groups and post-edit a text to generate rules. The language pair is German and English. For rapid post-editing, they create a fundamental rule which suggests correcting only the obvious and notable errors. Furthermore, they list some dos and don'ts. There is a different set of rules for minimal post-editing. As for the benefits produced as a result of the theoretical and practical components of this course, one of them is that post-editing helps language learning. Students read and analyze the text in detail for a successful post-editing and thus learn new words, and grammatical and stylistic features. Post-

editing also contributes to students' translation skills by directing the students to analyze errors and think about how to translate them. MT also may generate some good ideas for translation. It encourages an imaginative perspective to translation in a way to look for the non-obvious option. Additionally, by learning that different levels of post-editing are required for different contexts, which allows students to evaluate the function of work as well as its content and style, MT helps the communication skills of the students. Finally, such a course on post-editing contributes to using foreign languages at work both by involving theoretical discussion and practical application.

Different from the studies above, Depraetere (2010) states that although the idea that post-editing should be included in translator training is generally agreed upon, we do not yet know what approaches are optimal to make translation students good post-editors. Therefore, the author aims to establish the post-editing strategies that can be used in training. She instructs the students to post-edit the MT of 2,230-word source text, but unlike Belam (2003), there is no instruction on how to post-edit and the reason is to find what students intuitively do right and wrong, and then, it will be easier to focus on problematical aspects. The English original text is translated in a customized SMT system into French. The only instruction given was that the target text and the source text should be similar in terms of information and grammatically correct. It is found that if the meaning in MT output is clear, students did not make changes for the sake of fluency. Usually, the terminology was amended for a moderately better option. Another finding was that students did not turn the superscript characters into regular ones, although it was a mistake. Moreover, capitalization errors were mostly missed. They did not make insufficient post-editing required by most of the errors. Most students could not detect the omission issues. Regarding some errors, such as wrong transfer of finite and imperative verbs, students preferred to keep the MT output. Thus, Depraetere states that a post-editing guideline should involve recommendations on certain syntactic forms, terminology list, mistranslation, untranslated/omitted source text, consistency and accuracy. The results also show that it is not necessary to overstate that stylistic modifications or rephrasing is not so much needed in a post-editing course lectured to translation students. Students do not appear to have any difficulties retaining in less-than-perfect translations. Finally, Depraetere finds it useful to perform MT analysis for typical errors. Although the current thesis does not directly study post-

editing training, the findings of the analysis will be no doubt beneficial to a study on post-editing training in Turkish since it will present most common challenges for post-editors working from English to Turkish.

As for the post-editing training studies in Turkey, Şahin (2013a) examines the findings of an experimental course for translation students. The course's main goal was to improve students' translation skills by having them post-edit English to Turkish machine translated texts. The MT systems used in this study was Google Translate. The students' attitudes about MT and post-editing were also investigated. Apart from the post-edited texts that were evaluated by the instructor of the course, students manually translated similar texts and completed logs both for background work and translation process. Results show that the use of these logs benefitted the majority of the students by facilitating the post-editing process. Furthermore, because of the poor quality of the MT output for most of the texts, the post-editing process was challenging and frustrating for most of the students; however, this negativity lowered as they were familiarized with the process and some even later stated that they prefer post-editing to translating from scratch. Also, the quality assessment revealed that there is no significant difference between the post-edited texts and manually translated texts. Furthermore, Şahin (2013a: 13) states that “the ability to identify the problematic aspects of the raw MT output seems to lead to better translation performances”. Thus, this thesis might help establishing the most erroneous aspects of English to Turkish MT and it could be useful for future studies on post-editing training in Turkish context.

In another research, Öner and Öner Bulut (2021) look into the problems and benefits of a post-editing focused neural machine translation error annotation and quality evaluation work for translation students. As part of a master's course, the students individually carried out an error annotation process for MT outputs of texts from either environmental blogs or movie and TV reviews. The machine translation used within the study was Google Translate. The students were then required to carry out manual translation, full post-editing, and light post-editing. The data of the study were gathered using a survey filled by the trainees after they completed the error annotation task. The analysis of the responses of the participants indicated that the majority of the trainees thought the task was challenging. However, most of them also stated that the task was useful and gave them the confidence to make choices on human

translation quality evaluation of machine translation (MT) and to carry out error annotation and post-editing activities in the future. A large proportion of the students said that error annotation aided their post-editing process and decreased their post-editing effort. They reported substantial benefits such as improved comprehension of MT error annotation and improved ability to execute post-editing. According to the survey answers, the challenges they experienced in the task stemmed from being exposed to and assigned to execute jobs with which they were unfamiliar. Nonetheless, the vast majority of trainees were pleased with their learning experience. The findings also showed that incorporating MT into translator training with an emphasis on human translator empowerment offers both challenges and advantages for translation trainers. The challenges are task design, application, and planning, as well as the responsibility to conduct it in regular interaction and cooperation with the students. The benefits, on the other hand, are a sense of satisfaction brought on by positive feedback from the students and the realization that the teaching experience becomes a learning experience for both parties.

As for the studies involving Turkish language as a part of their MT testing, some include Turkish to specifically trained SMT systems (Durgar El-Kahlout and Oflazer, 2006; Oflazer and Durgar El-Kahlout, 2007; Bisazza and Federico, 2009; Çalık, 2019; Doğru, 2020). Some others discuss introducing MT technology or post-editing to translator training (Şahin, 2013a; Öner Bulut, 2019; Öner and Öner Bulut, 2021; Aslan, 2021). Şahin (2013b) mentions MT and post-editing in a subchapter of a coursebook on translation technologies. Aslan (2019) writes a book on MT that includes topics such as history, types, systems and automatic evaluation metrics of MT.

So far, a few studies highlighted Turkish in NMT evaluation. Araz (2021) creates a customized English to Turkish NMT system on Microsoft Translator to be used in translating the summative assessment criteria, which are used for grading students, of Middle Years Programme within International Baccalaureate. The goal is to provide a solution to the MYP summative assessment criteria's immediate and ongoing translation demand with. The training corpus involved documents regarding summative assessment criteria and Approaches to Learning Skills, to which each criterion of summative assessment is connected. Then, test materials for the

customized NMT system were acquired from an International Baccalaureate school in Turkey. The same test documents were also translated by SMT systems. However, it is interesting that the author uses Google Translate and Yandex.Translate as SMT, while they were already switched to neural-based systems at the year of the publishing. MT outputs are compared using BLEU and Multidimensional Quality Metrics (MQM). For MQM evaluation, the author analyzes some segments by comparing them side-by-side. Results show that the outputs of customized NMT are more fluent, accurate and consistent. As for the results of the BLEU, the customized NMT is better than the other systems in six out of ten examples. When the error subcategories are examined, it is revealed that all the systems have terminology issues, SMT systems produce wrong number formats and inconsistent syntactic structures. The author concludes that customized and domain-specific NMT systems might be useful in classroom environments.

Using the same evaluation typology, MQM, Gözen (2022) analyzes the performance of Google Translate in technical and literary texts from Turkish to English. The author argues that while MT can translate a technical text since it can find “word-for-word equivalence for the linguistic elements in a text”, it cannot “transfer the soul of a text”, meaning unable to convey the “artistic, stylistic and fictional features” of the literary text (Gözen, 2022: 2). The author selects the technical texts from the domains of science, social science, engineering, and economy. The economy text is an inflation report received from the Turkish Central Bank. For the rest, abstracts of the articles on the relative domains are chosen. Additionally, there are two literary texts: a poem by Can Yücel and a short story by Aziz Nesin. Using the formula of MQM, the author calculated the translation quality of the poem to be 7% and the short story 75%. The author argues that the MT output of the short story can be used with a post-editing. As for the translation quality results of the technical texts, engineering is 92%; social science is 95%; science is 92%; economy is 94%. Based on these results, Gözen states that these texts can be used with a light post-editing. During the analysis, the author finds a total of 12 errors in the MT outputs of the technical texts: 9 accuracy and 3 fluency. For the short story, there are 23 accuracy errors and 3 fluency errors. Moreover, 14 accuracy and 2 fluency errors are found in the machine-translated poem. The author reaches to a conclusion that the output of Google Translate

can be post-edited for technical texts and some types of literary texts. On the other hand, the poem, according to Gözen (2022: 84), is unachievable for machine translation due to a lack of soul.

Post-editing as a subject has been studied from several other perspectives in Turkey. In her doctoral dissertation, for instance, Temizöz (2013) compares the post-editing process of a technical text carried out by field experts, who are engineers, and translators. This comparison involves factors such as speed, time and amount of changes. She also compares the quality of post-edited text. Furthermore, the study investigates whether it is better to have engineers to post-edit and translators to revise the text, or vice versa, in terms of speed and quality. The aim of the research is to scrutinize the characteristics of the post-editing conducted by field experts and translators. In the first phase of the study, engineer and translator participants post-edit a technical text of 482 words translated by Google Translate from English to Turkish. After that, participants complete a questionnaire. In the second phase, both translators and field experts revise each other's post-edited texts. During all steps, the participants' computer screens are recorded to track the evaluation factors. Results show that the difference of the time spent for post-editing by translators and field experts is not significant. However, if the recurring errors are penalized, the quality of the post-editing carried out by field experts are higher than that of translators and when engineers revise the text post-edited by translators, the quality improves better as opposed to other way around. According to questionnaire and participant profiles, main factors of post-editing quality for technical text are proficiency and experience in the field.

Different from Temizöz's research, Pekçoşkun Güner and Güner (2019) discuss the same process in terms of effort involved in it. The study aims to demonstrate that the semantic similarity between the back-translation of the MT output and the source text may be used to assess the MT system's performance. It argues that the semantic similarity between the back-translation of post-edited MT output and its source text is greater than the semantic similarity between raw MT output and the source text. This comparison is used as a method to justify the argument that this procedure may help with the evaluation of post-editing effort based on semantic similarity. With a few examples of machine-translated, post-edited and back-translated

sentences, the authors observe an increase in the semantic similarity when the post-edited NMT is back-translated. The result is that if the rate of this increase is high, the post-editing effort will also be high.

In his doctoral dissertation, Çetiner (2019a) analyzes the impact of post-editing on translation students' attitudes and performance. For this end, he creates a scale to assess the pupils' opinions. This scale is used as a pre-test and a post-test at the beginning and conclusion of the implementation, and the differences between them were examined. The implementation involved an MT post-editing course taught by the researcher himself to 31 translation students for 6 weeks. The second component of the study examined students' translation abilities before and after the deployment. The researcher used three texts for the pre-test and three texts for the post-test for this aim. The study discovered that as students were more familiar with Machine Translation, their faith in the systems grew, and their expectations became more acceptable following the post-editing course. The researcher concludes that a course on Post-Editing should be integrated into the curriculum of translation departments. Çetiner (2019b) also scrutinizes the history and evolution of machine translation and post-editing in his research. In another article, Çetiner (2021) aims to explore the shift in the role of translators in terms of translator competences in light of advancements in machine translation technologies. The author examines the advancements in machine translation systems and their implications for translation as a profession, focusing on translator competencies. Furthermore, he discusses post-editing levels and criteria for these levels. The competences that are necessary for translators and post-editors are compared using competency frameworks developed by the Procés d'Adquisició de la Competència Traductora i Avaluació (PACTE) and European Master's in Translation (EMT). The study indicates that translator competences should be reconsidered in light of translators' shifting responsibilities resulting from the development of machine translation technologies.

By emphasizing the significance of term coining in language, Türkmen (2020) aims to add the term "son-biçimleyici" for post-editor to Turkish translation studies to be used in translation practices and in translation education. Additionally, the author provides Turkish term suggestions for post-edit and post-editing, which are "son-biçimleme yapmak" and "son-biçimleme", respectively.

Sayar (2020) analyzes translators' performance of pre-editing and post-editing. The argument of the study is that the process of pre-editing and post-editing varies among translators, i.e. it is not a standard procedure. Furthermore, the author believes that the translators consider post-editing as more important than pre-editing. She also argues that the ST is usually ignored in post-editing and the final text is not an equivalent of the ST. Finally, she claims that the strategies translators use in pre-editing and post-editing are impractical and time-consuming. For this end, the researcher asked the participants, who are 50 professional translators, to pre-edit and post-edit a technical text with 319 words machine-translated from English to Turkish. The researcher compares the pre-edited, machine-translated and post-edited texts. The results show that the strategies translators mostly use during pre-editing are transposition, addition and punctuation, and they rarely use relative clause change, paraphrasing, and splitting. As for post-editing, the translators generally make changes in the word choices, and tenses. They rarely make spelling corrections, paraphrase, and combine sentences. As argued, the translators put in more time and effort for the post-editing and the total number of changes made in the pre-editing is four times less than the post-editing. On the other hand, the second argument, which asserts that the translators implement time consuming and effortful strategies in pre-editing and post-editing, is disproved by the findings since it is found that they rather apply practical strategies. Moreover, the translators prefer different strategies during pre-editing and post-editing, thus it is not standardized. Additionally, some translators clearly neglect the original text while post-editing MT output. These results, especially the mostly used strategies, can be compared with the findings of the current thesis.

Eryatmaz (2017) offers a machine translation evaluation method based on three pillars: translation studies, machine translation and translation market. In his doctoral dissertation, he scrutinizes the findings and essential proceedings of the Statistical Machine Translation Workshop between 2005 and 2017, which provides an overview of the MT evolution. Based on the analysis of these workshops and House's translation quality assessment model, Eryatmaz proposes a machine translation evaluation model based on three main criteria: mechanical, semantic and usage-oriented. Then, using this model, he evaluates the NMT outputs of three texts, each representing a category of a translation practice classification prepared by the author

himself. These texts and their category are literary text written by Ahmet Hamdi Tanpınar (transcreation), 2016 progress report of the EU (three-step translation process), and a text from the Euro NCAP (singular translation) and the NMT system used in the study is Google Translate. Both the original versions and their translations are used as source text and from English to Turkish, from Turkish to English bidirectional machine translation is carried out. According to the results, the machine-translated literary texts involve mechanical errors regarding syntax, interverted sentence and sentence structure. As for the semantic errors, part of speech and complex words are problematical. It has been further found out that the NMT outputs require expert translator intervention before they can be used. The results of the EU text that is evaluated within the scope of three-step translation process show that mechanical issues significantly decreases; however, the issues regarding term usage and complex words still continue. While there is a need for human intervention in this text as well, its reusability increases. In the evaluation of the MT outputs of the last text, the mechanical errors further improve. As for the semantics, on the other hand, part of speech and complex word continue to be an erroneous aspect of NMT. Overall, the results of the analysis show a parallelism with the translation content pyramid published by TAUS (2016b). As the text to be machine translated goes up the pyramid, for instance a literary text, functions of the machine translation evaluation methods decrease.

In the light of the above literature review, this research might provide significant findings for several aspects of post-editing, which will complement the existing literature in Turkey. First and foremost, the findings will be grounded on an NMT test and a detailed error annotation. Moreover, these findings will not be solely used to determine the current performance of NMT into Turkish, but more importantly, they will be used as a base for determining possible challenges and the necessary post-editing skills to overcome these challenges. Thus, the most fundamental contribution of this thesis to existing literature in Turkey is that it provides a Turkish-based approach to post-editing skills. As indicated, the errors to be found in the analysis are the points that need human intervention and the collection of these points will mostly depict the post-editing process. Furthermore, it will be also shown that which field the correction of these errors concern. Thus, this study will contribute to four different

aspects of NMT and post-editing. First, it will shed light on the current state of NMT from English into Turkish. Second, it will reveal what type of errors mostly need amendments in Turkish post-editing. Third, the previous finding can be used as a base in future studies that prepare a Turkish-specific post-editing course. Finally, it will also be helpful in the studies aiming to reduce the Turkish post-editing time and effort since the findings can inform post-editors about what to look for specifically. Furthermore, when studies involving Turkish are considered, this study has the biggest corpus, the greatest number of NMT systems to be tested and the most detailed error taxonomy. When all these are considered, it is clear that this thesis will fill a gap in the literature both as a stand-alone research and a supplementary to future studies.

1.5. METHODOLOGY

For the analysis of this research, a corpus is compiled with technical, legal, and medical texts. For the first technical text, an excerpt of 487 words from the TV user manual for Samsung 5 Series is used. The reason why this TV model is chosen is that it is a recent model and its manual is written in a simple, user-friendly format. The excerpt is specifically chosen for its abundant inclusion of terms related to a certain theme, safety, which is given as a separate section in almost all manuals for technological devices. This 487-words-text is translated in all five translation systems used in this thesis, which will be later detailed in this section. Google Translate produces a MT output with 388 words, Reverso produces 392 words, Yandex produces 393, Bing produces 390, and Watson produces 434. Then, a second technical text is chosen, which is an excerpt of 529 words regarding the working procedures of the jet engines. This text is taken from the Airplane Flight Manual published by the Federal Aviation Administration of the U.S. The reason behind the selection of two different technical text is first, as indicated, to find out whether there will be any differences between them since they have certain differences such as wording and aim. The safety section of the TV user manual warns and informs the audience while the Airplane Flight Manual only informs about the working procedures of jet engines. The results are also compared considering the vocabulary analysis of each text. For the second technical text, Google produces 400 words of MT output, Reverso produces 397

words, Yandex produces 408, Bing produces 408, and Watson produces 431. Thus, the NMT analysis of the technical text translation includes two source text with 1,016 words and ten different outputs with 4,041 words in total.

For the first legal text, an excerpt of 495 words from the UN's Staff Regulations is used. The UN publishes multilingual documents that are available online and they have been previously used for training machine translation systems (Callison-Burch et al., 2010; Callison-Burch et al., 2011; Junczys-Dowmunt et al., 2016). Therefore, it is assumed that the NMT outputs of the legal text will be rather successful and thus they will represent the least post-editing required texts. Moreover, if it turns out to be otherwise, i.e. they would be erroneous as any other legal text; it will show how NMT systems are still far from producing a readily usable text even for widely online-available documents. The excerpt includes the first page of the Regulation, thus a term previously explained would not be a problem for the NMT. For the NMT outputs of the first legal text, Google's translation has 361 words, Reverso has 380, Yandex has 344, Bing has 365, and Watson has 396. For the second legal text, the same regulation of the European Union is used. The part used includes 548 words. The comparison of the results will show that whether the change in the style and wording affects the NMT performance. The NMT outputs of the second legal text are like this: Google's translation involves 417 words, Reverso's 436, Yandex's 437, Bing's 426 and Watson's 460 words. For legal texts, the analysis will be carried out on two source text with 1,043 words and their ten NMT outputs, which add up to 4,022.

For the first medical text, Covid-19 Clinical Management Guide by the World Health Organization (WHO) is used. An excerpt of 552 words is chosen including background information on the Covid-19, involving both recent terminology on the disease and general medical terms. The reason behind this selection is that the topic is current and the organization is affiliated with the UN, therefore the same goes for its online documents, they are readily available in the organization's several official languages. When the 552-words source text is processed in the NMT systems, Google generates a raw output with 430 words, Reverso generates 437 words, Yandex generates 439 words, Bing generates 431 words, and Watson generates 482 words. Again for the previously indicated reasons, a second medical text is machine-translated and analyzed. This second medical text is an excerpt from a research carried out by the

U.S. Department of Health & Human Services called Facing Addiction in America. The part chosen from this research is regarding the addiction cycle and it involves 521 words. The word count for its raw NMT outputs are 413 for Google, 434 for Reverso, 424 for Yandex, 422 for Bing, and 457 for Watson. Overall, the error analysis to be carried includes two source text with 1,073 words and ten NMT outputs with 4,369 words in total.

Table 1: Overview of the Corpus

	TT1	TT2	LT1	LT2	MT1	MT2
Source words	487	529	495	548	552	521
MT Outputs	1,997	2,044	1,846	2,176	2,219	2,150
Source of the excerpt	Samsung 5 Series TV user Manual	Airplane Flight Manual published by Federal Aviation Administration of the U.S.	UN Staff Regulation	EU Staff Regulation	Covid-19 clinical management guide of the WHO	Facing Addiction in America published by the U.S. Department of Health & Human Services called

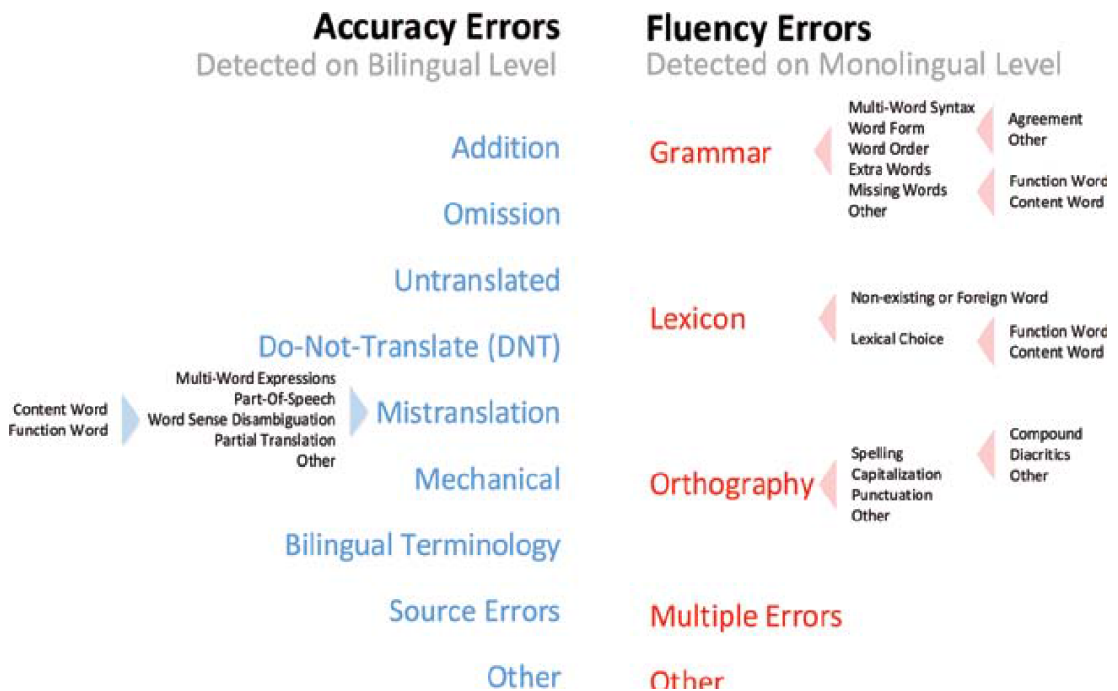
Table 1 presents an overview of the corpus of this study. As all the texts are considered, the corpus of this NMT test involves 6 source texts with 3,132 words in total and 30 raw NMT outputs adding up to 12,432 words. Error annotation is performed by the researcher himself. The educational background of the reviewer includes a B.A. degree in the department of Translation & Interpreting, and an M.A. degree-in-progress in the same department, for which this thesis is written for. As for professional experience, he has been translating different text types since 2015, ranging from literary texts to academic papers. Furthermore, he has been working as a game localization specialist and post-editor for over a year in different language service providers.

For the NMT experiment, all free-access NMT systems that offer translation from English to Turkish are tested. These are Google Translate, Bing Translator, Yandex.Translate, Reverso and Watson Language Translator. The reason behind this selection is that all of them offer the state of the art NMT. These were all the systems

that offered Turkish machine translation in the early phases of this thesis. However, later on DeepL added Turkish on May 25th, 2022 (DeepL, 2022). Furthermore, while Google Translate has previously been involved in other studies with Turkish, the other systems are untested. Therefore, another aim of this selection is to provide data on previously untested system. Google Translate launched NMT in 2016 with Turkish as one of the first languages (Turovsky, 2016). However, there is no clear date for NMT introduction of Reverso. Yandex launched NMT in 2017 (Yandex Blog, 2017) but we do not know when Turkish is added. Bing, on the other hand, started to offer neural machine translation in 2016 (Microsoft Translator, 2017) and added Turkish a year later (Microsoft Translator, 2017). Watson Language launched its NMT in 2018 with Turkish as one of the first languages (Mohammad, 2018).

Machine translated outputs are evaluated according to the NMT-based update (Van Brussel, Tezcan and Macken, 2018) of the SCATE machine translation error taxonomy (Tezcan, Hoste and Macken, 2017). According to the findings, most problematic aspects of the NMT systems of the research from English to Turkish are discussed in terms of post-editing skills. Error categories of the original SCATE is as follows:

Figure 4: SCATE Machine Translation Error Taxonomy



(Tezcan, Hoste and Macken, 2017: 226)

The reason why automatic metrics like BLEU or METEOR are not used in this study is that they only provide scores for MT; however, since this study aims to make an inference for post-editing skills from the analysis of machine-translated texts, a more detailed taxonomy is needed to detect the specific points that requires the work of a post-editor. In addition, such automatic metrics underestimate the quality of NMT systems (Shterionov et al., 2018: 15) and they roughly estimate human judgements (Callison-Burch, 2019: 286). SCATE includes both target and source text level error categories, which is important to differentiate since post-editing becomes harder and more time consuming if the issues that can only be fixed by referring to the source text increase. It also has detailed subcategories, which make it easier to pinpoint the issues. However, this taxonomy was created for English-Dutch language pair. Therefore, some categories might be invalid or some categories need to be added for the language pair of this research since Turkish, as well as having other major differences, is an agglutinative language unlike English and Dutch.

In Figure 4, the error categories of the SCATE are listed, which is initially developed for SMT. In 2018, it was adapted to be used for the error classification of NMT outputs, which further included the categories of Fluency-Grammar-Extra Word and Accuracy-Mistranslation-Semantically Unrelated (Van Brussel, Tezcan and Macken, 2018: 3800). In SCATE, errors that can be found on the machine-translated output and are related to “well-formedness of the target language” (Tezcan, Hoste and Macken, 2017: 226) are categorized under fluency. In this study, error detection starts with analyzing only the raw MT output first, without the ST in order to find the fluency errors. The ST-TT comparison is carried out to identify accuracy errors, which can only be found on the bilingual level. Both categories include detailed subcategories. For fluency, these are grammar, lexicon, orthography, multiple and other, and the first three have their own subcategories. Errors that violate the grammar rules of the target language are categorized under grammar errors, which have the subcategories of multi-word syntax, word form, word order, extra words, missing words and other. Multi-word syntax is defined as the errors that occur when a multi-word expression is wrong in terms of its syntax, although the word choices might be correct. These errors can be solved by reordering, adding or removing of the function words, or a combination of these methods. While the word form errors normally concern the wrong conjugation

or its article according to gender, number and person, due to the nature of the Turkish language, this category will include errors of wrong or missing inflectional suffix. Word order errors mean correct words in the wrong order. Extra word errors are uncalled for repetitions or simply the redundant words that solely violate the sentence's compliance to the target language rules. If the sentence is grammatically wrong because one or more necessary words are lacking, then it is a missing word error. If there is a grammatical issue that does not fit any of them, it is categorized as other. Another type of fluency error is lexicon. It involves words that do not belong to the lexicon of the target language, or are wrongly chosen and do not fit to the context. These are further subcategorized as non-existing or foreign words, and lexical choice, respectively. Orthography errors include spelling, capitalization, punctuation and other as subcategories. The subcategory of other involves errors that violate the writing methodology of the target language but do not fit to the previous three. Another type of fluency error is multiple and it is used when a mix of fluency errors make it impossible to pin and correct them individually. In most cases, such errors require rephrasing of the sentence by referring to the source text. Lastly, issues that are detected on the target text level but do not fit to any of the abovementioned fluency categories are marked as other (Tezcan, Hoste and Macken, 2017: 226) (Tezcan, Macken, Daems and Van Brussel, 2015).

Accuracy errors pertain to transferring the content of the source text to the target text and, as stated previously, can only be detected with a bilingual check. The subcategories of accuracy are addition, omission, untranslated, do-not-translate, mistranslation, mechanical, bilingual terminology, source errors and other. When a word in the target text is not present in the source text, this error is categorized under addition, and if it is the other way around, i.e. there is a source word that is not transferred to the target text, it is an omission. In case a source word is transferred to the target text as it is, without translating, it is categorized as untranslated. Do-not-translate refers to the translated proper names, brand names, etc., while they should be left untranslated. Mistranslations are incorrect translations of the source words. There are six subcategories of mistranslations: Multi-word expressions (MWE), Part of speech (POS), Word Sense Disambiguation (WSD), Partial Translation, Semantically Unrelated (SU) and Other, which involves the mistranslated word(s) that do not fit to

previous categories. MWE involves incorrect translation of idioms, proverbs, collocations, compounds and phrasal verbs, which are mostly translated too literally. POS errors occur when the source word is wrongly transferred into a different lexical category in the target text. WSD refers to a source word translated with the wrong sense. While partial translation refers to wrong and partial translation of a separable verb, it will not be valid in this thesis since Turkish does not have any separable verbs. Therefore, this subcategory is removed from the analysis. If there is a translated word that is not connected to any of the source words in any way, it is categorized as semantically unrelated. In case there is an accuracy error that is not related to transfer of the content, then it is a mechanical error. Mechanical errors are further divided into capitalization, punctuation and other. Another subtype of accuracy error is bilingual terminology; however, it is invalid in this research since there are no bilingual terminology requirements for the corpus of this study. Lastly, if there is a translation issue occurred due to a problem in the source text, it is considered as source error. Because the source text of this research is selected specifically, this category also is not valid (Tezcan, Hoste and Macken, 2017: 227; Tezcan, Macken, Daems and Van Brussel, 2015).

Some translation issues will be both listed under fluency and accuracy, since there are errors that are obvious in the target text but cannot be fixed without referring to the source text. Amount of this type of errors will also shed light on how the post-editing process will flow, whether it will be easily carried out on the machine translated output or it will require checking the source text frequently. In addition, as the error annotation tool of this thesis is developed for assessing English-Dutch machine translations, there will be some omissions and additions of categories to the taxonomy in order to fit it to the English-Turkish language pair. This might also be considered as a methodology proposition for future NMT experiments working in the same language pair.

CHAPTER TWO

NMT ERROR ANALYSIS

Before starting the experiment, translation procedures of the NMT systems included in this thesis are checked to find the most suitable method. Google Translate offers two different ways for submitting the source text: uploading the document or using the text box. Except for Bing Translator, all other translation systems included in this experiment offer the same two options. The first step was to compare both methods to see whether they differ in the translated text. The source text file is a PDF. When it is uploaded to Google Translate, the system struggles to detect sentences that continue in the next line, therefore separately translates each line. For instance:

Source sentence: Power-supply cords should be placed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at the plug end, at wall outlets, and at the point where they exit from the appliance.

Google Translate: Güç kaynağı kabloları, üzerine basılmayacak veya üzerine yerleştirilen nesneler tarafından sıkıştırılmayacak şekilde yerleştirilmelidir. ya da onlara karşı. Fiş ucundaki, duvar prizlerindeki ve takıldıkları noktalardaki kablolarla özellikle dikkat edin. cihazdan çıkın.

The same issue also occurs when the document is copied and pasted into the text box:

Source sentence: The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of this apparatus and to protect it from overheating, these slots and openings must never be blocked or covered.

Google Translate: Kabindeki ve arka veya alttaki yuvalar ve açıklıklar gerekli havalandırma için sağlanmıştır. Emin olmak için bu aparatın güvenilir şekilde çalışması ve aşırı ısınmasını önlemek için bu yuvalar ve açıklıklar asla bloke veya örtülü.

When the two source sentences above are examined, it can be seen that the text detection issue does not result from Google Translate's translation method of document uploading. The issue emerges both when the PDF document is copied and

pasted into any text processor and when it is uploaded to Google Translate. However, the technical source text used in this study does not have such an issue. This is because Adobe's online PDF to DOCX converter was used in order to keep the original format. The same issue is also observed in the other TV manuals with a similar page format, which is common for the most recent TV manuals. If this problem had not occurred when the document was uploaded, then it would have been only due to a failure in the copy-pasting process of the original PDF document. However, it occurs in both options with different documents. This alone, before going into analysis, shows a need for a translator as a pre-editor. The reason why the pre-editor needs to be a translator is that in order to determine the necessity to pre-edit, one has to be able to evaluate the machine-translated output and define the problem by comparing it to the source text. Another significant point this issue shows is that even the file type of the source document is vital, whether it is a PDF, XLS or DOC, since it can require an extra process before starting the post-editing. It is necessary to note that this issue did not occur for legal and medical texts of the study, which were plainer in terms of text formatting.

Since the common method for all five NMT systems is using the text box, analysis will be carried out based on the outputs of this method. However, in order to solve the above-mentioned sentence detection issue, carry out a fair analysis, and stay within the limits of this thesis that only includes post-editing, the converted and pre-edited DOCX document will be used. This shows that in cases of documents that are more than plain texts, i.e. including tables, symbols, visual instructions, etc., require pre-editing before translation, and only after that their raw NMT outputs can be post-edited. In other words, bringing a machine-translated text to the quality of human translation might involve pre-editing, as well as full post-editing.

As stated previously, the categories of partial translation, bilingual terminology and source error are not valid for this study since Turkish does not have separable words, and there is no predefined bilingual requirements regarding the translation of this corpus and the corpus is not random, it is selected specifically for this study, meaning it does not include any source errors.

2.1. ANALYSIS OF THE TECHNICAL TEXTS

The first technical text selected for this study is an excerpt from a TV manual, which includes the safety instructions for the user. As shown in Table 2, there are 473 errors in total. The NMT system that made the most errors is Watson Language Translator with 151 errors in total, which is 31.9% of total errors made by all the systems. It is followed by Yandex.Translate, Bing Translator, Reverso and Google Translate, respectively. For the first technical text, accuracy errors, with about 54.5%, are more than the fluency errors in total, and this means that the bilingual comparison will take more effort than error detection on the target level. However, the number of fluency errors are more than accuracy errors for Reverso and Bing Translator, which means the system used for the machine translation might also affect whether the process of post-editing will mostly be on the target text level or bilingual. Except for these two systems, others indicate a direct proportion in terms of number fluency and accuracy errors, as the fluency errors increase, accuracy errors increase as well. For technical texts, this finding means that systems are mostly inclined to commit more or less errors in both categories proportionally.

Table 2: Fluency and Accuracy Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Fluency	21	39	43	50	62	215
Accuracy	35	34	61	39	89	258
Total	56	73	104	89	151	473

Figure 5: Error Percentage of the NMT Systems for the First Technical Text

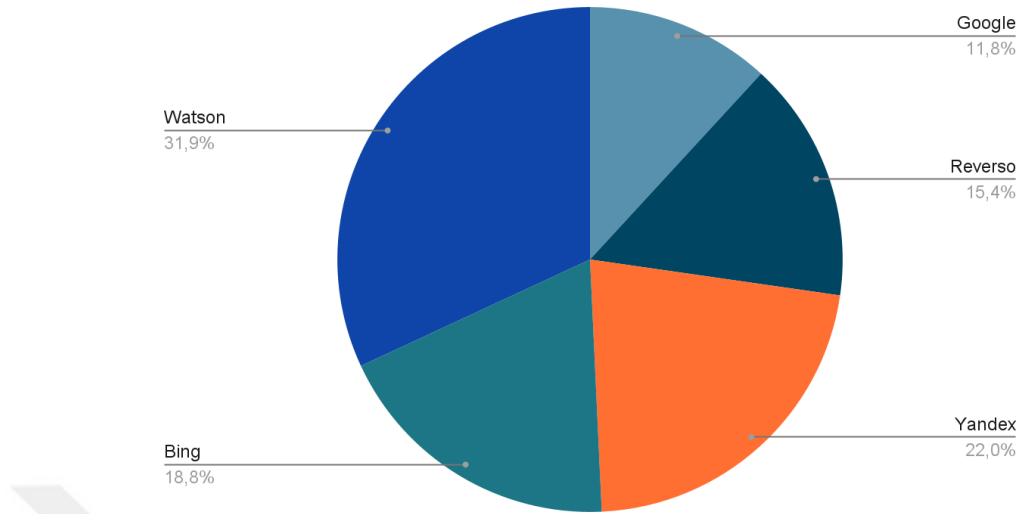


Table 3: Vocabulary Profile of the First Technical Text

	<u>Families</u>	<u>Types</u>	<u>Tokens</u>	<u>Percent</u>
K1 Words (1-1000):	113	130	327	67.15%
Function:	...	...	(215)	(44.15%)
Content:	...	...	(112)	(23.00%)
> Anglo-Sax	...	...	(38)	(7.80%)
K2 Words (1001-2000):	24	26	41	8.42%
> Anglo-Sax	...	...	(11)	(2.26%)
1k+2k		...	...	(75.57%)
AWL Words:	25	29	41	8.42%
> Anglo-Sax	...	...	(1)	(0.21%)
Off-List Words:	<u>?</u>	<u>45</u>	<u>78</u>	<u>16.02%</u>
	162+?	230	487	100%

The second technical text is about the operation of jet engines. As Table 4 shows, it includes 388 errors, which is lower than the first one. Unlike the first technical text, this one involves more fluency errors than those of accuracy. All the NMT systems commit more fluency errors than accuracy in the translation of the second technical text. The total number of fluency errors of the both text is almost equal. However, the number of accuracy errors decreases significantly in the second

technical text. Probably the most significant reason for this is the text format, which is more complex in the first technical text with tables and symbols. This leads to more errors in the category of mechanical>other in the first text. This difference alone creates a gap of 40 accuracy errors, which would otherwise create similar results. However, except for untranslated, all other accuracy categories involve less error in the second technical text. Yet the most erroneous subcategories, such as WSD, keep their importance in the second technical text, as well. With 142 errors, Watson is again the NMT system that makes the most errors. While it is the second best system in the first technical text, Reverso becomes the second worst system in the second technical text. It is then followed by Yandex, Bing, and Google.

Tables 3 and 5 show the vocabulary profiles of the first and second technical text, respectively. There is no significant difference between the two text in terms of vocabulary. Some aspects to consider are that the first text includes more words from the most frequently used 1000 words while the second one involves more words from the most frequently used 2000 words. There are slightly more off-list words in the second technical text. Thus, the gap between the errors of the two technical text is explained by, first, decreasing accuracy>mechanical>other errors. The time gap between the analyses of the first and the second technical text could be another factor in the decreasing error numbers.

Table 4: Fluency and Accuracy Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Fluency	29	40	36	34	75	214
Accuracy	19	36	28	24	67	174
Total	48	76	64	58	142	388

Figure 6: Error Percentage of the NMT Systems for the Second Technical Text

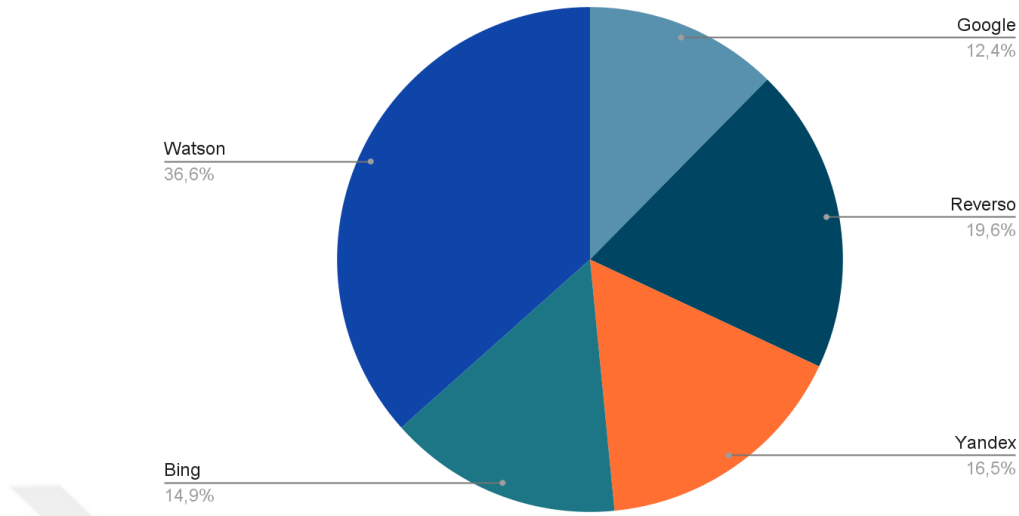


Table 5: Vocabulary Profile of the Second Technical Text

	<u>Families</u>	<u>Types</u>	<u>Tokens</u>	<u>Percent</u>
K1 Words (1-1000):	121	138	343	64.84%
Function:	...	...	(219)	(41.40%)
Content:	...	...	(124)	(23.44%)
> Anglo-Sax	...	...	(41)	(7.75%)
K2 Words (1001-2000):	17	20	55	10.40%
> Anglo-Sax	...	...	(10)	(1.89%)
1k+2k		...	...	(75.24%)
AWL Words:	24	30	38	7.18%
> Anglo-Sax	...	...	(1)	(0.19%)
Off-List Words:	<u>?</u>	<u>48</u>	<u>93</u>	<u>17.58%</u>
	162+?	236	529	100%

In terms of fluency errors, there is an almost equal distribution among grammar, lexicon and orthography subcategories for the first technical text, as shown in Table 6. These three make up nearly all the fluency errors with a total of 210 errors. As for the second technical text, grammar, lexicon and orthography are once again the most erroneous categories, adding up to 203 errors in total, but this time orthography includes a bit more errors than the other two. There are only 4 issues that fit to the multiple error subcategory in each text and all of them require the related sentence to be translated again. Some examples for multiple errors are:

Reverso: Güç kaynağı kabloları, üzerlerine veya üzerlerine yerleştirilen eşyaların üzerine basmaması veya sıkışmaması için yerleştirilmelidir.

Watson: Jet motoru ateşleme en çok jet motoru ateşleme sistemleri, motor ile başlayan zemin ya da hava sırasında kullanılan iki igniter fiş ile oluşur.

Above examples clearly show the vagueness of the sentences flagged with multiple errors. While certain repetition, capitalization issues can be detected in these multiple error sentences, it is impossible to correct them with only the machine-translated text.

The grammar subcategory in which an NMT system commits error changes, therefore these three subcategories with most errors should be discussed together. While the orthography errors can be easily corrected on the target text level, lexicon and grammar errors might require checking the source text.

Bing: Bu cihazı yıldırım fırtınasından korumak için veya uzun süre sahipsiz ve kullanılmadığında, duvar prizinden çıkarın ve anten veya kablo sistemini çıkarın. (Fluency>Lexicon>Lexical Choice)

Watson: Güç kaynağı kabloları yerleştirilmelidir; böylece, üzerlerine yerleştirilen ya da bu kabloların üzerine yerleştirilen öğeler tarafından sıkıştırılmazlar ya da pempnenmemelidir. (Fluency>Grammar>Missing Word)

Above, there are two examples for the necessity to check the ST to correct the grammar and fluency errors. For Bing, it is not clear on the target text level that “sahipsiz” is actually the translation of “unattended” and the verb “left” is omitted. In the example from the translation by Watson, the beginning of the sentence “güç kabloları yerleştirilmelidir” is rather incomplete and raises the questions of where and how the cables should be placed. Only after looking at the source text, it is understood that the semicolon is an extra punctuation that is not present in the original and this troubled beginning of the sentence is translated without paying attention to the rest of it, especially to the conjunction “so that.”

Figure 7: Percentage of Overall Fluency Errors for the First Technical Text

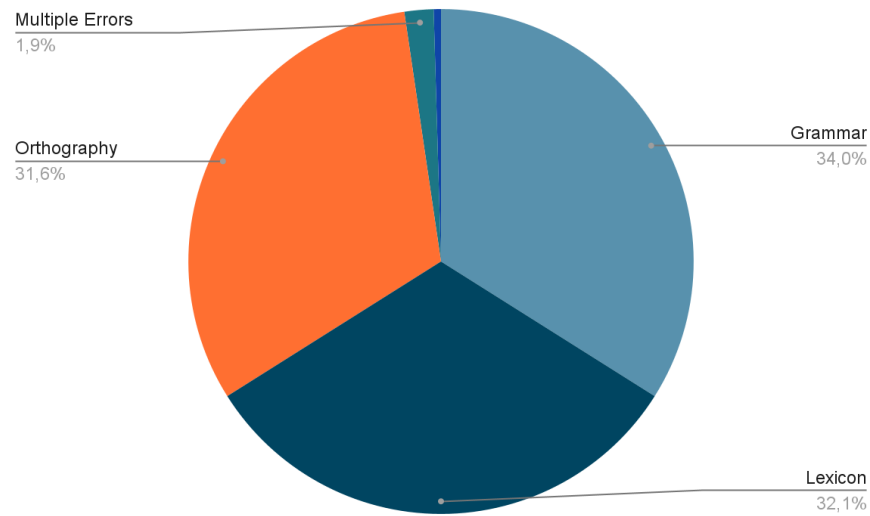


Table 6: Fluency Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Grammar	9	14	17	13	20	73
Lexicon	9	9	11	15	25	69
Orthography	3	15	12	22	16	68
Multiple Errors	0	1	2	0	1	4
Other	0	0	1	0	0	1

Figure 8: Percentage of Overall Fluency Errors for the Second Technical Text

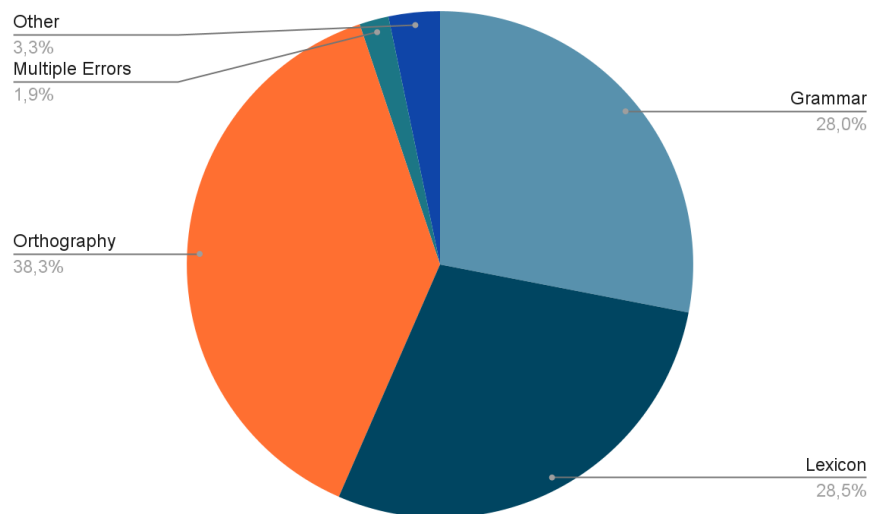


Table 7: Fluency Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Grammar	9	9	13	11	18	60
Lexicon	7	11	9	10	24	61
Orthography	11	17	14	13	27	82
Multiple Errors	0	0	0	0	4	4
Other	2	3	0	0	2	7

Table 7 and 8 detail the number of errors for subcategories of grammar for each technical text. Word form constitutes the half of the grammar errors with 37 for the first technical text and more than half of them in the second technical text with 35 errors. It is the most erroneous grammar subcategory for all five NMT systems in both texts, which clearly indicates its importance in post-editing. As this subcategory was originally used for gender, number and person disagreements, most of which would not be valid for Turkish, this category is adapted to include wrong word endings. The test shows that these errors mostly result from incorrect use of inflectional suffixes. Here are some examples:

Google: ELEKTRİK ÇARPMASI RİSKİ. AÇMA.

Reverso: Bu cihazı yağmura maruz bırakmayın veya suyun yakınına yerleştirmeyin (küvet, lavabo, mutfak lavabosu veya çamaşır küveti yakınında, ıslak bodrumda veya yüzme havuzu yakınında vb.)

Yandex: Bu cihazı bir radyatörün veya ısı kaydının yanına veya üzerine veya doğrudan güneş ışığına maruz kaldığı yere koymayın.

Bing: İÇİNDE KULLANICI TARAFINDAN SERVICE ALINABİLEN PARÇA YOK.

Watson: AC voltajı: Bu simgesiyle işaretlenen Red voltaj, AC voltajıdır.

Google: [...] çoğu turbojet ve turbofanla çalışan uçaklardaki güç kontrolleri [...]

The issue in the first example stems from the wording of safety warnings, which usually use formal imperatives for second person singular. Therefore, -in/-in suffix is needed to be added to the imperative “AÇMA.” Exactly the same issue with the same word is observed in other NMT systems of the study. In the second example retrieved from Reverso’s translation, adverbs of the sentence in parenthesis are written with wrong suffixes and they disagree with the verb of the sentence given outside the brackets, which is actually the verb of the both sentences. Thus, ending of these

adverbs should be “yakınına,” “bodruma” and “yakınına,” respectively. For Yandex translate, the issue is with the tense suffix. While “kaldığı” indicates past tense, it should be future, “kalacağı,” since the manual would advise here not to put the TV somewhere it will be exposed to direct sunlight, not somewhere it was exposed. To correct Bing’s translation, a present tense suffix is needed for the predicate, which will be “yoktur.” This is also more convenient for technical text wording. In the last example taken from Watson’s machine-translated output, the inflectional suffix “-si” is unnecessary and the word “simge” should only take the instrumental case suffix: “simgeyle.” As for the last example from the second technical text, Google adds plural suffix at the end of the noun which is modified by an indefinite adjective. As a rule, “uçak” cannot be plural if it has an indefinite adjective before it. These examples indicate that word form errors can be solved from the target text and they are a significant grammar subcategory for post-editing.

Word form errors are followed by missing words in the first technical text, which forms the quarter of grammar errors. Except for Reverso, it has the second most errors for a grammar subcategory in the four NMT systems in the first technical text. However, it is not so much problematic for the second text, which only has 5 errors in this subcategory. Below are some examples for this subcategory.

Google: TÜM SERVİSLERİ KALİFİYE PERSONELE BAŞVURUN.

Reverso: Bu simge, içinde yüksek voltaj olduğunu gösterir.

Yandex: Bu cihazın güvenilir çalışmasını sağlamak ve aşırı ısınmaya karşı korumak için, bu yuvalar ve açıklıklar asla engellenmemeli veya kapatılmamalıdır.

Bing: Bu nedenle göstergeleri, görüntüleme ve yorumlama kolaylığı için gerçek rpm yerine rpm oranında kalibre edilir.

In the first example from Google, the particle “için” is missing between the words “servisleri,” which also needs word form correction, and “kalifiye.” For Reverso, there is an ambiguity for “içinde” because what the high voltage is inside of is not known. However, unlike the previous example, this issue cannot be solved without referring to source text. Only after checking the source text, it is realized that there is not an omitted word, but this is a case of mistranslation, which will be discussed separately under accuracy errors. To correct this, we should either add “cihazın” before “içinde” or write “içeride.” Yandex commits a common subject-verb disagreement error and it can be corrected by adding “cihazı” between underscored

words. The last example is from the second technical text and it represents a similar problem. The underlined word creates an obscurity regarding to what these gauges belong. When the source text is checked, it is found out that these gauges pertain to engine parts.

Extra words are also worthy of attention with 11 errors in the first technical text and 10 errors in the second. This subcategory mostly includes repetitions and might be the easiest to detect but their solution might require the source text. Below are some examples for this subcategory:

Bing: Güç kaynağı kabloları, üzerlerine veya üzerlerine yerleştirilen eşyalar tarafından sıkıştırılmaları veya sıkıştırılmaları muhtemel olmayacak şekilde yerleştirilmelidir.

Watson: DC voltajı: Bu simgesiyle işaretli olan voltaj işaretli voltaj DC voltajıdır.

Yandex: Bir motor, motor motorunun girişine giren [...]

Bing includes two different repetitions in the same sentence. However, when compared to the source sentence, it is revealed that these are not added words but instead mistranslations. The NMT system translates both “upon” and “against” as “üzerilerine,” and “walked on” and “pinched by” as “sıkıştırılmaları.” Along with other issues, these errors on Bing translation need checking the source text as well. Watson, on the other hand, commits an error that is rather simple to fix. The second underscored “işaretli voltaj” is redundant and this extra word error can be simply fixed by omitting it. In the last example by Yandex, there are three of the same word in a row, which definitely requires the source text for correction. As examples show, extra words are easily detected but might be caused from mistranslation errors and this would make fixing it an issue on the bilingual level.

While there are 4 errors categorized as word order in the first technical text, it increases to 9 in the second. These errors can be amended solely on the target text. An example to this subcategory is:

Bing: Gaz türbini motorlarında olduğu gibi, sıcaklık sınırlarını aşmak birkaç saniye bile türbin kanatlarında ve diğer bileşenlerde ciddi ısı hasarına neden olabilir.

In the translation above processed by Bing, the underlined part needs reordering: “sıcaklık sınırlarını birkaç saniye bile aşmak”. As can be seen, a word order

error can necessarily be corrected on the target text level. Any correction that require checking the source would invalidate the word order error.

In the first technical text, there are 3 grammar errors that do not fit any of the categories and they are only observed in two of the NMT systems, Bing and Watson. Multi-word syntax is the only category here with no errors at all. On the other hand, the second technical text produced one grammar error in the category of other and none in MWS.

Table 8: Grammar Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWS	0	0	0	0	0	0
Word Form	6	7	8	6	10	37
Word Order	0	2	1	0	1	4
Extra Word	1	3	2	2	3	11
Missing Word	2	2	6	4	4	18
Other	0	0	0	1	2	3

Table 9: Grammar Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWS	0	0	0	0	0	0
Word Form	6	5	7	7	10	35
Word Order	1	3	2	2	1	9
Extra Word	1	0	2	1	6	10
Missing Word	1	1	2	1	0	5
Other	0	0	0	0	1	1

For lexicon errors of the first technical text, almost all of them are categorized as lexical choices, with only 4 non-existing or foreign words and these are all made by a single NMT system, Watson. In the second technical text, this number increases to

12, 10 of which is again made by Watson. Below are some examples to non-existing or foreign words:

Reverso: Motor, motor kaporunun girişine giren [...]

Watson: Interstage Türbin Sıcaklığı (ITT)

Above examples are categorized as non-existing and foreign word, respectively. Wrong lexical choices might lead to more accuracy errors as the issues detected on the target text level can actually be a mistranslation and require checking the source text for correction, as seen from the examples below:

Google: Bu cihazı yağmura maruz bırakmayın veya suya yakın bir yere koymayın (küvet, lavabo, mutfak lavabosu veya çamaşır küvetinin yanında, ıslak bir bodrumda veya yüzme havuzu vb. Yakınında).

Yandex: Bu cihazı bir radyatörün veya ısı kaydının yanına veya üzerine veya doğrudan güneş ışığına maruz kaldığı yere koymayın.

Reverso: Jet motorlarında baskı, yanma odasına enjekte edilen yakıt miktarına göre belirlenir.

In the example above by Google, only after checking the source text, it is realized that “laundry tub” is mistranslated, while it should have been “çamaşır teknesi/evyesi,” Similarly Yandex translates “heat register” too literal and makes it hard to correct the lexical choice on the target text level. In the last example by Reverso, both “baskı” and “enjekte edilen” does not fit the context. The source reveals that they are both word sense disambiguation errors. When the lexicon errors for the first technical text is analyzed, it is found that 46 of them require referring to the source text while 23 of them can be corrected on the machine-translated output. A similar result is found out in the second technical text: out of 49 lexicon errors 33 of them require checking the source text. While the numbers are different, their rates are similar. Some other lexical choices create inconsistency. Here is an example for such errors:

Bing: AC voltajı: Bu sembolle işaretlenmiş nominal voltaj AC voltajıdır.

DC gerilimi: Bu sembolle işaretlenmiş nominal voltaj DC voltajıdır.

Above lexical choice error creates a terminological inconsistency. There are two different terms, “voltaj” and “gerilim,” both mentioning the same thing. Different translations for the same term is undesirable for technical texts.

In addition, lexical choices might cause an issue in terms of the register. For instance:

Reverso: Bu sembol, güvenlik ile ilgili daha fazla bilgi için kullanıcının kullanım kılavuzuna başvurmasını sağlar.

Even without knowing the source equivalent for “sağlar” is, it is easily recommendable to use “önerir” instead, since it would fit the register of user manuals better. This register issue is observed in several other categories, which will be mentioned later.

Table 10: Lexicon Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Non-Existing	0	0	0	0	4	4
Lexical Choice	9	9	11	15	21	65

Table 11: Lexicon Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Non-Existing	0	2	0	0	10	12
Lexical Choice	7	9	9	10	14	49

In the first technical text, as shown in Table 12, while spelling has the greatest number of orthography errors, 33, and it is the subcategory in which three systems made the same number of errors and most errors, interestingly, Google and Yandex made no errors in this subcategory. It is followed by capitalization with 21 errors and then by punctuation, which has 14 errors. Reverso makes no errors that can be categorized under punctuation. There are no errors that can be categorized under the category of other. The second technical text shows a different result. It has 68 punctuation errors, which is the most erroneous orthography category, and it is followed by spelling and capitalization, both of which involve 7 errors. The increase in the spelling and capitalization errors of the first technical text result from the warning sentences that are written in all caps and the second technical text involves no

such sentences. The increase in the punctuation errors in the second technical text originate from the unnecessary and wrong use of commas and dashes in the target text.

Reverso: ELEKTRİK ÇARPMASI RISKİ.

Watson: ELEKTRİK ŞOKU RISKİ VAR.

Bing: Bu cihazı yağmura maruz bırakmayın veya suya yaklaştırmeyin.

Reverso: [...] dahili sıcaklıklar [...]

For Reverso and Watson, the issue is diacritics. In Turkish, capitalized “İ” is “İ.” However, both systems use the English capitalized version of it, which is a different letter in the Turkish alphabet. Similar issues are also seen in Bing, however, in order to present another spelling issue, the example above is the misspelled version of “yaklaştırmayın,” the last “a” is changed with an “e.” As for the second example from Reverso, which is detected in the second technical text, the issue is regarding the missing circumflex accent. The underlined word means involved, while it should have been interior. This meaning is acquired by using the circumflex accent: “dâhili”.

Google: Bu cihazın üzerine içinde su bulunan kaplar (vazolar vb.) Koymayın, bu bir yangına veya elektrik çarpmasına neden olabilir.

Yandex: Kullanım talimatlarına bakın; bu sembol, kullanıcıya güvenlikle ilgili daha fazla bilgi için kullanım kılavuzuna başvurmasını bildirir.

Bing: İÇİNDE KULLANICI TARAFINDAN SERVİSE ALINABİLEN PARÇA YOK.

Reverso: [...] çalışmaya devam eder. ancak [...]

Capitalization errors for the technical text are shown above. Google makes an unnecessary capitalization for the first letter of the underscored word. The system is probably mistaken by the full stop of the abbreviation “vb.” between the brackets. According to Turkish writing rules, if there is a full sentence after a colon, it starts with a capitalized letter. In the above example, Yandex violates this rule. Bing, on the other hand, makes multiple capitalization errors in one sentence. It writes the letter “I” in lower case in three different words. In the last example, Reverso starts with a lower case letter after a full stop, which should have been an upper case letter.

Google: Duvar prizlerini, uzatma kablolarını veya adaptörleri kapasitelerinin ötesinde aşırı yüklemeyin; bu, yangına veya elektrik çarpmasına neden olabilir.

Yandex: Lütfen atma ya da geri dönüştürme bilgileri için, yerel yetkililerle temasa geçin.

Watson: Jet Motoru 'nun [...]

For the punctuation errors, there are three examples above. One of them is by Google and it concerns the wrong use of semicolon. There should be a comma or a conjunction. The next one is by Yandex. In this example, there is an unnecessary use of a comma after the postposition “için”. The last one made by Watson in the second technical text involves a needless space before the apostrophe.

Table 12: Orthography Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Spelling	0	11	0	11	11	33
Capitalization	2	4	5	9	1	21
Punctuation	1	0	7	2	4	14
Other	0	0	0	0	0	0

Table 13: Orthography Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Spelling	0	2	0	1	4	7
Capitalization	0	6	0	0	1	7
Punctuation	11	9	14	12	22	68
Other	0	0	0	0	0	0

Table 13 shows the accuracy errors for the first technical text translation. Mechanical error is the category with most errors with 123, which is followed by mistranslation, 103 errors. There is a major gap between these two categories and the others in terms of number of errors. None of the NMT systems made DNT errors and it is only Watson that made errors in addition and untranslated categories, 6 and 2, respectively. Except for Bing, all of the systems made a few omission errors. When the accuracy errors of the second technical text are viewed in Table 15, there are some differences. Except for the ones committed by Watson, there are no errors in the categories of addition, omission, untranslated and do-not-translate. However, just as in the first technical text, the category of mistranslation is quite dominant, being responsible for half of the accuracy errors. It is followed by the category of mechanical

but the number of errors that this category involves significantly lower than that of the first technical text. The main reason behind this is the lack of tables, symbols, and formatting that are prevalent in the first text.

Source Text: To ensure reliable operation of this apparatus and to protect it from overheating, these slots and openings must never be blocked or covered.

Google: Bu aparatın güvenilir bir şekilde çalışmasını sağlamak ve aşırı ısınmadan korumak için bu yuvalar ve açıklıklar asla engellenmemeli veya kapatılmamalıdır.

Source: Pay particular attention to cords at the plug end, at wall outlets, and at the point where they exit from the appliance

Yandex: Fiş ucundaki kabloları, duvar prizlerine ve cihazdan çıktıkları yere özellikle dikkat edin.

Source: In a jet engine, thrust is determined by the amount of fuel injected into the combustion chamber.

Watson: Jet Motoru 'nun jet motorunda çalıştırılması, yanma odasına enjekte edilen yakıt miktarına göre belirlenir.

First example above shows the omission of the pronoun “it,” which causes subject-verb disagreement in the translated sentence. Omitting a pronoun is also observed in other systems. For instance, Yandex omits “they” and the preposition “at” before the “wall outlets,” and these two omissions alter the meaning of the translated text. While the source sentence warns about paying special attention solely to cords at various parts of the device, the target sentence also indicates paying attention to wall outlets. Additionally, it is not clear that it is actually the cords that need attention at the point of exit from the device. In the last example by Watson, “thrust” is omitted in the target text.

Source Text: To protect this apparatus from a lightning storm, or when left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system.

Watson: Bu aygıtı yıldırım fırtınasından korumak için ya da gözetimsiz ve uzun süre kullanılmadığında, bunu duvar prizinden çıkarın ve anten ya da kablo sistemini sökün.

Here, Watson omits the verb “left,” therefore; the adjective “gözetimsiz” does not properly fit the translated sentence. While it might be detected from the target text that there is an issue with the sentence regarding “gözetimsiz,” it is unlikely to find what the exact reason is without reviewing the source text.

There are also 11 accuracy errors in the first technical text that do not fit into any of these categories. It is 14 in the second technical text. The category of other mostly concerns sentences that cannot be corrected with individual accuracy error detections and have to be restated. The below example shows it more clearly:

Source: REFER ALL SERVICING TO QUALIFIED PERSONNEL.
Yandex: PERSONEL İÇİN UZMAN HİZMET BAŞVURUN.
Watson: Tüm BAKIM PERSONELINE BAKIN.

Figure 9: Percentage of Overall Accuracy Errors for the First Technical Text

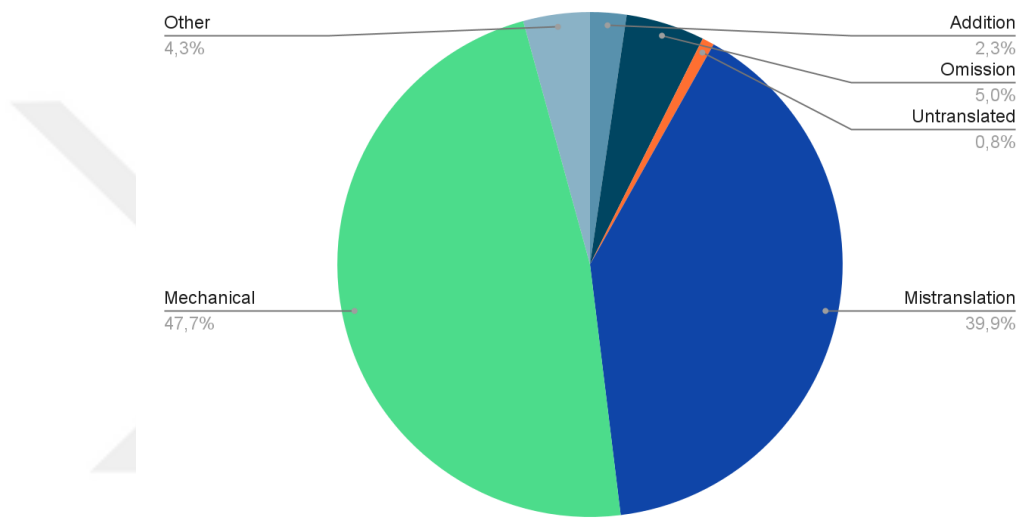


Table 14: Accuracy Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Addition	0	0	0	0	6	6
Omission	2	1	4	0	6	13
Untranslated	0	0	0	0	2	2
DNT	0	0	0	0	0	0
Mistranslation	15	14	20	20	34	103
Mechanical	15	18	35	18	37	123
Other	3	1	2	1	4	11

Figure 10: Percentage of Overall Accuracy Errors for the Second Technical Text

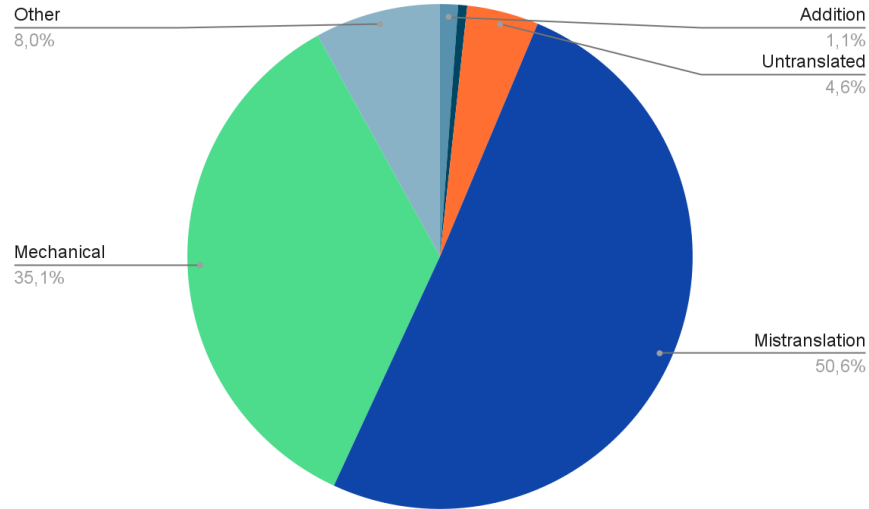


Table 15: Accuracy Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Addition	0	0	0	0	2	2
Omission	0	0	0	0	1	1
Untranslated	0	0	0	0	8	8
DNT	0	0	0	0	0	0
Mistranslation	10	16	17	15	30	88
Mechanical	8	19	11	9	14	61
Other	1	1	0	0	12	14

Mistranslation errors are detailed in Tables 16 and 17. The overwhelming category is word sense disambiguation in both texts. None of the NMT systems made errors in multi-word expressions and part-of-speech. Only Watson and Bing committed errors in the semantically unrelated category in the first technical text, however, the latter only made 1. In the second text, this category involves errors from Reverso, Yandex and Watson. In the first technical text, there are 18 mistranslation errors that cannot be categorized into any of the categories and they are categorized as other. The second involves 20 errors of this kind.

Source: It is dangerous to make any kind of contact with any internal part of this product.

Yandex: Bu ürünün herhangi bir iç kısmı ile herhangi bir temas kurmak tehlikelidir.

Source: Class II product: This symbol indicates that a safety connection to electrical earth (ground) is not required.

Bing: Sınıf II ürün: Bu sembol, elektrik toprağına (zemine) bir güvenlik bağlantısının gerekli olmadığını gösterir.

Source: Most jet engine ignition systems consist of two igniter plugs, which are used during the ground or air starting of the engine.

Reverso: Çoğu jet motoru ateşleme sistemi, motorun topraklama veya hava ile çalıştırılması sırasında kullanılan iki ateşleme bujisinden oluşur.

Source: Do not place vessels (vases etc.) containing water on this apparatus, as this can result in a fire or electric shock.

Watson: Bu aparata su içeren damarları (vazolar vb.) yerleştirmeyin, bunun sonucunda yangın ya da elektrik çarpması sonucu ortaya çıkan bir elektrik çarpmasına neden olabilir.

Source: An engine is sensitive to the flow characteristics of the air that enters the intake of the engine nacelle.

Google: Bir motor, motor kaportasının girişine giren havanın akış özelliklerine duyarlıdır.

Five examples above are from the category of WSD errors. For Yandex, “temas kurmak” means to make contact with someone, an individual; however, it must sound like “to touch.” Therefore, the right translation is “temas etmek” but it also requires other changes in the sentence: “Bu ürünün herhangi bir kısmına herhangi bir şekilde temas etmek tehlikelidir.” Again, correction of an issue requires more than just changing the related word. In the second example from Bing, the word “ground” is translated as “zemin.” This is one of the meanings that the source word possess; however, in the context of this sentence, it should be “topraklama.” On the contrary, the word “ground” should have been translated as “zemin” in the next example by Reverso from the second technical text. Reverso makes a second WSD error in the same sentence, translating “air starting” as “hava ile çalıştırma” while it should been “zeminde veya havada çalıştırma”. Similarly, Watson translates “vessel” into the wrong choice of meaning, “damarlar.” These two examples show the importance of context while choosing the right equivalent for polysemantic words. In the last example by Google, there is a terminology error. In aviation, “nacelle” is translated as “nacel”.

Source: RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Watson: ELEKTRİK ŞOKU RISKİ VAR. AÇIKLAMAYIN.

Source: TIT, however, is difficult to measure.

Yandex: Bununla birlikte, baştankara ölçmek zordur.

Above examples show semantically unrelated translations. “DO NOT OPEN” is translated as “AÇIKLAMAYIN” by Watson and TIT, which is short for Turbine Inlet Temperature, is translated as “baştankara” by Yandex and it is a bird genus.

Source: This symbol indicates that this product has included important literature concerning operation and maintenance. Caution. Consult instructions for use: This symbol instructs the user to consult the user manual for further safety related information.

Reverso: Bu simge, bu ürünün kullanım ve bakım ile ilgili önemli bilgiler içerdiğini gösterir. Dikkat. Kullanım talimatlarına bakın: Bu sembol, güvenlik ile ilgili daha fazla bilgi için kullanıcının kullanım kılavuzuna başvurmasını sağlar.

Source: This symbol indicates that high voltage is present inside.

Yandex: Bu sembol, içinde yüksek voltajın bulunduğunu gösterir.

Source: Once the start is completed, this ignition either automatically goes off or is turned off, [...]

Google: Marş tamamlandıktan sonra bu ateşleme ya otomatik olarak kapanır ya da kapatılır [...]

Mistranslation errors that are classified as other are exemplified above. For Reverso, the issue is inconsistent translation of the same word; “symbol” is translated both as “simge” and as “sembol.” The exact same error is also observed in Google and Watson. In the next error by Yandex, it is not evident that exactly what high voltage is present inside and it cannot be inside the symbol. Therefore, there is a fluency>grammar>missing word error. However, when the source is checked, there is a mistranslation for the word “inside” that cannot be categorized into any of the specific mistranslation categories. In order to fix this, either “içinde” can be translated as “içeride” or the word “cihazın” might be added before “içinde.” The last example is from Google’s translation of the second technical text. The target text is a bit obscure. Thus, the automatic and manual shutdown process should be differentiated. The last part can be translated as “otomatik olarak ya da elle kapatılır”.

Table 16: Mistranslation Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWE	0	0	0	0	0	0
POS	0	0	0	0	0	0
WSD	13	9	17	18	21	78
SU	0	0	0	1	6	7
Other	2	5	3	1	7	18

Table 17: Mistranslation Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWE	0	0	0	0	0	0
POS	0	0	0	0	0	0
WSD	7	10	12	12	18	59
SU	0	3	2	0	4	9
Other	3	3	3	3	8	20

Tables 17 and 18 shows the number of mechanical errors in the two technical text. In the first one, there are 5 punctuation errors, committed by Yandex and Watson only. There are 22 capitalization errors and Watson makes more than half of them. Majority of the mechanical errors are categorized as other, with 96 in total. As for the analysis of the second technical text, there is no punctuation error, all of which is already detected and corrected in the target text level. There are only 5 capitalization errors and Reverso is responsible for all. Just as in the first text, the category with most errors is other here in the second technical text, as well. The reason behind this decrease in the number of mechanical errors is that the second technical text, unlike the first one, does not involve sentences written in all caps, symbols, and tables.

Source: _ Do not place this apparatus in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.

Yandex: _Uygun havalandırma sağlanmadığı sürece, bu cihazı kitaplık veya yerleşik dolap gibi kapalı bir alana yerleştirmeyin.

Source: Warning! Important Safety Instructions

Please read the Safety Instructions before using your TV.

Watson: Uyarı! Önemli Güvenlik Yönergeleri, lütfen TV ' nizi kullanmadan önce Güvenlik Yönergeleri 'ni okuyun.

As indicated, mechanical>punctuation errors are only detected in the first text. In the first example above, Yandex uses a hyphen at the beginning of the sentence, while it is a dash in the source. Similarly, the system commits the same error for another sentence, however, correctly uses dashes for two other sentences. This inconsistency is an issue to be dwelled upon. For Watson, there is an extra comma that unnecessarily joins the two separate lines.

Source: Warning! Important Safety Instructions

Google: Uyarı! Önemli güvenlik TALİMATLARI

Source: This will prevent damage to the set due to lightning and power line surges.

Yandex: Bu, Yıldırım ve güç hattı dalgalanmaları nedeniyle setin hasar görmesini önleyecektir.

Source: RISK OF ELECTRIC SHOCK.

Watson: ELEKTRİK şOKU RISKİ VAR.

Source: Operating the Jet Engine

Reverso: Jet motorunun çalıştırılması

Above are four examples of capitalization errors. Google makes two of them in a sentence. The first letter of “güvenlik” should be capitalized and “TALİMATLARI,” which is written in all caps, should be “Talimatları.” Yandex similarly capitalizes the first letter of “Yıldırım,” while it is all lowercase in the source. Lastly, Watson writes the first letter of the “şOKU” in lowercase, while the whole word should be written with uppercase letters, as in the source. In the last example by Reverso, sole responsible of the all mechanical>capitalization errors in the second text, first letters of the words in the title are not capitalized.

Mechanical errors that fit neither capitalization nor punctuation errors are related to text and page formatting, tables, symbols. In other words, they are the errors that can only be detected through reviewing the source text and are not related to words. Below are a few examples.

Source:  AC voltage: Rated voltage marked with this symbol is AC voltage.

Google: AC voltajı: Bu simgeyle işaretlenen nominal voltaj AC voltajıdır.

Source: CAUTION
Reverso: DIKKAT

Source:

	This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.		DC voltage: Rated voltage marked with this symbol is DC voltage.

Bing:

Bu sembol, içinde yüksek voltajın bulunduğunu gösterir. Bu ürünün herhangi bir iç kısmıyla herhangi bir şekilde temas etmek tehlikelidir. DC gerilimi: Bu sembolle işaretlenmiş nominal voltaj DC voltajıdır.

Source:

- The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of this apparatus and to protect it from overheating, these slots and openings must never be blocked or covered.
- Do not place this apparatus in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.

Yandex:

* Kabin içindeki ve arka veya alt kısımdaki yuvalar ve açıklıklar gerekli havalandırma için sağlanmıştır. Bu cihazın güvenilir çalışmasını sağlamak ve aşırı ısınmaya karşı korumak için, bu yuvalar ve açıklıklar asla engellenmemeli veya kapatılmamalıdır.

-Uygun havalandırma sağlanmadığı sürece, bu cihazı kitaplık veya yerleşik dolap gibi kapalı bir alana yerleştirmeyin.

Source: The gas generator section may be monitored by an N₂ gauge, while triple spool engines may have an N₃ gauge as well.

Reverso: Gaz jeneratörü bölümü bir N₂ göstergesi ile izlenebilir, üç trip motorlarda da N₃ göstergesi olabilir

Source: • Exhaust Gas Temperature (EGT)—the temperature of the exhaust gases as they enter the tail pipe after passing through the turbine.

Watson: Egzoz Gaz Sıcaklığı (EGT)- türbin üzerinden geçtikten sonra egzoz gazının sıcaklığı, türbin üzerinden geçtikten sonra kuyruk borularına girmektedir.

For the first example of other mechanical errors, which is made by Google but also observed in all other systems, there is a missing symbol in the target text. Since this part of the text defines the meaning of these symbols, and almost all user manuals have explanatory sentences similar to these, it is obligatory to include those symbols in the target text, as well. For Reverso, the problem is that while the source word is bold, the target word is not. This issue is also valid for the other NMT systems. Bing

adjoins the definitions of two different symbols, giving only a large space between them. Same issue is also detected in Yandex and Watson. Furthermore, there is a table in the source text, which is not created by any of the systems and they rather turned the content of this table into a plain text. The next excerpt from Yandex shows how the bullet point in the source text changed with an asterisk. In addition, the indented sentence of the source text is aligned with the previous one in the target text. For Reverso, the issue is regarding the use of subscript number. While the number 2 and 3 are subscripts in the source, they are turned into regular numbers in the target text. In the last example Watson omits the bullet point that should have been at the beginning of the sentence. These errors complicate the post-editing process by requiring amendments beyond the textual level. If we consider that an acceptable final text, one that is equal to human translated text in quality, is supposed to be produced after the full post-editing, it is also important to include these types of errors to the analysis.

Table 18: Mechanical Errors for the First Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Capitalization	2	1	6	1	12	22
Punctuation	0	0	3	0	2	5
Other	13	17	26	17	23	96

Table 19: Mechanical Errors for the Second Technical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Capitalization	0	5	0	0	0	5
Punctuation	0	0	0	0	0	0
Other	8	14	11	9	14	56

2.2. ANALYSIS OF THE LEGAL TEXTS

The first legal text selected for this study is an excerpt from the UN's Staff Regulations. As shown in Table 20, the NMT system that makes the most errors in the translation of the first legal text is Reverso with 129 errors in total, which is 26,6% of

total errors made by all the systems. It is important to note that while Reverso is the second-best system in the first technical text, it is the worst one in the first legal text. Watson closely follows it with 125 errors. Then comes Yandex, Bing and Google, respectively. Google, just as in both of the technical texts, is the system that made the least errors. For the first legal text, accuracy errors, with about 53%, are more than the fluency errors in total, and this means that the bilingual comparison will take more effort than error detection on the target level, similar to the results of the first technical text. Only Reverso's number of fluency errors are more than accuracy errors. Others indicate a direct proportion in terms of number fluency and accuracy errors, as the fluency errors increase, accuracy errors increase as well. This proportional increase is also seen in first technical text. When compared to the first technical text, the number of errors is similar. The translations of the first legal text make 485 errors in total, which is 12 more than the first technical text. While the fluency errors of the first legal text are 12 more than those of the first technical text, accuracy errors are the same. This similarity will also be sought in subcategories.

As for the second legal text, it is taken from the EU's Staff Regulation. It involves a similar number of errors, 475. Also, the number of accuracy errors are more than that of the fluency. This time Bing performs better than the Google by almost 4% margin and becomes the NMT system that makes the least errors. It is followed by Google, Yandex, Watson and Reverso. While Reverso performs significantly better in the technical texts, it becomes the worst NMT system for the legal texts. Vocabulary profiles of the two legal text are rather similar, just as their results. Compared to the technical texts, off-list words are less in the legal texts and lexicon errors are less, as well.

Table 20: Fluency and Accuracy Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Fluency	33	68	35	34	57	227
Accuracy	37	61	51	41	68	258
Total	70	129	86	75	125	485

Figure 11: Error Percentage of the NMT Systems for the First Legal Text

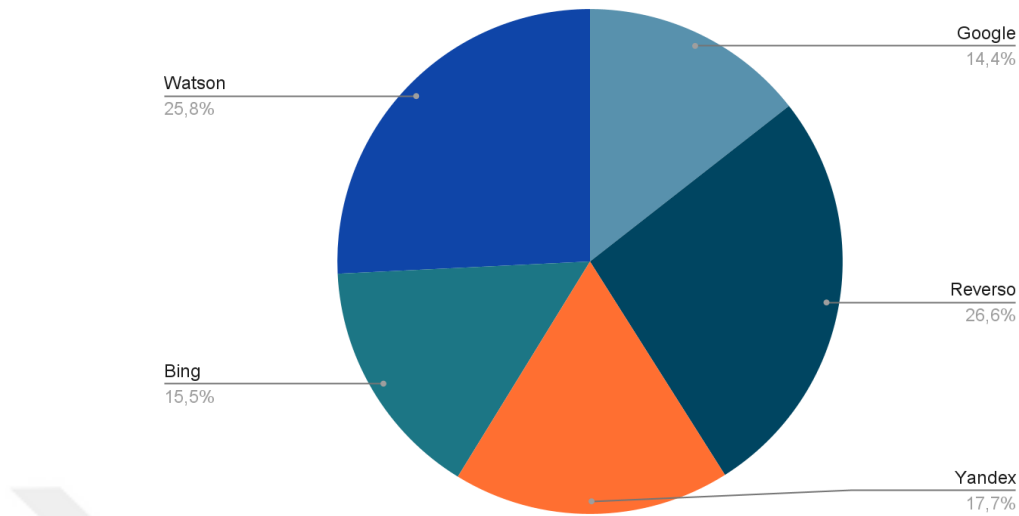


Table 21: Vocabulary Profile of the First Legal Text

	<u>Families</u>	<u>Types</u>	<u>Tokens</u>	<u>Percent</u>
K1 Words (1-1000):	110	132	374	75.56%
Function:	...	...	(232)	(46.87%)
Content:	...	...	(142)	(28.69%)
> Anglo-Sax	...	...	(27)	(5.45%)
K2 Words (1001-2000):	15	15	38	7.68%
> Anglo-Sax	...	...	(21)	(4.24%)
1k+2k		...	...	(83.24%)
AWL Words:	30	33	47	9.49%
> Anglo-Sax	...	...	(3)	(0.61%)
Off-List Words:	<u>?</u>	<u>20</u>	<u>36</u>	<u>7.27%</u>
	155+?	200	495	100%

Table 22: Fluency and Accuracy Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Fluency	38	49	50	27	65	229
Accuracy	36	89	27	26	68	246
Total	74	138	77	53	133	475

Figure 12: Error Percentage of the NMT Systems for the Second Legal Text

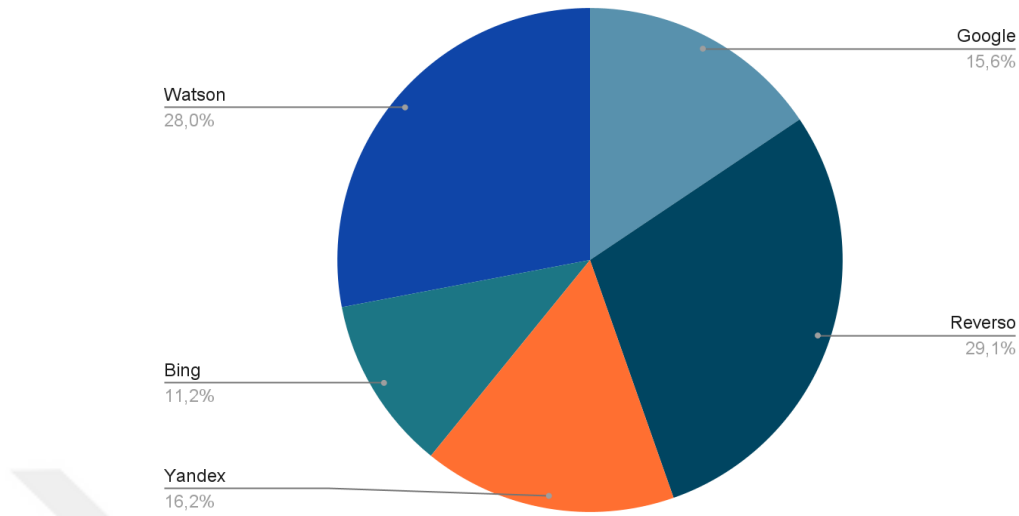


Table 23: Vocabulary Profile of the Second Legal Text

	Families	Types	Tokens	Percent
K1 Words (1-1000):	109	130	396	72.26%
Function:	...	...	(246)	(44.89%)
Content:	...	...	(150)	(27.37%)
> Anglo-Sax	...	...	(33)	(6.02%)
K2 Words (1001-2000):	13	14	31	5.66%
> Anglo-Sax	...	...	(16)	(2.92%)
1k+2k		...	...	(77.92%)
AWL Words:	48	52	83	15.15%
> Anglo-Sax	...	...	(2)	(0.36%)
Off-List Words:	<u>?</u>	<u>30</u>	<u>38</u>	<u>6.93%</u>
	170+?	226	548	100%

In Table 24 fluency errors of the first legal text are detailed according to subcategories. Grammar is the category with the most errors, 87 in total. Orthography comes next with 81 and it is followed by lexicon and others. While the number of total fluency errors is similar to those of technical text, error distribution is a bit different. Here in the legal text, systems are better in terms of lexicon, however, they make more errors in grammar and orthography. The reason behind the decrease in lexicon errors

might be due to the fact that the UN's publishing are among the most multilingual documents available online, and thus, their terminology might be more established for NMT systems. There are only 4 errors categorized as multiple and 3 of them are made by Watson and the other one is by Reverso. 11 fluency errors fall out of these categories.

Fluency errors of the second legal text can be observed in Table 25. Grammar, lexicon and orthography are the most erroneous category here in the second text, as well. However, there are certain differences between these categories in the first and second legal text. The number of errors categorized as Grammar drops by approximately 8% in the second legal text. The reason behind this could be the decreased sentence length in the second text. While the average sentence length is 21.8 words in the first text, it drops to 13.9 in the second. Shorter sentences might generate less grammar errors. Furthermore, orthography errors increase by about 7% in the second legal text. This is clearly tied to number of punctuations in the second legal text, 100, while it is only 49 in the first legal text.

Reverso: Bu imtiyazlar ve bağışıklık, kendilerinin kapsadığı personelin bulunduğu Devletin yasa ve polis düzenlemelerini gözetmemesi veya özel yükümlülüklerinin yerine getirilmemesi için bir mazeret getirmemeleri için bahane bırakmamaları anlamına da gelmezler.

Watson: Bu ayrıcalıklar ve dokunulmazlıklar, kendilerine ait oldukları devletin yasa ve polis yönetmeliklerini göz önünde bulunmaması ve özel yükümlülüklerini yerine getirmemeleri için bir mazeret uymamaları için, bu ayrıcalıkların hiçbir mazereti yok.

Yandex: 4. Eğer, ya da, kalıcı büyük olasılıkla fiziksel ya da ruhsal bir bozukluk varsa o 1. paragrafın amaçları doğrultusunda, bir kişi bir sakatlık vardır.

There are three examples of multiple errors above. Although some errors can be detected separately, these word-based corrections cannot fix the whole sentence. Therefore, these sentences are categorized under multiple errors and cannot be fixed without referring to the ST. As they require restating the sentence, most of them are also annotated as accuracy>other, as well.

Google: (c) Genel Sekreter, Tüzükte ve Personel Tüzüğü ve Kurallarında ve Genel Kurulun ilgili karar ve kararlarında belirtilen personel üyelerinin hak ve görevlerine uyulmasını sağlar;

Reverso: “aynı zamanda personel Düzenlemeleri ve Kurallarında belirtildiği gibi benim üzerimde bulunan yükümlülüklerle saygı duymayı beyan ve vaat ediyorum.” (c) Genel Sekreter, Tüzük ve Kurul ve Kurallarında ve Genel

Kurul'un ilgili kararlarında ve kararlarında belirtilen personel üyelerinin haklarına ve görevlerine uyulmasını sağlayacaktır;

Yandex: 1. Bu Personel Yönetmeliği uygulamasında, bu cinsiyet, ırk, renk, etnik veya sosyal köken, genetik özellikler, dil, din veya inanç, siyasi veya başka bir görüş, ulusal bir azınlığa üyelik, mülkiyet, doğum, engellilik, yaş olarak herhangi bir yere dayalı herhangi bir ayrımcılık ya da cinsel yönelim yasaktır.

In the first example above, Google uses the conjunction “ve” too many times, which creates a fluency issue in the sentence. Instead, commas can be used where possible. In its translation of the first legal text, Reverso writes the articles (a), (b), (d), so on, as different paragraphs. However, article (c) is written as if it is a part of the previous article, not as a different paragraph. In the second legal text, the last part of the Yandex’s translation indicates any sexual orientation is prohibited, which is not plausible. The last one is an example to fluency>other errors that require checking the source text.

Figure 13: Percentage of Overall Fluency Errors for the First Legal Text

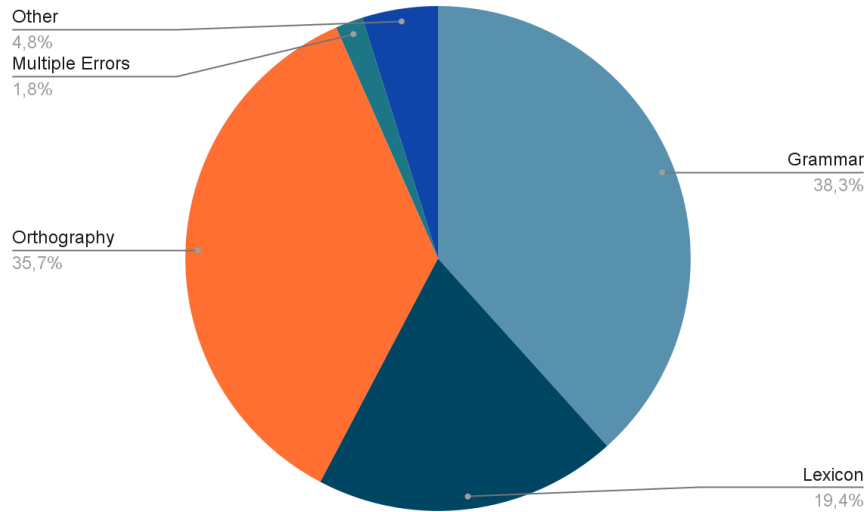
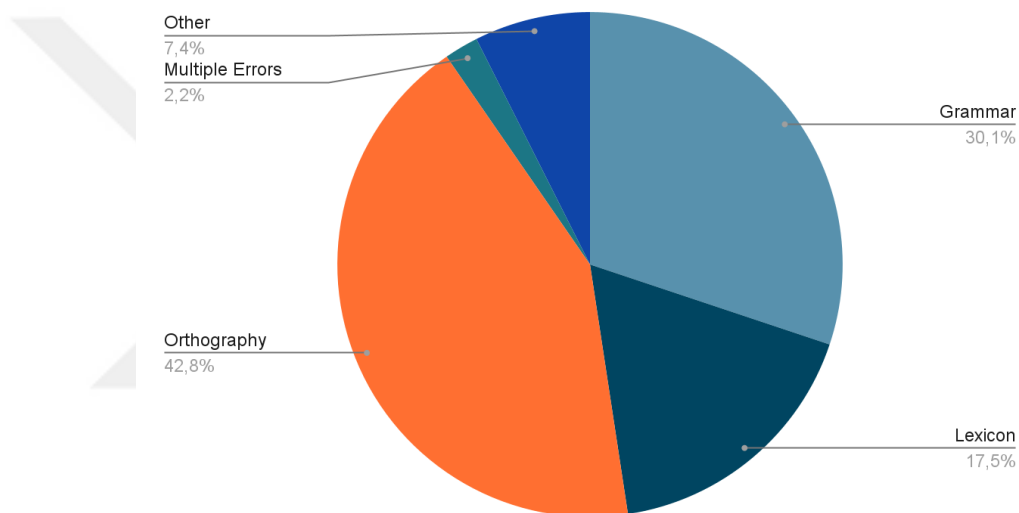


Table 24: Fluency Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Grammar	14	26	11	12	24	87
Lexicon	5	12	6	9	12	44
Orthography	12	27	15	12	15	81
Multiple Errors	0	1	0	0	3	4
Other	2	2	2	1	3	11

Figure 14: Percentage of Overall Fluency Errors for the Second Legal Text**Table 25:** Fluency Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Grammar	7	12	20	4	26	69
Lexicon	6	15	5	5	9	40
Orthography	24	17	20	15	22	98
Multiple Errors	0	1	2	0	2	5
Other	1	4	3	3	6	17

As shown in Table 26 and 27 detailing error distribution for the subcategories of grammar errors in the NMT translations of the legal texts, word form takes up more than half of all grammar errors with 47 errors in the first text and almost 74% of them

in the second text. It is the most erroneous category for all NMT systems in both of the texts, which is also observed in the technical texts. It is followed by extra word, missing word, word order and other, respectively, in the first legal text. As for the second text, extra word is again the second most erroneous category but its number significantly decreases, as well as the rest of the grammar subcategories. As previously indicated, the decrease in the grammar errors might be connected to shortened sentence length. Multi-word Syntax is the only category with no errors in both texts.

Google: Personel Yönetmeliği, hizmetin temel koşullarını ve Birleşmiş Milletler Sekreterliği'nin temel hak, görev ve yükümlülüklerini kapsar. Sekreterliğin personel alımı ve yönetimi için insan kaynakları politikasının geniş ilkelerini temsil ederler.

Reverso: Genel Sekreter, genel müdür olarak, gerekli gördüğü şekilde bu ilkelere uygun personel kuralları sağlayacak ve uygulayacak.

Bing: Personel Yönetmeliği, birleşmiş milletler sekreterliğinin temel hizmet koşullarını ve temel hak, görev ve yükümlülüklerini somutlaştırmamaktadır.

Watson: 1. Bu Personel Yönetmeliği uygulamasında, cinsiyet, ırk, renk, etnik veya sosyal köken, genetik özellikler, dil, din veya inanç, siyasi veya başka herhangi bir görüş, ulusal bir azınlığın üyeliği, mülkiyet, doğum, sakatlık, yaş veya cinsel yönelim gibi herhangi bir yere dayalı her türlü ayrımcılığa izin verilecektir.

Above are some examples of word form error. In the first example, the verb has a plural suffix, while it should be singular. Since the second sentence refers to the “Personel Yönetmeliği” in the previous sentence as a subject, the verb should be conjugated according to it. The next example by Reverso includes more than one word form errors. In order for this sentence to be grammatically correct, the object “personel kuralları” should be used in the accusative form and receive the suffix “-nı”. Furthermore, though third person singular copulas can be omitted, it would be more formal and therefore fit the legal register better. Thus, verbs “sağlayacak” and “uygulayacak” should receive the copula suffix of “-tır”. For the last example above by Bing, it is illogical for this sentence to be negative. Thus, the verb should be “somutlaştırmaktadır”. Similarly, Watson makes a similar mistake creating irrationality. According to the translation of the last example, all kinds of discrimination is allowed in the implication of the staff regulations. Since this is not something that could have been written in an official EU document, the verb should be corrected as negative.

Google: “Birleşmiş Milletlerin uluslararası bir memuru olarak bana emanet edilen görevleri tüm sadakat, sağduyu ve vicdanla yerine getireceğimi, bu işlevleri yerine getireceğimi ve davranışlarımı yalnızca Birleşmiş Milletlerin çıkarları doğrultusunda düzenleyeceğimi beyan ve taahhüt ederim ve Görevlerimin yerine getirilmesiyle ilgili olarak herhangi bir Hükümetten veya Örgüt dışındaki başka bir kaynaktan talimat istememek veya kabul etmemek.

Yandex: 2. Erkekler ve bu Personel Düzenlemeleri tüm yönleriyle uygulanmasına dikkat edilmesi gereken önemli bir unsur olması gereken iş hayatında kadınlar arasında uygulamada tam eşitliği sağlamak amacıyla [...]

Apart from a number of other errors in the same sentence, the first translation above by Google is adduced as an example to word order errors. The verb “beyan ve taahhüt ederim” is placed at the middle of the sentence, which is a rather long oath, leaving the second part of the sentence that comes after them without a proper verb. This verb should be at the end of the sentence, with other necessary amendments made of course, in order to correct the sentence. As for the second example by Yandex, this sentence mentions gender equality, therefore, “erkekler ve” at the beginning of the sentence should come before “kadınlar” in order to correct the sentence.

Reverso: (c) Genel Sekreter, Tüzük ve Kurul ve Kurallarında ve Genel Kurul'un ilgili kararlarında ve kararlarında belirtilen personel üyelerinin haklarına ve görevlerine uyulmasını sağlayacaktır;

Yandex: Bu ayrıcalıklar ve dokunulmazlıklar, kapsadıkları personele, bulundukları Devletin yasalarına ve polis düzenlemelerine uymamaları için bir mazeret sunmaz ve özel yükümlülüklerini yerine getirmemeleri için bir mazeret sunmaz.

Watson: Bu yönetmeliklerin amaçları doğrultusunda, "Birleşmiş Milletler Sekreterliği", "personel üyeleri" veya "personel" ifadeleri, Birleşmiş Milletler Bildirgesi 'nin 97. maddesi uyarınca, istihdam ve sözleşme ilişkisi, Genel Kurulun Madde 101, paragraf 1, Tüzüğü'nün 1. fıkrası uyarınca belirlenmiş bir atama mektubu ile tanımlandığı bir mektup atanarak, Sekreterliğin tüm personel üyelerine atıfta bulunur.

Above, Reverso makes an extra word error through repetition. Strangely, the same error is also made by other 4 NMT systems of this study. Despite the fact that this error is easily detected on the target text, it is not possible to correct it without the source text since this might well be an addition or mistranslation. The source is “resolutions and decisions”, which means this extra word is caused by a mistranslation. However, for the examples by Yandex and Watson given above, the cause of extra word error is addition, which is an accuracy error.

Google: Bu ayrıcalık ve dokunulmazlıkların uygulanmasına ilişkin herhangi bir sorun ortaya çıktığı takdirde, personel, durumu derhal Genel Sekretere bildirir;

söz konusu ayrıcalık ve dokunulmazlıkların mevcut olup olmadığına ve bu ayrıcalık ve bağışıklıklardan feragat edilip edilmeyeceğine tek başına karar verebilir.

Watson: (d) Genel Sekreter, hizmet koşullarının belirlenmesinde, verimliliğin, yetkinlik ve bütünlüğün en yüksek standartlarının güvence altına alınmasının gerekliliği olacak şekilde, söz konularının dikkate alınması halinde, [...]

Reverso: 1. Fıkranın amaçları doğrultusunda, kişinin fiziksel veya zihinsel bir bozukluğu varsa ya da kalıcı olması muhtemel ise [...]

When the verb at the end of the sentence in Google’s translation is considered, it indicates that the personnel can decide on their own, which is unlikely. Grammatically, it refers to the personnel. However, it would not be logical since it would mean that the personnel have some of the authority of the UN’s Secretary-General. Therefore, there is a missing subject, which turns out to be the result of an accuracy error, omission of the relative “who”. The same relative in the same sentence is also missing in the translations of Reverso, Yandex and Watson. The next example by Watson includes a missing word error. This sentence does not have any verb, and it is not clear from the target text what the verb should be. Again, there is a need to check the source text. As for the last example by Reverso, it is not clear what has the probability of becoming permanent. When the source is checked, it is found out that this fluency error results from an omission of a relative word.

Table 26: Grammar Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWS	0	0	0	0	0	0
Word Form	6	15	4	7	15	47
Word Order	1	2	0	1	0	4
Extra Word	3	5	3	4	6	21
Missing Word	2	4	3	0	3	12
Other	2	0	1	0	0	3

Table 27: Grammar Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWS	0	0	0	0	0	0
Word Form	3	10	15	3	20	51
Word Order	1	0	1	0	2	4
Extra Word	0	1	1	1	3	6
Missing Word	3	1	0	0	0	4
Other	0	0	3	0	1	4

Lexicon errors of the legal texts, which are shown in Table 28 and 29, are fewer than those of the technical. This might have a connection with the number of off-list words, which is lower in the legal texts. Similarly, almost all of these types of errors are considered as lexical choices. One single non-existing or foreign word error is made by Watson in each texts, which is also the case for first technical text with all 4 errors being made by the same system, and again, 10 out of 12 errors of this kind are made by Watson in the second technical text. 24 of the lexicon errors in the first legal text require referring to source text for correction, which are fewer than the ratio of those in technical text, but still make more than half of the lexicon errors of the first legal text. As for the second legal text, this number increases to 34, which is 85% of all lexicon errors. Below are some examples that require checking the source text.

Reverso: Birleşmiş Milletler'in uluslararası bir kamu görevlisi olarak bana verilen fonksiyonları, bu fonksiyonları taburcu etme ve yürütmeme [...]

Yandex: Aynı zamanda dini törenle ve Personel Yönetmeliği ve Kuralları belirlenmiş olarak üzerime düşen yükümlülükleri saygı sözü.

Watson: Genelkurmay üyeleri, Genel Sekreter veya onun yetkili temsilcisi tarafından bizzat tanık olunan aşağıdaki yazılı bildirgeyi hazırlamayacaktır.

Google: İşin temel işlevleriyle ilgili olarak “makul konaklama”, gerektiğinde, engelli bir kişinin istihdama erişmesine, katılmasına veya istihdamda ilerlemesine veya eğitim almasına olanak sağlamak için uygun önlemler anlamına gelir.

Bing: Paragraf 1'in amaçları doğrultusunda, bir kişinin kalıcı olan veya olması muhtemel olan fiziksel veya zihinsel bir bozukluğu varsa bir sakatlığı vardır.

In the first example by Reverso, “taburcu etme” stands out of the context and it is not clear what is exactly meant by it. Therefore, it is not possible to find the right choice of word on the target level. By checking the source text, it can be changed with

its source equivalent's, “discharge”, correct choice of meaning, which should mean “to fulfill”. Similarly, Yandex and Watson present an error where a word offends the eye but cannot be interchanged with the correct choice of word without the source text. From Yandex, it could be inferred that the obligations of the UN personnel are decided by a religious ritual, which is a mistranslation of “solemnly”. In the sentence translated by Watson, “genelkurmay” is also way off the context. It is the translation of the word “staff”, which is shouldbe translated as “personel” and it is basically the keyword of the text. This inconsistent and incorrect translation of such a word that is fundamental to this text poses a vital issue to the reliability of the NMT system. As for the next example by Google “makul konaklama” does not fit the context and when the source is checked, it is a mistranslation of the term “reasonable accommodation”. The last example by Bing refers to physical and mental impairment as injury, which might even be regarded as inappropriate in Turkish.

Table 28: Lexicon Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Non-Existing	0	0	0	0	1	1
Lexical Choice	5	12	6	9	11	43

Table 29: Lexicon Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Non-Existing	0	0	0	0	1	1
Lexical Choice	6	15	5	5	8	39

When Tables 30 and 31 are skimmed, it is clear that punctuation errors are the dominant subcategory for orthography errors. This is not valid for the technical text. The reason causing the punctuation issues to increase might be that legal parlance opts for longer sentences than technical text. As the sentences get longer, more punctuations are used, thus, it might be more complicated to use them properly in the target text. Furthermore, the rules of separating the suffixes that are added to names of laws, regulations, institutions are quite complex in Turkish. These rules regarding the use of apostrophe create a critical problem for the NMT systems. It is followed by

capitalization and spelling, respectively, in both legal texts. There is only one error that does not fit into any of these subcategories in the first text and five in the second one.

Google: Personel Yönetmeliği, ayrı olarak finanse edilen organların personeli de dahil olmak üzere, Personel Kurallarına göre atama yapan tüm seviyelerdeki tüm personel için geçerlidir;

Bing: [...] ve özellikle bu alanlarda kadınlar için fırsatları engelleyen fiili eşitsizliklerin giderilmesi için [...]

Reverso: Sekreteryası'nın personel ve idaresi için insan kaynakları politikasının geniş prensiplerini temsil ederler.

The first error is regarding diacritics. In Google's translation, the word “dâhil” is written without the circumflex accent and this error is seen in all other NMT systems in the first legal text. Similarly, the second text bears the same issue for the word “fiili”, which can be seen in the second example above. Thus, use of circumflex accent in Turkish is an essential topic to be known for post-editors. The following example is from Reverso, which misspells the word “sekretarya”, using an “e” for what should be an “a” according to TDK, Turkish Language Association.

Reverso: [...] beyan ve vaat ediyorum, Ve Kurum dışındaki herhangi bir devlet veya başka kaynaktan [...]

Yandex: Birleşmiş Milletler personel Yönetmeliği

Watson: Bu Personel yönetmeliklerinde [...]

Bing: Personel Yönetmeliği, birleşmiş milletler sekreterliğinin temel hizmet koşullarını ve temel hak, görev ve yükümlülüklerini somutlaştırmamaktadır.

The above excerpts from four systems are examples of capitalization errors that can be detected on the target text level. First one, which is committed by Reverso, is an unnecessary capitalization of the first letter of “ve”. The word comes after it also begins with a capitalized first letter, however, it is not an error since “Kurum” refers to the UN, and in such cases, the first letter of the word that refers to an institution/organization is always capitalized in Turkish. Second example from Yandex's translation involves an opposite kind of issue. While there is an unnecessary capitalization in Reverso, Yandex uses a lower case for the first letter of a regulation name, “Personel Yönetmeliği”, which must always be written in upper case. Similarly, Watson makes the same mistake for the other word in the name of the regulation. The last one is from Bing. It violates a similar rule, which puts forward that each word in

institution, organization and council names start with an uppercase letter. Therefore, it should have been “Birleşmiş Milletler Sekreterliği”.

Google: “Ayrıca, Personel Yönetmeliği ve Kurallarında belirtilen üzerime düşen yükümlülükler uyacağımı da ciddiyetle beyan ve taahhüt ederim.”

Reverso: [...] yalnızca Birleşmiş Milletler'in çıkarlarına göre düzenleme konusunda [...]

Bing: [...] konuyu derhal Genel Sekretere bildirecektir [...]

Watson: Bu Personel Yönetmeliğinin amaçları doğrultusunda [...]

In Turkish, suffixes that are added to the names of laws, covenants and regulations are separated with an apostrophe. Similarly, the same rule applies to the titles. On the contrary, apostrophes are not used for suffixes that are added to the names of institutions, organizations, councils, etc, except for the European Union. These rules have been violated in the above examples. They are basically the reason why punctuation errors are this high because 37 of them in the first legal text and 38 in the second legal text are in breach of these rules. The scope of these rules is vital for legal texts since names of laws, agreements, titles, institutions are quite common in these types of texts. Therefore, it can be easily concluded that punctuation rules are essential to be known by the post-editor who is working on a machine translation of a legal text. However, this might not be valid for technical texts since it had only 11 errors and this category included the second least number of errors.

Table 30: Orthography Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Spelling	2	4	1	2	2	11
Capitalization	4	9	1	4	0	18
Punctuation	6	14	13	6	12	51
Other	0	0	0	0	1	1

Table 31: Orthography Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Spelling	3	1	2	1	1	8
Capitalization	3	4	1	0	3	11
Punctuation	17	11	17	12	17	74
Other	1	1	0	2	1	5

After discussing each fluency subcategory, the errors that require the source text to be detected will now be scrutinized. In the first legal text, mechanical is the most problematic category with 101 errors in total, which is closely followed by mistranslation errors with 99, and these two categories make up approximately 77.5% of the accuracy errors detected in the translations of the first legal text. As for the second legal text, these two categories are again the most erroneous ones but this mistranslation is higher than mechanical with 114 to 90. These two categories are also dominant in the first technical text. It is important to mention that rest of the accuracy subcategories follow the exact same order of the first technical text: omission, other, addition, untranslated and DNT. While the only error categorized as untranslated in each text is made by Watson, there are no DNT errors. All NMT systems made errors that cannot be categorized into any of the specific categories. Unlike the error categorization of the translations of the technical text, each system made errors in the addition category, except for Google in the second legal text. Below are some error examples from the subcategories of accuracy.

Source: Duties, obligations and privileges

Yandex: Görevleri yükümlülükleri ve yetkileri

Source: [...] whose employment and contractual relationship are defined by a letter of appointment subject to regulations promulgated by the General Assembly pursuant to Article 101, paragraph 1, of the Charter.

Watson: [...] istihdam ve sözleşme ilişkisi, Genel Kurulun Madde 101, paragraf 1, Tüzüğün 1. fıkrası uyarınca belirlenmiş [...]

Source: "Reasonable accommodation", in relation to the essential functions of the job, shall mean appropriate measures, where needed, to enable a person with a disability to have access to, participate in, [...]

Reverso: "Makul konaklama", işin temel fonksiyonlarıyla ilgili olarak, malulen bir kişinin iş yerine erişmesini, iş yapmasını veya işe katılmasını [...]

The two examples above are addition errors. For Yandex, there is an added null subject, which alters the source meaning to “*their* duties, obligations and privileges”. It is odd that the system adds a null subject while it is quite rare in English, a language that sometimes even needs dummy subjects (Chalker and Weiner, 1994: 515). The second one is a repeated translation of the same source word, “paragraph 1”. In the target text, it is both translated as “paragraf 1” and “1. fıkrası”, also, both follow a different style of indicating the number of a paragraph. Finally, Reverso adds the underlined words, which are not present in the source, to the target text.

Source: For the purposes of these Regulations, the expressions “United Nations Secretariat”, “staff members” or “staff” shall refer to all the staff members of the Secretariat, within the meaning of Article 97 of the Charter of the United Nations, whose employment and contractual relationship are defined by a letter of appointment subject to regulations promulgated by the General Assembly pursuant to Article 101, paragraph 1, of the Charter.

Google: ve sözleşme ilişkisi, Şart'ın 101. maddesinin 1. fıkrası uyarınca Genel Kurul tarafından çıkarılan düzenlemelere tabi olarak bir atama mektubu ile tanımlanır.

Source: [...] and not to seek or accept instructions in regard to the performance of my duties from any Government or other source external to the Organization.

Yandex: [...] görevlerimin yerine getirilmesiyle ilgili talimatları aramamayı veya kabul etmemeyi taahhüt ediyorum.

Source: I also solemnly declare and promise to respect the obligations incumbent upon me as set out in the Staff Regulations and Rules.

Watson: Ayrıca, Personel Yönetmeliği ve Kuralları 'nda bana bağlı olarak görevdeki yükümlülöklere saygı duyacak şekilde resmi olarak ilan ediyorum.

Source: 1. In the application of these Staff Regulations, any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age, or sexual orientation shall be prohibited.

Reverso: 1. Bu personel düzenlemelerinin uygulanışında cinsiyet, ırk, renk, etnik veya sosyal kaynak, genetik özellikler, dil, din veya inanç, siyasi veya başka herhangi bir görüş, ulusal bir azınlığın üyeliği, mülkiyet, doğum, malullük, yaş, veya cinsel yönelim yasaktır.

As for omission errors, Google omits “whose employment” in the target text, which is a wrong division of the source sentence. Similarly, in the same sentence, Reverso omits “whose”, Yandex and Bing omit a bit more, “whose employment and contractual relationship”. Longer sentences like these mostly cause more errors in general. For instance, for this sentence alone, Google makes 10, Reverso makes 17,

Yandex makes 12, Bing makes 19 and Watson makes 16 errors when both fluency and accuracy errors are combined. Therefore, this shows that longer sentences are hard to translate for the NMT systems from English to Turkish, which is also the case in different language pairs (Bentivogli, Bisazza, Cettolo and Federico, 2016: 261; Toral and Sanchez-Cártagena, 2017: 1071; Koehn and Knowles, 2017: 28). In the second example, Yandex omits a rather long phrase: “from any Government or other source external to the Organization”. While the omitted part is composed of ten words, it is not so much possible to detect the extent of omission from the target text. The next example includes two omission errors made by Watson; there is no equivalent for the source words “promise” and “as set out” in the target text. The last example by Reverso omits a rather long part, 8 words.

Source: (e) The Staff Regulations apply to all staff at all levels, including staff of the separately funded organs, holding appointments under the Staff Rules;

Bing: (e) Kadro Yönetmeliği, ayrı olarak finanse edilen organların personeli de dahil olmak üzere, Personel Kuralları kapsamında atamalar yapmak da dahil olmak üzere her düzeydeki tüm personel için geçerlidir;

Source: (d) The Secretary-General shall seek to ensure that the paramount consideration in the determination of the conditions of service shall be the necessity of securing staff of the highest standards of efficiency, competence and integrity;

Watson: (d) Genel Sekreter, hizmet koşullarının belirlenmesinde, verimliliğin, yetkinlik ve bütünlüğün en yüksek standartlarının güvence altına alınmasının gerekliliği olacak şekilde, söz konularının dikkate alınması halinde,

Source: 1. For the purposes of these Staff Regulations, "official of the Communities" means any person who has been appointed, as provided for in these Staff Regulations, to an established post on the staff of one of the institutions of the Communities by an instrument issued by the Appointing Authority of that institution.

Google: 1. Bu Personel Tüzüğü'nün amaçları doğrultusunda, "Topluluk Görevlisi", bu Personel Tüzüğü'nde öngörüldüğü şekilde, bir belge ile Topluluk kurumlarından birinin kadrosunda kurulu bir göreve atanan herhangi bir kişi anlamına gelir. o kurumun Atama Otoritesi tarafından verilir.

Accuracy errors that cannot be categorized into specific subcategories are counted as other. This type of errors mostly include misplaced words, phrases, parts or sentences that need restating. For the first example above, the relative sentence “holding appointments under the Staff Rules” in the source text modifies “separately funded organs”, however, in the translation of Bing, it does not do so and the clause stands rather off the sentence. The fact that the next phrase that comes just after it, “da

dahil olmak üzere”, is actually an addition contributes to this issue and the sentence can only be corrected by removing this this phrase and then moving the mentioned relative clause right before “ayrı olarak finanse edilen organlar” and making the necessary changes in the word ending. A similar issue is also observed in Watson’s translation. Here, what should be secured is not the standards but the staff. However, the word “staff” is also omitted, which turns the correction process that this sentence requires into a translation rather than post-editing. The last example includes unnecessarily separated part of an otherwise single sentence. The underlined sentence in the Google’s translation should have been included in the previous sentence, just as in the source text.

Source: They represent the broad principles of human resources policy for the staffing and administration of the Secretariat.

Watson: Bunlar, Secretariat'in kadro ve idaresi için [...]

Source: Article 1(2)(c) of Annex VII [...]

Watson: Annex VII 'nin Madde 1 (2) (c) maddesinde [...]

Above is the only two issue of untranslated word, both made by Watson. Strangely, Watson correctly translates the word in the first example elsewhere in the first legal text. However, it is considered insignificant since it is a single example. For the second example, Watson does not translate the word Annex.

Figure 15: Percentage of Overall Accuracy Errors for the First Legal Text

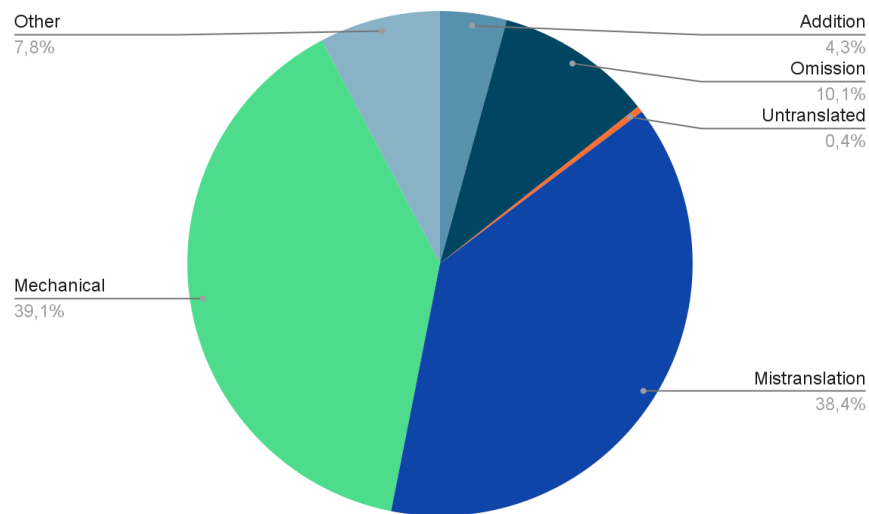


Table 32: Accuracy Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Addition	2	2	1	2	4	11
Omission	5	2	6	2	11	26
Untranslated	0	0	0	0	1	1
DNT	0	0	0	0	0	0
Mistranslation	9	25	16	20	29	99
Mechanical	20	31	23	11	16	101
Other	1	1	5	6	7	20

Figure 16: Percentage of Overall Accuracy Errors for the Second Legal Text

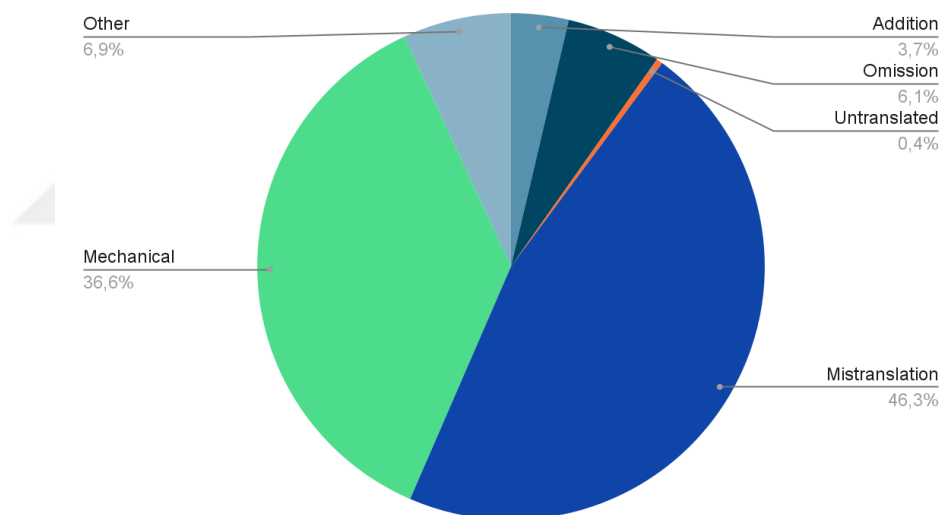


Table 33: Accuracy Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Addition	0	2	1	1	5	9
Omission	3	4	0	0	8	15
Untranslated	0	0	0	0	1	1
DNT	0	0	0	0	0	0
Mistranslation	21	38	15	15	25	114
Mechanical	9	41	8	8	24	90
Other	3	4	3	2	5	17

Table 33 and 34 go into the details of the mistranslation errors detected in the machine-translated outputs of the first and second legal text. Similar to the technical text, the most dominant category is again WSD with 80 errors in the first legal text and 99 in the second. It is followed by the categories of other and SU. However, errors categorized as SU in the first text are made by two systems and most of them belong to Watson and those in the second text are solely based on Watson. There is only one error that is categorized into POS in each text and one MWE in the second text only.

Source: [...] maintaining or adopting measures providing for specific advantages in order to make it easier for the underrepresented sex to pursue a vocational activity [...]

Watson: [...] özel avantajlar sağlayan önlemleri korumasını veya benimsemesini engellememeli ve bu da bu tür bir hak ve eşitlik için daha kolay bir şekilde gerçekleştirilecektir.

Above is the only example of MWE error. Here in this translation, Watson mistranslates the multi-word phrase “make it easier”. These errors hardly appear in this analysis. But this does hinder their potential importance in future NMT evaluations with different text types.

Source: (d) The Secretary-General shall seek to ensure that the paramount consideration in the determination of the conditions of service shall be the necessity of securing staff of the highest standards of efficiency, competence and integrity;

Watson: (d) Genel Sekreter, hizmet koşullarının belirlenmesinde, verimliliğin, yetkinlik ve bütünlüğün en yüksek standartlarının güvence altına alınmasının gerekliliği olacak şekilde, söz konularının dikkate alınması halinde,

Source: [...] in order to make it easier for the underrepresented sex to pursue a vocational activity or to prevent or compensate for disadvantages in professional careers.

Watson: [...] mesleki kariyerlerdeki dezavantajları önlemek ya da önlemek veya telafi etmek için cinsel temsil edilir.

In the first examples above, which illustrates the only POS error in the fitsy legal text, “shall seek” in the source text is the verb of the sentence; however, it is transformed into an adverb in the target text. The second example is also from Watson’s translation but this one is in the second text. Not the mention the underlined word involves a semantically unrelated translation error, it also presents a POS error. While the it is an adjective in the source, the target text transform it into a verb. Since these are the only errors in this category, it could be argued that POS errors are not significant for post-editing processes in legal text translations.

Source: (c) The Secretary-General shall ensure that the rights and duties of staff members, as set out in the Charter and the Staff Regulations and Rules and in the relevant resolutions and decisions of the General Assembly, are respected;
Google: (c) Genel Sekreter, Tüzükte ve Personel Tüzüğü ve Kurallarında ve Genel Kurulun ilgili karar ve kararlarında belirtilen personel üyelerinin hak ve görevlerine uyulmasını sağlar;

Source: [...] to discharge these functions and regulate my conduct with the interests of the United Nations only in view, [...]

Bing: [...] bu işlevleri boşa çıkarıp davranışlarımı sadece Görüş alanında Birleşmiş Milletler’in çıkarları doğrultusunda düzenleyeceğimi [...]

Source: [...] The Secretary-General, as the chief administrative officer, [...]

Watson: [...] Genel Sekreter, baş idari subay olarak [...]

Source: 1. For the purposes of these Staff Regulations, “official of the Communities” means any person who has been appointed, as provided for in these Staff Regulations, to an established post on the staff of one of the institutions of the Communities by an instrument issued by the Appointing Authority of that institution.

Reverso: 1.Bu personel düzenlemelerinin amaçları doğrultusunda, “toplulukların resmi”, bu personel düzenlemelerinde belirtilen şekilde atanmış herhangi bir kişi anlamına gelir, Bu kurumun atanma Dairesi tarafından yayınlanan bir araç tarafından, toplumların kurumlarından birinin personeli üzerinde kurulmuş bir göreve.

Above, there are four examples of WSD errors. Although the first one is from Google, the two issues included in it are observed in all other NMT systems. The first mistranslation in this sentence is regarding the word “Charter”. While it could have

been translated as “tüzük” elsewhere, in this context, it refers to the Charter of the UN, which is translated into Turkish as “BM Antlaşması/Şartı”. For the second one, the title of this document is “Staff Regulations” and it is previously translated as “Personel Yönetmeliği”. Therefore, using “tüzük” for “regulations” creates inconsistency. Since the word regulations refers to the same thing throughout the text, it should have been translated the same. These two words alone cause 27 mistranslation errors, making the inconsistency a critical point that requires attention in the post-editing process of legal texts. The next example is from Bing’s translation, which includes two different WSD errors, as well. First one is the translation of the verb “discharge” and it is translated as “release”, while it should have been understood as “fulfill/perform”. The second one is “in view”. The Turkish translation of the word sounds like “field of view”. However, the source means considering only the UN’s interests, and thus, it should have been conceived as “taking into account”. All too similar, Watson wrongly translates “officer” as “subay”, which adds a martial connotation to the target text. The last example from Reverso’s translation of the second legal text illustrates many cases of WSD. Two of them are also present in the first example by Google, regarding the word “Regulations”. Furthermore “official” is both mistranslated and misspelled while it should refer to people in charge. The rest are further WSD errors, all of which are detailed in the Appendix V. These errors are basically like choosing the wrong equivalent from the dictionary, without taking heed of the context.

Source: (f) The privileges and immunities enjoyed by the United Nations by virtue of Article 105 of the Charter are conferred in the interests of the Organization.

Reverso: (F) Tüzüğün 105. Maddesi ile Birleşmiş Milletler’in sahip olduğu imtiyazlar ve dokunulmazlıklar, örgütün çıkarları doğrultusunda hareket edilir.

Source: These privileges and immunities furnish no excuse to the staff members who are covered by them to fail to observe laws and police regulations of the State in which they are located, nor do they furnish an excuse for non-performance of their private obligations.

Watson: [...] Bu ayrıcalıklar ve dokunulmazlıklar, kendilerine ait oldukları devletin yasa ve polis yönetmeliklerini göz önünde bulunmaması ve özel yükümlülüklerini yerine getirmemeleri için [...]

There are two examples of mistranslation above that are semantically unrelated. The verb in Reverso’s translation, “hareket edilir” is not connected in any way to the verb in the source text, “are conferred”. Let alone its being passive, the

source verb means to bestow. In the second example, Watson does not establish a semantic connection between the source phrase “in which they are located” and its supposed translation “ait oldukları” because the source means residing but the target means belonging.

Table 34: Mistranslation Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWE	0	0	0	0	0	0
POS	0	0	0	0	1	1
WSD	6	22	14	17	21	80
SU	0	2	0	0	6	8
Other	3	1	2	3	1	10

Table 35: Mistranslation Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWE	0	0	0	0	1	1
POS	0	0	0	0	1	1
WSD	18	36	14	14	17	99
SU	0	0	0	0	3	3
Other	3	2	1	1	3	10

Tables 35 and 36 include the subcategories of the last type of accuracy errors for the legal text translations. Mechanical errors of the first legal text are overwhelmed with the issues that could not be categorized as either capitalization or punctuation. While there are 64 errors that are annotated as “other”, it is followed by capitalization errors, which is the half of the first, 32. In the first technical text, the total amount of mechanical errors are higher than the legal text, however, ordering of the subcategories is the same. Additionally, the category of other is much more dominant in the first technical text, due to the use of tables and symbols. As for the second legal text, capitalization and other seem to be high in total number of errors. However, these

numbers increase due to unusual number of errors detected in the worst two systems in the legal text translations. If it was not for them, these categories would have been less erroneous. For instance the reason behind the increase in the capitalization errors made by Reverso is that this NMT system does not follow the source text for capitalized words such as “Staff Regulations”. As for the increase in the category of other, it is due to Watson combining articles in the same paragraph while they should have been on separate lines.

Source: For the purposes of these Regulations [...]

Reverso: Bu düzenlemelerin amaçları doğrultusunda [...]

Source: They represent the broad principles of human resources policy for the staffing and administration of the Secretariat.

Yandex: Sekreteryanın personel ve yönetimi için İnsan Kaynakları politikasının geniş ilkelerini temsil ederler.

Basically, the two examples above summarizes the whole capitalization errors, which include letters that are either wrongly capitalized in the target text or written with lower cases contrary to the style of their counterpart in the source text. Reverso writes the first letter of the translation of “regulation” with a lowercase while it is capitalized in the source text. Yandex does the exact opposite with “human resources” and translates it as “İnsan Kaynakları”. Legal texts may include these types of capitalizations for emphasizing and unnecessary use of it might affect the style and alter minor points of emphasis.

Source: In any case where an issue arises regarding the application of these privileges and immunities, the staff member shall immediately report the matter to the Secretary-General, who alone may decide whether such privileges and immunities exist and whether they shall be waived in accordance with the relevant instruments.

Google: Bu ayrıcalık ve dokunulmazlıkların uygulanmasına ilişkin herhangi bir sorun ortaya çıktığı takdirde, personel, durumu derhal Genel Sekretere bildirir; söz konusu ayrıcalık ve dokunulmazlıkların mevcut olup olmadığına ve bu ayrıcalık ve bağışıklıklardan feragat edilip edilmeyeceğine tek başına karar verebilir. ilgili araçlar.

Since there are only a few punctuation errors, one example should suffice. In the above translation by Google, a semicolon and a full-point is added to where there is no correspondent in the source text. Similarly, there are only a couple of punctuation errors in the technical texts since most of them are already recognized and can be corrected on the target text level. Accordingly, there are 49 and 74 punctuation errors

in the legal texts that do not need referring to the source text, however, comparing the source with the target only reveals 5 and 11 errors committed by the NMT systems.

Source:
Article I
Duties, obligations and privileges

Regulation 1.1
Status of staff

Google:
Madde I
Görevler, yükümlülükler ve ayrıcalıklar

Yönetmelik 1.1
Personel durumu

Source:
Staff Regulations of the United Nations
Scope and purpose

The Staff Regulations [...]

Yandex:
Birleşmiş Milletler personel Yönetmeliği

Kapsam ve amaç

Personel Yönetmeliği,

There are two examples from Google and Yandex that illustrate the main issues that are classified into the subcategory of other mechanical errors. For Google, the problem is that while the source uses bold characters for these titles and subtitles, Google fails to do the same. Furthermore, “Regulation 1.1” and “Status of staff” are indented in the source text; however, Google does not indent and align these two words just like the previous ones. These two errors are all common in other NMT systems. Since the full post-editing also requires correct formatting (TAUS, 2016a: 18), these types of errors are considered important. Similarly, Yandex does not use bold characters for the title of the document and “scope and purpose”. In addition, the titles and subtitles are too spaced from each other. As a solution to a general issue observed in all machine-translated outputs, the whole text should be indented from both sides and justified. The second legal text mainly involves similar issues such as bold and

italic titles. These are vital for completing the mechanical part of the full post-editing process.

Table 36: Mechanical Errors for the First Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Capitalization	1	14	10	2	5	32
Punctuation	3	1	1	0	0	5
Other	16	16	12	9	11	64

Table 37: Mechanical Errors for the Second Legal Text

	Google	Reverso	Yandex	Bing	Watson	Total
Capitalization	2	33	2	2	2	41
Punctuation	6	2	0	1	2	11
Other	1	6	6	5	20	38

2.3. ANALYSIS OF THE MEDICAL TEXTS

The first medical text used in this thesis is a publication by the World Health Organization on the Covid-19 virus. Table 38 shows that there are a total of 465 errors in the translation of first medical text, 266 of them are fluency errors and 199 are accuracy. Unlike the previous two text types, except for the second technical text, the first medical text includes more fluency errors than accuracy errors, though the total number of the errors are similar to technical and legal text translations. This means that the first medical text will require less effort since most of the errors can be detected on the target text level. The system with the most errors is Watson with 151. This is also the case in technical texts. It is followed by Reverso, Yandex.Translate, Google Translate and Bing, respectively. While Google is the most successful in technical texts and the first legal text, Bing overthrows it in the first medical text, as in the second legal text, making 55 errors. Figure 17 details the percentage of errors made by each NMT system. The vocabulary profile of the first medical text can be seen in Table 39.

Content words increases compared to other texts. Similarly, off-list words are 19.52% of all words, which is the highest among the corpus of the thesis.

Table 38: Fluency and Accuracy Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Fluency	41	54	51	28	92	266
Accuracy	20	49	44	27	59	199
Total	61	103	95	55	151	465

Figure 17: Error Percentage of the NMT Systems for the First Medical Text

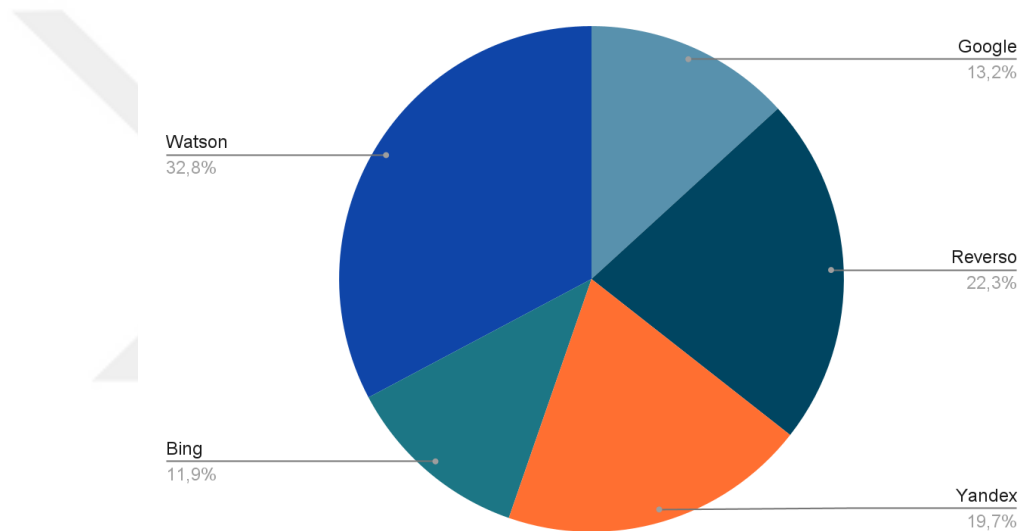


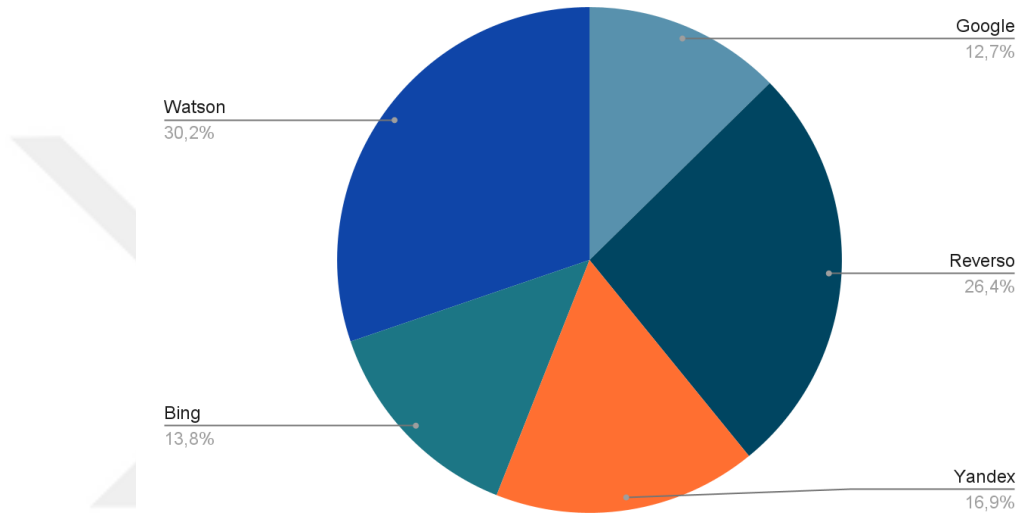
Table 39: Vocabulary Profile of the First Medical Text

	<u>Families</u>	<u>Types</u>	<u>Tokens</u>	<u>Percent</u>
K1 Words (1-1000):	107	127	374	67.75%
Function:	...	...	(182)	(32.97%)
Content:	...	...	(192)	(34.78%)
> Anglo-Sax	...	...	(46)	(8.33%)
K2 Words (1001-2000):	21	21	26	4.71%
> Anglo-Sax	...	...	(8)	(1.45%)
1k+2k		...	...	(72.46%)
AWL Words:	28	31	44	7.97%
> Anglo-Sax	...	...	(2)	(0.36%)
Off-List Words:	<u>?</u>	<u>53</u>	<u>108</u>	<u>19.57%</u>
	156+?	232	552	100%

The second medical text is an excerpt describing the addiction cycle taken from a study conducted by the United States Department of Health and Human Services. As shown in Table 40, the total amount of error is 450. Unlike the first medical text, the number of accuracy errors are more than the fluency. However, the fluency errors drop almost 12% compared to the first medical text. The reason behind this might be connected to sentence length, as observed in the legal texts. While the average sentence length for the first medical text is 23.7 words, it is 15.4 for the second. This generates a significant difference between the two texts. This statistical information is vital when discussing the gap between the number of fluency errors in each medical text. There are 248 accuracy errors in the second medical text. The reason behind this increase will be scrutinized in the discussions of accuracy errors of the second medical text. The most erroneous system is Watson, which is also true for the first one. It is followed by Reverso and these two systems make up more than half of the errors in the translations of the second medical text. The rest of the systems are in a close competition. Yandex is responsible for 16.9%, Bing 13.8% and Google 12.7%. The details of the vocabulary profile can be seen in Table 40. Compared to the first medical text, content words and off-list words decrease.

Table 40: Fluency and Accuracy Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Fluency	31	52	36	31	52	202
Accuracy	26	67	40	31	84	248
Total	57	119	76	62	136	450

Figure 18: Error Percentage of the NMT Systems for the Second Medical Text**Table 41:** Vocabulary Profile of the Second Medical Text

	<u>Families</u>	<u>Types</u>	<u>Tokens</u>	<u>Percent</u>
K1 Words (1-1000):	113	132	383	73.51%
Function:	...	...	(217)	(41.65%)
Content:	...	...	(166)	(31.86%)
> Anglo-Sax	...	...	(68)	(13.05%)
K2 Words (1001-2000):	14	18	25	4.80%
> Anglo-Sax	...	...	(6)	(1.15%)
1k+2k		...	...	(78.31%)
AWL Words:	36	45	70	13.44%
> Anglo-Sax	...	...	(5)	(0.96%)
Off-List Words:	<u>2</u>	<u>32</u>	<u>43</u>	<u>8.25%</u>
	163+?	227	521	100%

A similar distribution is observed in the number of errors in the fluency subcategories of the medical texts with those of the legal texts. Again, grammar and orthography errors are dominant. The two are responsible for 176 errors combined in the first medical text, which is about 66% of all fluency errors detected in the translations of the first medical text. In the second medical text, this number is 155 and it corresponds to approximately 76% of all fluency errors in the second medical text. With 64 errors in the first text and 41 in the second, lexicon is also a topic to be mentioned. In the first medical text, each system makes errors in the subcategory of other, but only Reverso and Yandex make errors that are categorized as multiple errors. As for the second medical text, there are 3 errors in each of these categories: Watson is the sole responsible of multiple errors. Reverso makes 1 and Watson makes 2 errors that could be categorized as other.

Reverso: SARS-COV-1'in yerini alan bu, 2002–2004 SARS salgınına neden olan gerilme.

Yandex: Test sırasıyla %20 ve %75 durumda asemptomatik enfeksiyon oranı, iki genel nüfus sayım sonuçları arasında büyük sapma oldu, rehber oranı huzurevi sakinleri (%42 -65%) iken %54 olan (13-50%) 28% takip (22) kadar asemptomatik kalmıştır test de asemptomatik boyunca asemptomatik olarak kaldı obstetrik hastalarda (49– 68%) 8.2–%50 ve %59 oldu.

Watson: ve bir süre sonra bir süre sonra, bir süre sonra bir kez daha madde arayan bir sahnedeki cisimler/beklenti.

These are the examples of multiple errors. In Reverso, lexical choices, missing verbs and probable mistranslations make it impossible to correct the sentence without the source text. Similarly, the sentence translated by Yandex is too complicated and does not have a proper meaning. Although some errors can be detected and corrected, the sentence needs retranslating by referring to its source counterpart. Likewise, isolated word corrections cannot fix Watson's translation.

Google: 2002–2004 SARS salgınına neden olan tür olan SARS-CoV-1'in halefidir.

Bing: Semptom başlangıcı sırasında boğaz sürüntü örneklerinde en yüksek viral yükü gözlemleyen 77 enfekte-enfekte bulaşma çifti üzerinde yapılan bir çalışmada, indeks olgusunun semptom öncesi evresinde (14) meydana gelen ileriye dönük enfeksiyonların tahmini %44'ü (%95 güven aralığı, %30-57) ile semptom başlangıcında veya öncesinde enfeksiyözlük zirvesi önerilmiştir.

Watson: Asmptomatik bir vaka, SKAR-COV-2 ile enfekte olmuş bir kişidir (15.16) semptomları geliştirmez.

Above are some examples of word-based fluency errors that can be detected but the sentence as a whole does not have a clear meaning. Furthermore, there is no merger of errors that make it hard to annotate fluency errors separately and thus the sentences cannot be flagged as multiple error. Therefore, they are categorized as other. In the first one, which is from Google, while the repetition of “olan” cannot be categorized under grammatical errors, it disrupts the fluency of the sentence. Therefore the sentence can be rephrased as “2002–2004 SARS salgınına neden olan SARS-CoV-1’in halefidir” in order to form a fluent target text. The next example illustrates a type of error that is peculiar to the medical text translations analyzed within the scope of this study. In this type of errors, the target sentence is hard to read and does not have a clear meaning. However, the reason behind this issue cannot be pointed out with annotating certain fluency errors and it cannot be classified into the category of multiple errors. Therefore, such sentences are marked as “fluency->other” and require source text for rephrasing. There are a total of 10 sentences like this, which make up almost half of all errors in this category. The last one is an example of errors that need rephrasing and do not need referring to source text. Since the coronavirus is nowadays a popular topic, definitions of some terms related to this illness are clear to most. For the example above, the sentence can be rephrased as “Aseptomatik vaka, SARS-CoV-2 ile enfekte olup semptom geliştirmeyen kişidir.”

Figure 19: Percentage of Overall Fluency Errors for the First Medical Text

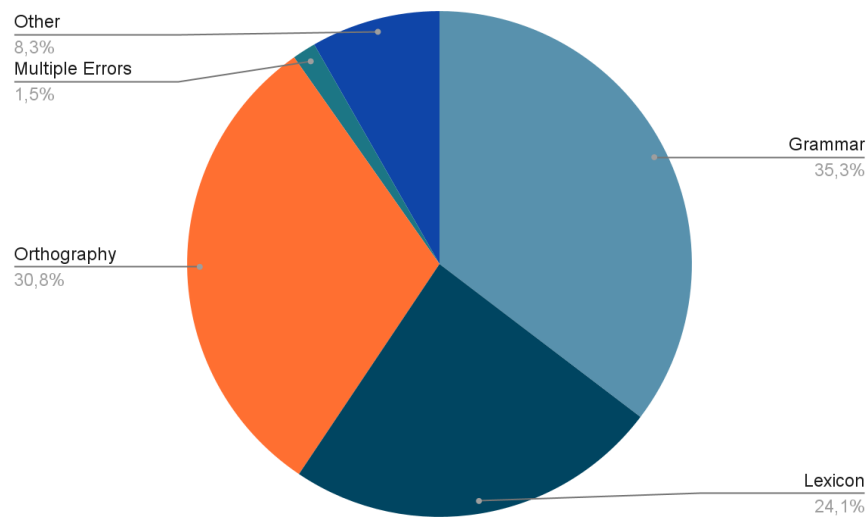


Table 42: Fluency Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Grammar	21	15	15	8	35	94
Lexicon	9	16	14	11	14	64
Orthography	8	16	15	8	35	82
Multiple Errors	0	1	3	0	0	4
Other	3	6	4	1	8	22

Figure 20: Percentage of Overall Fluency Errors for the Second Medical Text

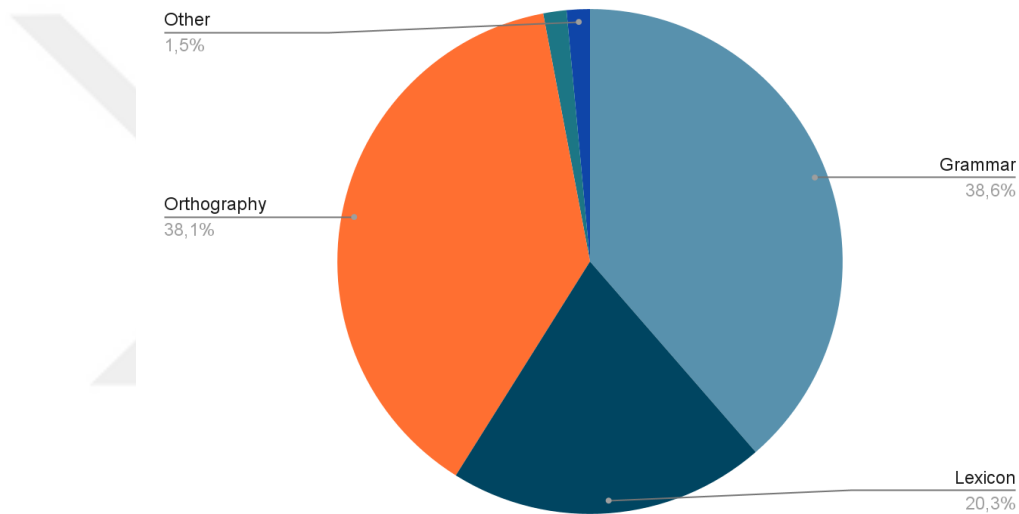


Table 43: Fluency Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Grammar	13	13	19	14	19	78
Lexicon	3	21	3	3	11	41
Orthography	15	17	14	14	17	77
Multiple Errors	0	0	0	0	3	3
Other	0	1	0	0	2	3

Tables 44 and 45 show the number of errors for each subcategory of grammar errors detected in the medical text translations. Word form is the category with most errors in both texts and it s responsible for more than half of the grammar errors in the

first and about 43% of them in the second. Since this is also true for the technical text and medical text translations, it is safe to conclude that word form is the most important error category in terms of grammar. It is followed by extra word with 21 errors in the first and 23 in the second medical text. Extra word errors in the first medical text are mostly due to Watson but there is a rather balanced distribution in the second medical text. Then comes missing word, word order, other and multi-word syntax, respectively, in the both medical texts. This sequence is also observed in the legal text. MWS includes only one error, which is made by Google. Word order issues show an increase here in the medical texts with 8 errors in each while there are 4 word order errors in the first technical and both of the legal texts texts. Furthermore, while there is only 1 error categorized as other in the first medical text, there are 4 errors of this kind in the second.

Google: Düşük kayırma hatası riski altında olduğu düşünülen 13 çalışmayı içeren başka bir sistematik derleme, vakaların %17'sinin asemptomatik kaldığını (%14-20) tahmin etmiştir (21).

Above is the only example of MWS, not only for the medical text translations but also for other text types. Thus, it is rather an insignificant category for post-editing these type of texts. The target text reads as “13 studies considered to be under the risk of low bias fault”, however it should be clear that the bias risk of these studies are regarded as low. Therefore, the translation should be amended as such: “Yanlılık hatası riski düşük olduğu düşünülen [...]”.

Google: [...] yeni ortaya çıkan bir koronavirüs olan şiddetli akut solunum sendromu koronavirüsü 2'den (SARS-CoV-2) kaynaklanır.

Reverso: [...] ilk olarak Aralık 2019'te [...]

Bing: Bir diğer meta-analizde 28 çalışma yer aldı.

Watson: Bu, 2002-2004 SARS salgınına neden olan SKAR-CoV-1 'in varisi.

Reverso: İnsanların döngüde nasıl ilerlediği ve aşamaların her birini ne kadar deneyimleyebileceği farklılık gösterebilir.

Yandex: Örneğin, bir ergen dürtüsel olarak ilk ıçkiyi alabilir, sigara içebilir, esrarla denemeye başlayabilir [...]

As previously indicated, word form errors are quite vital for post-editor when working into Turkish. They might solve a range of issues from missing verbs to keeping the proper register throughout the text. In Google's case, for instance, the terminological issue can be solved with a change in the word ending, which is dealt within the word form category. The correct term used in Turkish for “coronavirus” is

“koronavirüs”. For Reverso, the issue is the wrong assimilation for a suffix. In Turkish, a suffix starting with a constant letter is alternated according to the pronunciation of the word it is attached to. Thus in the above example, it should be “2019’da”. This also shows that word form errors also include the constant assimilation. The following is from Bing and it is related to the register of a scientific text. Elsewhere in its translation, Bing uses the proper form of verb inflection for such texts: “kaynaklanmaktadır”, “önerilmiştir”, and “edilmiştir”. However, in some cases, as in the above example, it uses a less formal register. Therefore, it should be “yer almıştır” in order to protect the register throughout the text. 4 out of 5 total word errors of Bing are about this topic. In the next example, there is a missing copula at the end of the sentence in the example from Watson. While there are cases of zero copula in Turkish language, this cannot be applied here because the sentence is too long for such use and the proper register requires the “-dır” suffix. The last two examples are from the second medical text. In Reverso’s translation, the ability suffix, *-ebilmek*, of the underlined word is unnecessary here, it should be omitted. While this could have been an extra word error in other languages, due to Turkish’s agglutinative nature, it is categorized as word form. This is another example that validates the importance of this category. In the last example, two different suffix errors are observed. The first underlined word should connect to the subject in order to mean that the adolescent could get their first drink, otherwise it means that the adolescent can get the first drink but it is not clear that this is the adolescent’s first drink. Thus, a possessive suffix should be added: “içkisini”. As for the second underscored word in the same example, it means that the adolescent may start experimenting something with marijuana, however, it should be the marijuana that is experimented by the adolescent. Therefore, the suffix “-la” should be deleted.

Google: Doğrulanmış hastalardan tekrarlanan biyolojik örneklerin toplandığı klinik ve virolojik çalışmalar, SARS-CoV-2'nin yayılmasının hastalığın erken döneminde üst solunum yollarında (URT) (burun ve boğaz) en yüksek olduğunu göstermektedir (8,9,10).), semptomların başlangıcından itibaren ilk 3 gün içinde (10,11,12,13).

Reverso: 77 enfektor-enfekte te iletim çiftinin üzerinde yapılan bir çalışmada, belirti başlangıç zamanında boğaz bezlerinde en yüksek viral yük gözlemlendi [...]

Watson: Semptomatik hastalar arasında, herhangi bir belirtinin başlangıcından itibaren (17.18.19), bulaşıcı virüs dökülmesi süresi 8 gün olarak tahmin ediliyor.

Yandex: Benzer şekilde, başkalarıyla birlikte uyuşturucu içmek veya kullanmak [...]

Above are three examples of word order errors detected in the medical text. For the first one from Google's translation, there is a sentence at the end that seems incongruous with the rest of the sentence due to misplacement. This sentence can be reordered like this: "[...] virolojik çalışmalar, SARS-CoV-2'nin yayılmasının hastalığın en erken döneminde (8,9,10), semptomların başlangıcından itibaren ilk 3 üç gün içinde, üst solunum yollarında (ÜSY) (burun ve boğaz) en yüksek olduğunu göstermektedir (10,11,12,13)." For the next example, there is a better way to form the sentence to have a clearer meaning: "[...] boğaz bezlerindeki en yüksek viral yük belirti başlangıç zamanında gözlemlenmiştir." While some parts of the sentences are reordered in the first two examples, there might be some cases that need whole sentence to be reorganized. Last example illustrates such a case and the translation of Watson can be corrected in this way: "Semptomatik hastalar arasında virus bulaşma süresi, herhangi bir belirtinin başlangıcından itibaren 8 gün olarak tahmin edilmektedir." As for the last example from the second medical text, Yandex uses wrong verbs for the actions; therefore, it sounds like a single addiction: using and drinking drugs but drinking must be regarded as another addiction. The correct verb for drugs is "use", therefore it should be reordered as "[...] başkalarıyla birlikte içmek veya uyuşturucu kullanmak [...]"

Google: Bir kişi bu üç aşamalı döngüden haftalar veya aylar boyunca geçebilir veya günde birkaç kez geçebilir.

Yandex: Asemptomatik bir vaka, semptom geliştirmeyen SARS-CoV-2 ile enfekte olmuş bir kişidir (15,16).

Bing: 77 enfekte-enfekte bulaşma çifti [...]

Watson: İki genel nüfus dönemi arasında, testin % 20 ve %75 oranındaki orantısal enfeksiyon oranı ile orantısal enfeksiyon oranı arasında geniş bir fark vardı.

Turkish does not require the indefinite article as much as English does. In fact, its frequent and close use might cause fluency errors. First two example by Yandex and Google illustrate such an issue that could be categorized under the extra word errors. Omitting the indefinite articles of "bir" in this sentence would create a more natural sentence in the target language. Google also involves one more extra word error in the same sentence. "Geçebilir" can be the single verb of the sentence, repeating

it disrupts the fluency. Another example of extra word errors can be caused by repetition of the same word, which is demonstrated above in the translation from Bing. Additionally, there might be some cases of repetition that include not the same word but the phrase. Here, Watson repeats the phrase “orantısal enfeksiyon oranı” successively. Furthermore, in the underscored part of the sentence, 5 out of 8 words share the same root: “oran”.

Reverso: Epidemiyoloji ve virolojik çalışmalar, genellikle hem semptomatik hem de asemptomatik insanlardan diğerlerine solunum damlacıkları yoluyla veya enfekte kişilerle doğrudan temas veya kontamine olmuş nesne ve yüzeylerle temas yoluyla iletildiğini göstermektedir [...]

Yandex: yeni ortaya çıkan bir koronavirüs olan ciddi akut solunum sendromu koronavirüs 2'den (SARS-CoV-2) kaynaklanmaktadır.

Watson: COVID-19 için kuluçka dönemi, virüse maruz kalma süresi (enfekte olma) ve belirti başlangıcı, ortalama olarak 5-7 gün, ancak 14 güne kadar çıkabilen kuluçka dönemi.

Missing words mainly deal with sentences that lack objects, verbs or subjects. For the two cases above, Reverso and Watson, the translated sentences are examples to this issue of lacking a part-of-speech. For Reverso, it is an object. The sentence does not indicate what is transmitted by contact. After checking the source text, it is revealed that this issue is caused by a mistranslation error that involves the word “transmission” being translated as “iletildiğini” while it should have been “bulaşma”. Here, Reverso both chooses the wrong meaning and alters the role of the word in the sentence. Similarly, Watson is missing another vital part of a proper sentence, a verb. After reading the source text, it is understood that there should be a copula after “5-7 gündür” and there is another accuracy error that involves a POS error, which turns the verb “can be up to” into an adjective. Another problem that might cause an error to be discussed under this category is that a word could be missing from an established term in the field. For instance, Yandex’s translation above lacks the word “yolu” from the term “akut solunum yolu sendromu”, which is rather easier to fix compared to previous examples since it does not require referring back to the source text.

Table 44: Grammar Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWS	1	0	0	0	0	1
Word Form	13	10	7	5	15	50
Word Order	4	1	2	0	1	8
Extra Word	1	1	3	2	14	21
Missing Word	2	2	3	1	5	13
Other	0	1	0	0	0	1

Table 45: Grammar Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWS	0	0	0	0	0	0
Word Form	4	3	10	6	11	34
Word Order	2	1	2	3	0	8
Extra Word	5	7	4	4	3	23
Missing Word	2	1	2	1	3	9
Other	0	1	1	0	2	4

The gap between the number of errors in the subcategories of lexicon, non-existing or foreign words and lexical choice, are much wider in the technical and legal text translations than that of the first medical text. As seen in Table 46, this time non-existing/foreign words are more than half of the lexical choice errors. The reason behind this increase might be due to the frequent use of domain-specific and Latin-derived words. However, this gap is a bit narrower in the second medical text. The reason behind the decreased number of non-existing/foreign word errors in the second medical text might be related the number of off-list words in this text, which is 43 while there are 108 of such words in the first medical text. While some of the lexicon errors can be amended on the target text level, some require checking the source text. There are 16 of them that cannot be corrected without the source text in the first medical text. As the overall number of fluency errors are much more than accuracy

errors in this text, which means that the post-editing will be more based on the target text than depending upon a bilingual check, the lexicon errors show a similar result about their impact on the post-editing process. The lexicon errors of the second text, on the other hand, resembles its own fluency-to-accuracy balance: 33 of the lexicon errors require checking the source text.

Google: Coronavirüs hastalığı 2019 (COVID-19) [...]

Reverso: CoronaVirus Disease 2019 (COVID-19) [...],

[...] yaklaşık %44 (%95 güven aralığı, %30–57) onward enfeksiyonların

[...]

Yandex: [...] üst solunum yollarında (URT) [...]

[...] tahmini 44%[1] ile semptom başlangıcı veya infectiousness düşündüren zirve.

Watson: [...] klinik ve virosolojik çalışmalar, SKAR-CoV-2 'nin [...]

Reverso: Bazal ganglia, genişletilmiş amigdal [...]

Above are some examples to the first subcategory of the lexicon errors, non-existing/foreign words. The first one is regarding the translation of a recently popular word, coronavirus. In Google's case, it is a non-existing word, like a combination of the English word for "corona" and Turkish word for "virus". However, in the translation by Reverso, both "coronavirus" and "disease" are left untranslated. Same issue for this word is also observed in Bing and Watson. There is another example of foreign word in Reverso's translation. The word "onward" is left as it is. Similarly, Yandex does not translate the words "URT" and "infectiousness". Watson, on the other hand, uses two non-existing words in its translation, "virosolojik" and "SKAR-CoV-2". For the second example from Reverso detected in the second medical text, both foreign and non-existing words are observed. "Ganglia" is untranslated and "amigdal" does not exist. As seen in these examples, all of the errors in this category are due to Latin-derived medical terms.

Google: Preseptomatik dönem olarak da bilinen bu dönemde, bazı enfekte kişiler, semptomların başlamasından 1-3 gün önce bulaşıcı olabilir.

Reverso: Basınç yoluyla yapılan iletimin virüsün bulaşıcı damlacıklar yoluyla yayılmasını [...]

Yandex: enfekte kişilerin veya aerosol üreten prosedürler sırasında (7) ibadet restoranlar, koro uygulamaları, fitness dersleri, gece kulüpleri, ofisler [...]

Bing: Düşük önyargı riski altında olduğu düşünülen 13 çalışmanın yer aldığı bir başka sistematik derlemede [...]

Watson: Bu üç aşamalı model, onlarca yıllık insan ve hayvan araştırmaları üzerine çizim yapar [...]

The next subcategory of lexicon errors is the lexical choice. In Google’s machine-translated text, it is the people that can be “bulaşıcı”; however, this word is used for the disease itself, not for the individuals who are infected with it. Therefore, the word “bulaştırıcı” would be a better choice. Unlike Google’s translation, the error in the Reverso’s translation cannot be fixed on the target text level. “Basınç yoluyla” does not fit the context and only after checking the source for its equivalent, it is found out that this fluency error stems from an accuracy error. The target word is a semantically unrelated mistranslation of the “presymptomatic”. For Yandex, it is rather unclear what the underscored word, “ibadet restoranlar”, means. Again, this error necessitates a comparison with the source. Here, the source tells us that this is again a result of a mistranslation error. In the next example by Bing, there is an issue with a term that does not solely belong to the field of medicine but rather to scientific research. While research can well be prejudiced, the right term here is “yanlılık”. However, this shows that a post-editor must be familiar with the context in order to fix such an issue on the target text level because guessing the correct source equivalent of an erroneous word could save time in the post-editing process. In the last example, it is easily detectable that “çizim yapar” does not fit the sentence. Only after checking the source text that we can see it is the mistranslation of “draw upon”.

Table 46: Lexicon Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Non-Existing	2	7	3	2	8	22
Lexical Choice	7	9	11	9	6	42

Table 47: Lexicon Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Non-Existing	1	2	0	0	5	8
Lexical Choice	2	19	3	3	6	33

Table 48 and 49 enumerate each subcategory of the orthography errors detected in the machine translations of the medical texts. Similar to the results in the legal texts,

punctuation errors are dominant, constituting more than half of the orthography errors of the first medical text and almost 90% of them in the second text. It is the most erroneous orthography subcategory for all systems, as well. In the first medical text, punctuation is followed by spelling, capitalization and other, which is only committed by Bing and Watson, each making one error in it. On the other hand, the number of spelling and capitalization errors are quite low in the second medical text. Once again, low number of off-list words in the second medical text could be connected with the low number of spelling errors.

Google: 1. Arkaplan

Google: Intoksikasyon

Reverso: %20'inin

Yandex: 1. Arka plân

Watson: asimptomatik / presimptomatik

Spelling errors are rather easier to fix compared to other categories since it is necessary to know the correct spelling of the word in order to be able to annotate this error. In the first example, Google writes “arka plan” as a compound word, while each word should be separate. Another example from Google, which is taken from the second medical text, involves not using a word from the Turkish alphabet. This noun should start with a capital “i”. In the next one, Reverso makes a mistake in the spelling of an ending that comes at the end of a number. As Turkish uses the pronunciation of the number as a reference for the ending alteration, it should be “%20'sinin”. This issue is observed in few other words in the Reverso's translation. While lacking circumflex accents are observed elsewhere in this analysis, in Yandex's case, there is an extra circumflex accent in the word “plan”. Last example to this category involves misspelled medical terms that have recently come to be known by many due to the Covid-19 virus. Neither the English source words nor the correct Turkish equivalents have double Ms in them, however, Watson writes the words as such. These two misspelled words are found elsewhere in the translation in such an incorrect form and they make up 9 out of 13 spelling errors detected in the Watson.

Reverso: [...] SARS-COV-2 [...]

Yandex: [...] üst solunum yollarında (URT) (burun ve Boğaz) en yüksek olduğunu [...]

Watson: [...] kaldığını ortaya koydu. düşük risk altında [...]

Watson: bir diğ^{er} kiři de stres, kaygı ya da depresyon gibi olumsuz duyguları [...]

Capitalization errors are not quite frequent in medical text translations. Reverso is responsible for more than half of them. Above is an example from this NMT system. While it is normally a medical term and abbreviation for severe acute respiratory syndrome coronavirus 2, nowadays SARS-CoV-2 has become a part of our daily vocabulary. While its correct form includes the letter o as in a lower case, Reverso uses all caps for the whole word. This word is also seen elsewhere in the text and Reverso's translation writes all of them wrong. 6 out of 7 total capitalization errors made by Reverso are due to this word. The next example involves unnecessary capitalization of a first letter in a common noun, "boğaz". The last two are by Watson and they disobey a basic rule for all languages using Latin alphabet, capitalization of the first letter of a sentence. As seen from the examples, most capitalization errors can be fixed on the target text level.

Google: [...] olan COVID-19'un kuluçka süresi ortalama 5-7 gündür, ancak 14 güne kadar çıkabilir.

Yandex: [...] ileri enfeksiyonları (%95 güven aralığı, 30-57%) tahmini 44% ile semptom başlangıcı [...]

Bing: [...] asemptomatik enfeksiyonların oranı sırasıyla% 20 ve% 75 olan iki genel popülasyon çalışması [...]

Watson: [...] %59 'unun (%49-%65), hemşirelik ev sakinlerinin %54 'ü (%42 %-65), %28 'in [...]

Reverso: Birçok kiři için, ilk madde kullanımı [...]

In Turkish, commas are not used before a conjunction, which is not the case for English. Therefore, Google does not implement the Turkish punctuation rules in the first example above and uses a comma before the conjunction "ancak". Similarly, Yandex disobeys a Turkish punctuation rule that is not applied in English. While the percentage symbol comes after the number in English, the position is the opposite in Turkish. In the above example, this symbol comes after the numbers. Interestingly, Yandex makes this error in some parts of the text but it also correctly changes it to the Turkish system in elsewhere, as can be seen from the example. Another issue with the use of percentage symbols is also observed in Bing's translation. It should be just before the number, without a space in-between. However, Bing attaches the symbols to the word before them. All punctuation errors detected in the translation of the first medical text by Bing are results of this symbol. Again a percentage-related issue,

Watson leaves an unnecessary space between the apostrophe and the number indicating the percentage rate, twice in this example but 11 in total. The excerpt from Watson's translation above also includes another error, it incorrectly places the hyphen between the symbol and the number, however, it should be “%42-%65”. The first four examples above illustrate the punctuation related issues in the first medical text, 14 of them being related to use of percentage symbols. The last example above is from the second medical text. Mainly, the reason behind the increased number of punctuation errors in the second medical text is the wrong use of commas. For instance, Reverso's use of comma is wrong.

Bing: [...] yetersiz havalandırılmış alanlarda temas ederek, restoranlar, koro uygulamaları, [...]

Watson: [...] üst solunum yolu (URT) (burun ve boğaz) erken dönemlerinde (10,9,10), semptomların başlangıcından [...]

Above are the only two errors that do not fit to any specific subcategory of orthography and therefore discussed as other in the first medical text. There are no errors that are categorized as orthography>other in the second medical text. First one, which is detected in the translation of Bing, includes an extra whitespace. This is not quite common in this analysis. In addition, there is a similarly rare error detected in Watson. Regularly, all the references in the translated text goes successively. However, here, there is a double reference to the research numbered 10. However, it should be “8,9,10”. Fixing this issue on the target text level might require knowledge about scientific referencing.

Table 48: Orthography Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Spelling	3	4	2	0	13	22
Capitalization	1	7	1	1	3	13
Punctuation	4	5	12	6	18	45
Other	0	0	0	1	1	2

Table 49: Orthography Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Spelling	1	1	0	0	1	3
Capitalization	0	1	0	0	4	5
Punctuation	14	15	14	14	12	69
Other	0	0	0	0	0	0

Distribution of the accuracy errors detected in the translations of the first medical text differ a bit from the other text types. While the most erroneous category in the first technical and first legal text translations is mechanical, it is one of the least problematic aspects in the first medical text. The reason behind this is that the first technical and first legal texts involve more complex formatting and styles such as tables, indents, symbols, etc. The first medical text, on the other hand, is just one single paragraph without any of them named features. This category is also the reason behind why the NMT systems make less accuracy errors in the first medical text. Here, the NMT systems of the corpus are faced with a rather plain text. In the first medical text, the category with the most amount of errors is mistranslation, involving 82 errors. As it is seen in Figure 21, it is responsible for 41.2% of all accuracy errors. It is followed by the category of other with 48 errors, which is not this high in other text types. Long sentences with statistics may have caused this rise since most of them need rephrasing a part or the entire sentence, or changing the location of a part-of-speech. Omission is the third category with 37 errors. There is also a slight increase both in the number of errors and its percentage in overall accuracy errors. While omission errors are responsible for between 5% and 10% of all accuracy errors in the technical and legal texts, except for for the second technical text which includes a single omission, it is raised to about 18% in the first medical text. Similarly, the translations of the first medical text show an increase in untranslated words. It is then followed by mechanical, addition and DNT.

As the second medical text is different from the first, in terms of formatting, statistical information and Latin-derived words, the results are a bit altered as it can be seen in Table 51. Mistranslation again the most erroneous category with 140, making up 56.5% of all accuracy errors. Since second medical text is not single paragraph like

the first one, it includes 75 mechanical errors, most of which result from the previously mentioned reasons that generate mechanical>other errors. These two categories are followed by omission, other and same amount of addition and untranslated.

Source: [...] in contacts the proportion was 8.2–50% and 59% (49– 68%) of obstetric patients remained asymptomatic throughout [...]

Reverso: [...] temas durumunda oran %8.2–50 ve %59'du (%49–68) 109ortalı 109c hastaların oranı boyunca asemptomatik kalırken [...]

Source: [...] places of worship (7), or during aerosol-generating procedures. [...]

Watson: [...] ibadet yerleri (7) veya aerosol oluşturma sırasında yer alabilen kişiler tarafından ortaya konduğunu gösteriyor.

Above are two examples of addition errors. In the first medical text these two systems in the example are responsible for all the addition errors. In the first one, Reverso adds a second translation for “proportion” that only appears once in the source sentence. Similarly, Watson adds a few words “yer alabilen kişiler” that have no counterpart in the source. Watson makes another 6 errors, most of which appear in the long sentences. Since Watson is responsible for almost all addition errors, this category cannot be regarded as significant for the post-editing process of machine-translated medical texts.

Source: Epidemiology and virologic studies suggest that transmission mainly occurs from both symptomatic and asymptomatic people to others by close contact through respiratory droplets or [...]

Google: Epidemiyoloji ve virolojik çalışmalar, hem semptomatik hem de asemptomatik kişilerden başkalarına solunum damlacıkları yoluyla yakın temas veya enfekte kişilerle doğrudan temas veya [...]

Source: [...] recent meta-analysis reported an overall estimate of 31%, from seven studies with predefined screened populations, prediction interval ranging between 26–37% (20).

Reverso: [...] son meta analiz önceden tanımlanmış taramalı popülasyonlara sahip yedi tetkikten %31'lik bir tahmin, tahmin aralığı %26 ile %37 (20) arasında değişiyor.

Source: A study of 77 infector-infectee transmission pairs observed the highest viral load in throat swabs at the time of symptom onset, [...]

Watson: 77 adet, mikro-dezenfekte bulaşma çiftleri, semptom başlangıcında boğazdaki en yüksek viral yükü gözlemledi [...]

Source: A person may go through this three-stage cycle over the course of weeks or months or progress through it several times in a day.

Yandex: Bir kişi bu üç aşamalı döngüden haftalar veya aylar boyunca geçebilir veya günde birkaç kez ilerleyebilir.

Omission errors deal with the source words that are not transferred into the target text. First example above is an excerpt from Google’s translation. It is regarding the results of research on coronavirus transmission. The sentence goes on to name the common causes and situations of infection, however, by omitting the word “mainly”, Google’s translation sounds as listing all the factors that could cause the virus to shed. While Google omits an adverb, in the next example, Reverso omits a verb and a part of a term. The translated sentence does not include the words “reported” and “overall”. The first one makes the target sentence sound off, indicating a missing part of speech. However, it requires the source for proper detection. The second omission, on the other hand, is only detected when the original and translated sentences are juxtaposed. It is a significant term for statistics and it is used to indicate an estimate for a whole, rather than only a part of the sample (Kendall and Buckland, 1971: 109). Then, these cannot be tolerated and needs attention in the post-editing. Watson does not transfer two critical components of the source text into its translation. Since the first phrase in the sentence “a study of” is omitted, the translation reads like the transmission pairs observed the highest viral load themselves, while it is the study that reached this result by studying these pairs. Then, the system omits the word “swabs”, which is not apparent in the target text. Lastly, Watson omits the pronoun “it” that refers to the cycle. Thus, the second verb of the sentence does not agree with the “cycle”. As the examples illustrate, some omissions do not leave a mark of lacking in the target text. Therefore, this necessity for a comparison increases the workload of the post-editor.

Source: [...] is highest in the upper respiratory tract (URT) (nose and throat) early in the course of the disease [...]

Google: [...] hastalığın erken döneminde üst solunum yollarında (URT) [...]

Source: A study of 77 infector-infectee transmission pairs [...]

Yandex: 77 antivirüs infectee iletim çiftleri bir çalışmada [...]

Source: [...] is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [...]

Bing: [...] şiddetli akut solunum yolu sendromu Coronavirus 2’den (SARS-CoV-2) kaynaklanmaktadır.

Source: Binge/Intoxication

Watson: Binge/Intoksilasyon

Untranslated word errors are already annotated in the fluency errors as foreign words. However, comparing the source text is also necessary to know whether it is left

as the original. Although the first example is from Google, all other systems left the underscored word untranslated. URT is short for the upper respiratory tract and the translation for this term is “üst solunum yolları”, it is also compulsory to change the abbreviation to “ÜSY”. While there are not many abbreviated words in the corpus of this study, analyzing the machine translation of such words might be helpful for understanding the aspects of English-Turkish post-editing. The next example is from Yandex. The beginning of this sentence caused many different issues to all the systems. However, Yandex is the only system that left this word, “infectee” untranslated. In the next example, Bing again transfers the word “coronavirus” into the target text as it is, without translating. Although it is a widely used word nowadays, its translation caused quite a problem to Google and Reverso, as well. Similarly, Watson leaves the word “binge” in English in the second medical text.

Source: Epidemiology and virologic studies suggest that transmission mainly occurs from both symptomatic and asymptomatic people to others by close contact through respiratory droplets or by direct contact with infected persons, or by contact with contaminated objects and surfaces (2,3,4,5,6), or by aerosols, i.e. in enclosed spaces indoors, crowded and inadequately ventilated spaces, where infected persons spend long periods of time with others, which may include restaurants, choir practices, fitness classes, nightclubs, offices and places of worship (7), or during aerosol-generating procedures.

Google: Epidemiyoloji ve virolojik çalışmalar, hem semptomatik hem de asemptomatik kişilerden başkalarına solunum damlacıkları yoluyla yakın temas veya enfekte kişilerle doğrudan temas veya kontamine nesneler ve yüzeyler ile temas yoluyla bulaşma olduğunu göstermektedir (2,3,4,5,6) veya aerosoller yoluyla, yani kapalı alanlarda, kalabalık ve yetersiz havalandırılan, enfekte kişilerin başkalarıyla uzun süreler geçirdiği, restoranlar, koro uygulamaları, fitness dersleri, gece kulüpleri, ofisler ve ibadethaneler de dahil (7), veya aerosol oluşturan prosedürler sırasında.

Source: [...] onward infections happening during the pre-symptomatic phase of the index case [...]

Yandex: [...] davanın-semptomatik faz ön sırasında gerçekleştiğini ileri enfeksiyonları [...]

Source: For many people, initial substance use involves an element of impulsivity, or acting without foresight or regard 111ort he consequences.

Bing: Birçok insan için, ilk madde kullanımı dürtüsellik unsurunu içerir veya öngörü olmadan veya sonuçları dikkate almadan hareket eder.

Source: This three-stage model draws on decades of human and animal research and provides a useful way to understand the symptoms of addiction, how it can be prevented and treated, and how people can recover from it.¹⁴ The three stages of addiction are:

Watson: Bu üç aşamalı model, onlarca yıllık insan ve hayvan araştırmaları üzerine çizim yapar ve bağımlılık belirtilerini, nasıl önlenebileceğini ve nasıl tedavi edilebileceğini ve insanların it.14 bağımlılığın üç aşamasını nasıl kurtarabileceğini anlamamanın yararlı bir yolunu sağlar.

The first medical text involves the highest amount of accuracy>other errors across other texts, 48 of them are annotated. For the errors of this type that are detected in the first medical text, 24 of them involve misplaced words and 18 of them require rephrasing. Google’s translated sentence above illustrates both of them. “Bulaşma” should be at the beginning of the sentence, just after “epidemioloji ve virolojik çalışmalar”, since the whole sentence mentions the main situations of virus transmission. The next two words, “olduğunu göstermektedir”, is the verb of this sentence. Thus, it should be placed at the end. Otherwise, the rest of the sentence is missing an essential part of speech. The last underscored part does not correctly transfer the source and it should be rephrased as “[...] kapalı alanlarda, restoranlar, koro provaları [...] ibadethaneler de dâhil, enfekte kişilerin başkalarıyla uzun süreler geçirdiği kalabalık ve yetersiz havalandırılan alanlarda (7) [...]” because the current sequencing is hard to read and does not convey the source meaning properly. The excerpt from Yandex’s translation is an example to errors that are categorized as other but do not involve misplaced words or require rephrasing. It is an unusual case of creating a compound word that is neither present in the source text nor exist in the target language. The components of the source word “pre-symptomatic” are translated separately, as a prefix and an adjective standing unrelatedly. Furthermore, the word “case” is mistranslated as “dava” and added in front of the “symptomatic” in the place of “pre-”. This is a complex and unjustifiable error that could not be expected and therefore could only be discussed in the category of other. As for the second medical text, the number of accuracy>other errors decreases to 10, 7 of which are committed by Watson. As indicated, the sentence length, which is associated with the several types of errors, of the second text is lower than the first one. Therefore, it cannot be said that this type of error is specifically found in machine-translated medical texts since it is also triggered by long sentences. The last two examples above are from the second medical text. Bing involves a similar misplaced verb, which should have been at the end and become the single verb of the sentence. However, the second verb in the sentence prevents the sentence to be amended with just a verb repositioning since

it is a mistranslation>POS error itself. In the last example, Watson combines two sentences and wrongly spilt them. These examples show that the category of other cannot be constrained with specific types and this fact alone illustrates the unpredictable nature of neural machine translation.

Figure 21: Percentage of Overall Accuracy Errors for the First Medical Text

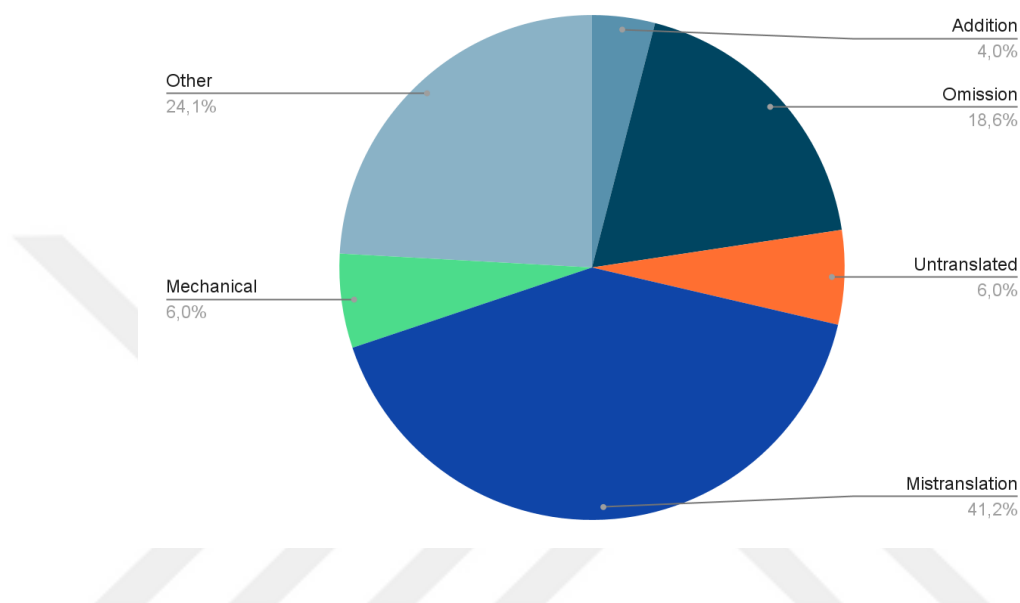


Table 50: Accuracy Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Addition	0	1	0	0	7	8
Omission	2	9	3	3	20	37
Untranslated	1	5	3	2	1	12
DNT	0	0	0	0	0	0
Mistranslation	9	20	24	11	18	82
Mechanical	2	4	2	3	1	12
Other	6	10	12	8	12	48

Figure 22: Percentage of Overall Accuracy Errors for the Second Medical Text

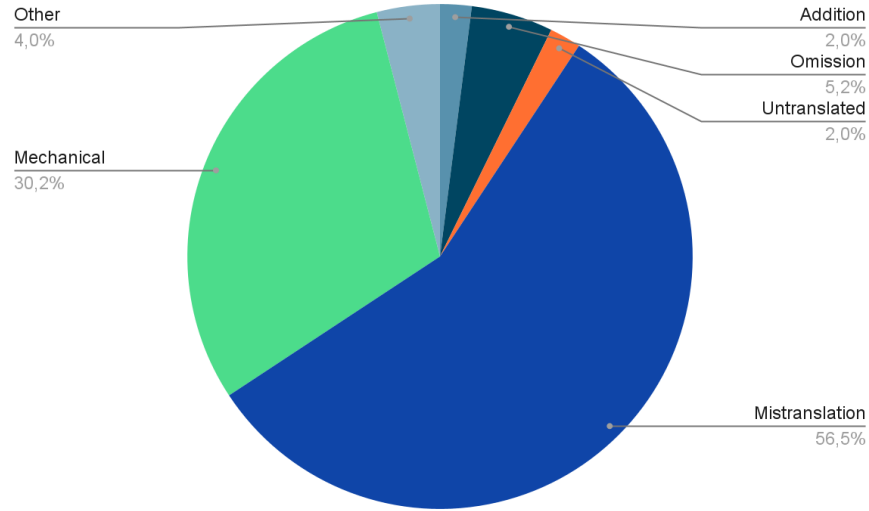


Table 51: Accuracy Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Addition	1	2	0	0	2	5
Omission	1	2	1	1	8	13
Untranslated	1	1	0	0	3	5
DNT	0	0	0	0	0	0
Mistranslation	13	45	21	17	44	140
Mechanical	10	17	16	12	20	75
Other	0	0	2	1	7	10

As the number of mistranslation errors decrease, so do its subcategories in the first medical text. However, the order of the categories with most errors is the same with other text types. Word-sense disambiguation is again the most erroneous category both overall and for each system, constituting more than half of the mistranslation errors. It is followed by other, semantically unrelated, multi word expression, part of speech, respectively. Unlike other text types, MWE errors are detected in all the systems. The second medical text bears similar results with increased number of errors. There are 101 WSD errors and the next subcategory with the closest number of errors

is other which involves 15 errors. It is followed by semantically unrelated, POS and MWE.

Source: The incubation period for COVID-19, which is the time between exposure to the virus (becoming infected) and symptom onset, is, on average, 5–7 days, but can be up to 14 days.

Reverso: COVID-19 için inkübasyon süresi, virüse maruz kalma (virüs bulaşması) ve belirti başlangıcı arasındaki süredir, ortalama olarak 5–7 gündür ancak 14 güne kadar olabilir.

Source: The proportion of persons who become infected with SARS-CoV-2 and remain asymptomatic remains to be better understood [...]

Yandex: SARS-CoV-2 ile enfekte olan ve asemptomatik kalan kişilerin oranı daha iyi anlaşılmaya devam etmektedir [...]

Source: In this case, the temporary relief the substance brings from the negative feelings negatively reinforces substance use, [...]

Reverso: Bu durumda, maddenin olumsuz duygulardan aldığı geçici rahatlama madde kullanımını olumsuz bir şekilde güçlendirerek [...]

First comparison above is from Reverso’s translation. The underlined verb in the source, “can be up to” is used as in it could increase to 14 days. However, Reverso translates the verb “to be” as “olmak”, which is too literal. In order to protect the correct sense in the translation, the verb “çıkmaq” could be used to transfer the implication on the possibility of an increase. The same error for the same word is also detected in Bing’s translation. While the next example is from Yandex, the same mistranslation error is also observed in all the NMT systems included in this study, except for Reverso. The source expression “remains to be better understood” is used as in “yet to be better understood”, meaning that this issue has not been comprehended thoroughly. Nonetheless, Yandex’s translation reads as if this issue is continuing to be better understood and it significantly inverts the source meaning. These two expressions in the examples above are the sole reason for MWE errors in the first medical text translations. The next example from Reverso is annotated in the second medical text. It involves the mistranslation of “bring relief from”.

Source: A study of 77 infector-infectee transmission pairs observed the highest viral load in throat swabs at the time of symptom onset [...]

Bing: Semptom başlangıcı sırasında boğaz sürüntü örneklerinde en yüksek viral yükü gözlemleyen 77 enfekte-enfekte bulaşma çifti üzerinde yapılan bir çalışmada [...]

Source: The incubation period for COVID-19, which is the time between exposure to the virus (becoming infected) and symptom onset, is, on average, 5–7 days, but can be up to 14 days.

Watson: COVID-19 için kuluçka dönemi, virüse maruz kalma süresi (enfekte olma) ve belirti başlangıcı, ortalama olarak 5-7 gün, ancak 14 güne kadar çıkabilen kuluçka dönemi.

Source: For many people, initial substance use involves an element of impulsivity, or acting without foresight or regard for the consequences.

Yandex: Birçok insan için, ilk madde kullanımı dürtüsellik unsurunu içerir veya sonuçları öngörmeden veya dikkate almadan hareket eder.

Part of Speech errors involve changing the role of the source word in the target text that leads to mistranslation. First error above is detected in Bing’s translation. The target text uses the word “gözlemleyen” as a verbal adjective, whereas its equivalent, “observed” is a verb. Since adjectives modify the noun that comes after them, the target sentence indicates that the transmission pairs observed the highest viral load in the throat swabs, while it should have been the study on these pairs that came up with this finding. The next example is from Watson and it changes the role of a verb in the same way to a verbal adjective. While the meaning is not affected by this error as much as in the first example, here, it leads to a fluency issue that is caused by a missing verb. As this issue illustrates, some accuracy errors may produce fluency errors. In the last example, Yandex turns the noun “acting” into a verb in the target text.

Source: There was wide variance between two general population studies with the proportion of asymptomatic infections at the time of testing being 20% and 75% respectively, in contacts the proportion was 8.2–50% [...]

Google: Test sırasında asemptomatik enfeksiyonların oranı sırasıyla %20 ve %75 iken, iki genel popülasyon çalışması arasında geniş bir fark vardı, temaslılarda oran %8.2-50 idi [...]

Source: It is the successor to SARS-CoV-1, the strain that caused the 2002–2004 SARS outbreak.

Reverso: SARS-COV-1’in yerini alan bu, 2002–2004 SARS salgınına neden olan gerilme.

Source: Clinical and virologic studies that have collected repeated biological samples from confirmed patients demonstrate that shedding of SARS-CoV-2 [...]

Yandex: Doğrulanmış hastalardan tekrarlanan biyolojik örnekler toplayan klinik ve virolojik çalışmalar, SARS-CoV-2’nin dökülmesinin [...]

Source: [...] succumb to peer pressure to try a party drug

Bing: [...] bir parti ilacını denemek için akran baskısına yenik düşebilir

Source: positive and negative reinforcement
Watson: pozitif ve negatif güçlendirme

Word Sense Disambiguation errors are the most detected mistranslation subcategory. Above, there are five examples of this type of error from each system. First one is from Google. Although the underlined source word, contacts, can be understood as someone who had close contact with a person tested positive for Covid-19, the research here only involves the asymptomatic infections. Therefore, in this sentence contacts means the next controls for the infected patients. The same word is also mistranslated in Reverso and Bing. Next one is from Reverso, again resulting from lack of heed to the context. While the word strain well mean, as in the target word, stretching, it is used as in “a group of presumed common ancestry with clear-cut physiological but usually not morphological distinctions” (Merriam-Webster, n.d.). Therefore, the correct Turkish word would be “tür”. In the next example to WSD errors, Yandex translated the word shedding as to discharge/shed hair or fur, or to spill, but this does not suit the context, and it should mean the shedding of a virus as a pathological process. Therefore, “bulaşma” would be a better choice. The last two examples are from the second medical text. Bing uses the wrong sense of the “drug”, as in substance used for medication. However, it should mean the substance that create addiction. In the final example, Watson mistranslates every word except “and”. The correct term for this process is “olumlu/olumsuz pekiştirme” in Turkish. As in previous text types, WSD errors involve wrong choice among the meanings of the source word and most of the time it involves mistranslation of a vital term. This error category has been found to be a vital aspect for MTPE throughout the analysis.

Source: [...] presymptomatic transmission [...]
Reverso: Basınç yoluyla yapılan iletimin [...]

Source: A study of 77 infector-infectee transmission pairs [...]
Yandex: 77 antivirüs infectee iletim çiftleri bir çalışmada [...]

Source: [...] between two general population studies [...]
Watson: İki genel nüfus dönemi arasında [...]

Source: Binge
Bing: Tıkanma

Above are the semantically unrelated translations detected in the machine-translated medical texts. First one involves the wrong translation of the source word “presymptomatic”, which has no semantic relation with its underlined target equivalent. Similarly, Yandex translates the word “infector” as “antivirüs”. The two have nothing in common except that they are virus-related. The mistranslated word, “studies”, in the next example from Watson cannot be even considered as a term, which might be the issue in the previous two examples. It is translated as “dönem” and the target word does not have any connection with the source. Also Bing one error in this category. It translates the word “binge” into an unrelated target word. These types of errors might be the hardest to justify, or even to find a valid reason. Some of them result from not knowing the terminology but some are just impossible to interpret.

Source: [...] 59% (49– 68%) of obstetric patients remained asymptomatic throughout whilst 54% (42%-65%) of nursing home residents were asymptomatic at testing of which 28% (13–50%) remained asymptomatic through follow-up (22).

Google: [...] obstetrik hastaların %59'u (%49-68) kaldı baştan sona asemptomatik iken huzurevinde kalanların %54'ü (%42-65) testte asemptomatikti ve bunların %28'i (%13-50) takip boyunca asemptomatik kaldı (22).

Source: During this period, also known as the “presymptomatic” period, [...]

Reverso: [...] “presmirotik” dönem olarak da bilinen bu süre boyunca, [...]

Source: [...] recent meta-analysis reported an overall estimate of 31%, from seven studies with predefined screened populations, prediction interval ranging between 26–37% (20).

Bing: [...] son meta-analizler, önceden tanımlanmış taranmış popülasyonlara sahip yedi çalışmadan [...]

Source: Likewise, if drinking or using drugs with others provides relief from social isolation, substance use behavior could be negatively reinforced.

Watson: Aynı şekilde, alkol veya diğerleriyle uyuşturucu kullanmak sosyal izolasyondan rahatlama sağlarken, madde kullanım davranışları da olumsuz şekilde güçlendirilebilecek.

These mistranslated words cannot be categorized under any of the mistranslation categories. The range that the cause of these errors form is quite wide. For instance, while Google correctly translates the words “remained” and “whilst” separately, the first is mispositioned in the sentence and the latter does not connect to a verb. Solution to this two-word-problem can be solved by translating the latter as a suffix to the first, i.e. it should be “obstetrik hastaların %59'u (%49-68) baştan sona asemptomatik *kalırken*”. The next example is more unusual. Reverso translates the

word “presymptomatic”, which has been shown to be a problematic word throughout this analysis, into a non-existing word, “presmirotik”. Reverso cannot translate this term correctly even once, as the example in the previous mistranslation subcategory further proves. In the last one, Bing turns the singular word “meta-analysis” into a plural one in the target text. This category also involves wrong suffixes that cannot be detected and corrected on the target text level. For instance, Watson removes the conditionality that “if” provides with wrong suffix. Then, in the same sentence, present tense of the “could be reinforced” is removed. This also disrupts the source meaning. These examples illustrate the scope of the other subcategory, which is quite broad with various kinds of errors to be discussed within it.

Table 52: Mistranslation Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWE	1	1	1	2	1	6
POS	0	0	0	1	1	2
WSD	6	12	15	7	12	52
SU	0	3	3	0	1	7
Other	2	4	5	1	3	15

Table 53: Mistranslation Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
MWE	0	2	0	0	1	3
POS	1	1	1	1	5	9
WSD	10	32	19	14	26	101
SU	0	6	0	1	5	12
Other	2	4	1	1	7	15

Table 54 reveals how the mechanical errors category can be insignificant when the source text does not have any certain formatting or tables. This category is one of the most problematic ones in the technical text and legal text translations; however, for the first medical text it is one the least erroneous since each system makes only one

error at most in its subcategories, except for Reverso. However, the second medical text, unlike the first, is not just a single paragraph. This increases its number of mechanical errors as can be seen in Table 55.

Source: Coronavirus disease 2019 (COVID-19) [...]

Reverso: CoronaVirus Disease 2019 (COVID-19) [...]

Source: [...] is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [...]

Bing: [...] şiddetli akut solunum yolu sendromu Coronavirus 2'den (SARS-CoV-2) kaynaklanmaktadır.

Source: Withdrawal/Negative Affect

Watson: Geri çekilme/olumsuz etkiler

First two examples above summarize the mechanical>capitalization errors found in the first medical text: the words coronavirus and disease. In Reverso, two of the same issues are detected in two adjacent words. First, the letter “v” in “coronavirus” is capitalized and then the “d” in “disease” is capitalized. Although they are left untranslated and marked as untranslated words, wrong mechanical transfers should also be discussed within this category. Similarly, Bing unnecessarily capitalizes the first letter of “coronavirus” in the target text. While they are not vital issues, these issues create inconsistency since these words appear in the correct form elsewhere. Finally, Watson does not conform to source text for the capitalization of the names of addiction stages.

Source: A study of 77 infector-infectee transmission pairs observed the highest viral load in throat swabs at the time of symptom onset, suggesting infectiousness peak on or before symptom onset with an estimated 44% (95% confidence interval, 30–57%) of onward infections happening during the pre-symptomatic phase of the index case (14).

Google: [...] zirve yaptığını düşündürdü. indeks vakanın semptomatik öncesi evresinde [...]

Yandex: 77 antivirüs infectee iletim çiftleri bir çalışmada [...]

Above are two examples of punctuation errors detected in the translations of the same sentence. Google adds an extra full stop to the sentence, which is not present in the source text. However, it does not start the next sentence with an uppercase letter, which generates another type of mechanical error. At the beginning of the same sentence, Yandex omits the hyphen between “infector-infectee”, neither of which is translated correctly. There are not many punctuation errors that can only be detected

on the bitextual level since many of them can already be recognized and corrected on the target text level.

Source: 1. Background

Google: 1. Arkaplan

Reverso: 1. Arka plan

Yandex: 1. Arka plân

Bing: 1. Arka Plan

Watson: 1. Arka Plan

Source: Each stage is particularly associated with one of the brain regions described above—basal ganglia, extended amygdala, and prefrontal cortex (Figure 2.3).¹⁰

Google: Her aşama, özellikle yukarıda açıklanan beyin bölgelerinden biri ile ilişkilidir –bazal ganglionlar, genişletilmiş amigdala ve prefrontal korteks (Şekil 2.3).¹⁰

Above is the only example of mechanical errors that cannot be categorized either as capitalization or as punctuation in the first medical text. The source word “background” is the only bold word in the whole text and each system made error in its translation. None of the NMT systems is able to make it bold, and furthermore, the font size is not kept. This again proves the difference that text formatting creates in the post-editing process. As indicated, the second medical text involves more errors in the mechanical-other subcategory. While most of them result from similar to previously exemplified words such as bold, indented, italic words, the last example above is a bit different. While the number 10 is a superscript that gives a reference to a source, it is transferred to the target text as a regular number. This also affects the reference system of the text and needs to be corrected.

Table 54: Mechanical Errors for the First Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Capitalization	0	3	0	1	0	4
Punctuation	1	0	1	1	0	3
Other	1	1	1	1	1	5

Table 55: Mechanical Errors for the Second Medical Text

	Google	Reverso	Yandex	Bing	Watson	Total
Capitalization	0	6	0	0	4	10
Punctuation	0	0	0	0	2	2
Other	10	11	16	12	14	63

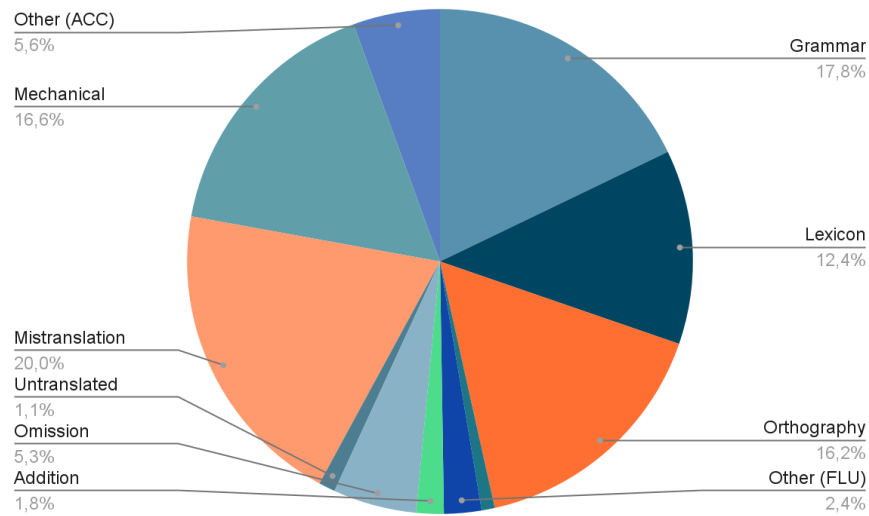


CHAPTER THREE

FINDINGS & DISCUSSION

Figures 23 and 24 combine all the main categories of the taxonomy and represents the distribution of the errors in two sets of source texts, which is also shown in numbers below the figure in the next page. In general, the results of the analysis show that NMT systems included in this study make slightly more accuracy errors than fluency errors. Although the gap between them seems to be insignificant, some of the fluency errors are detected, however, cannot be solved only on the machine-translated output. Thus, it can be argued that the post-editing process would mostly involve bi-textual comparison. Having more accuracy errors, or more work on the bitextual level in the post-editing, requires accepting the fact that the post-editor will frequently refer back to the source text. As Carl and Baez (2019:125) argues, accuracy errors that result from translation-ambiguities, which is also the case in the current analysis with high number of WSD errors, lead to longer post-editing times. Therefore, the post-editing of an English to Turkish neural machine-translated text in similar text types (technical, legal, medical) will take a substantial amount of time. As the results of second set of texts imply, the numbers of errors in categories can change for the same text type depending on the certain meters like sentence length, number of punctuations and off-list words. Nevertheless, certain categories and their subcategories are always problematic in English to Turkish neural machine translation.

Figure 23: Rates of the Error Categories in General for the First Set of Texts



Below, the total error numbers in all the categories of the first set of texts offer an overview of the findings, and reveals the most erroneous categories overall:

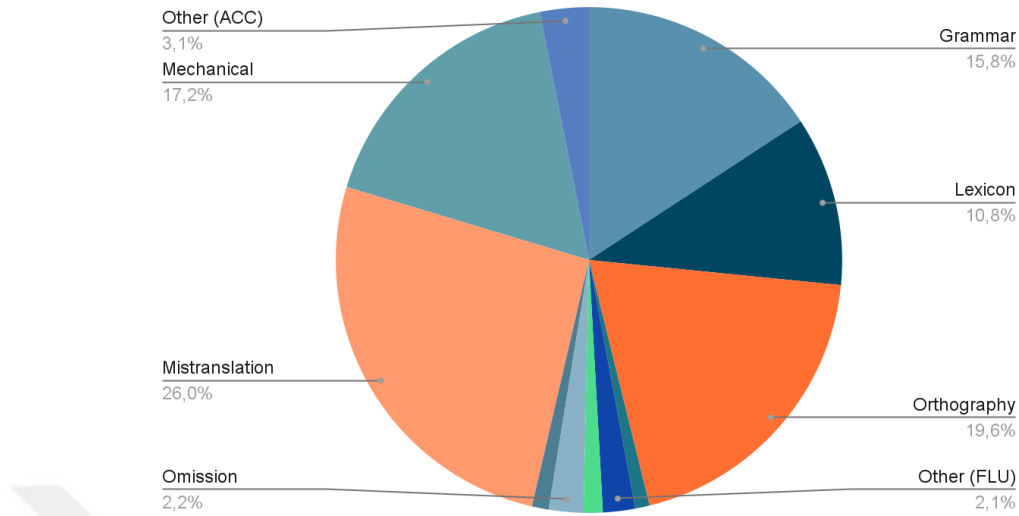
Fluency: 708

1. Grammar: 254
 - a. Multi-word Syntax: 1
 - b. Word Form: 134
 - c. Word Order: 16
 - d. Extra Word: 53
 - e. Missing Word: 43
 - f. Other: 7
2. Lexicon: 177
 - a. Non-existing: 27
 - b. Lexical Choice: 150
3. Orthography: 231
 - a. Spelling: 66
 - b. Capitalization: 52
 - c. Punctuation: 110
 - d. Other: 3
4. Multiple: 12
5. Other: 34

Accuracy: 715

1. Addition: 25
2. Omission: 76
3. Untranslated: 15
4. DNT: 0
5. Mistranslation: 284
 - a. MWE: 6
 - b. POS: 3
 - c. WSD: 210
 - d. SU: 22
 - e. Other: 43
6. Mechanical: 236
 - a. Capitalization: 58
 - b. Punctuation: 13
 - c. Other: 165
7. Other: 79

Figure 24: Rates of the Error Categories in General for the Second Set of Texts



All the errors detected in the second set of texts are detailed below:

Fluency: 645

1. Grammar: 207
 - a. Multi-word Syntax: 0
 - b. Word Form: 120
 - c. Word Order: 21
 - d. Extra Word: 39
 - e. Missing Word: 18
 - f. Other: 9
2. Lexicon: 142
 - a. Non-existing: 21
 - b. Lexical Choice: 121
3. Orthography: 257
 - a. Spelling: 18
 - b. Capitalization: 23
 - c. Punctuation: 211
 - d. Other: 5
4. Multiple: 12
5. Other: 27

Accuracy: 668

1. Addition: 16
2. Omission: 29
3. Untranslated: 14
4. DNT: 0
5. Mistranslation: 342
 - a. MWE: 4
 - b. POS: 10
 - c. WSD: 259
 - d. SU: 24
 - e. Other: 45
6. Mechanical: 226
 - a. Capitalization: 56
 - b. Punctuation: 13
 - c. Other: 157
7. Other: 41

When the above details regarding the first and second set of texts are considered, it is obvious that certain categories are always problematical for English to Turkish NMT. Figures 23 and 24 show the error distribution of all NMT systems in both set of texts. The biggest gap between the two set of texts is mistranslation with

6% margin. Therefore, the discussion will be carried out on the combined errors of all six texts:

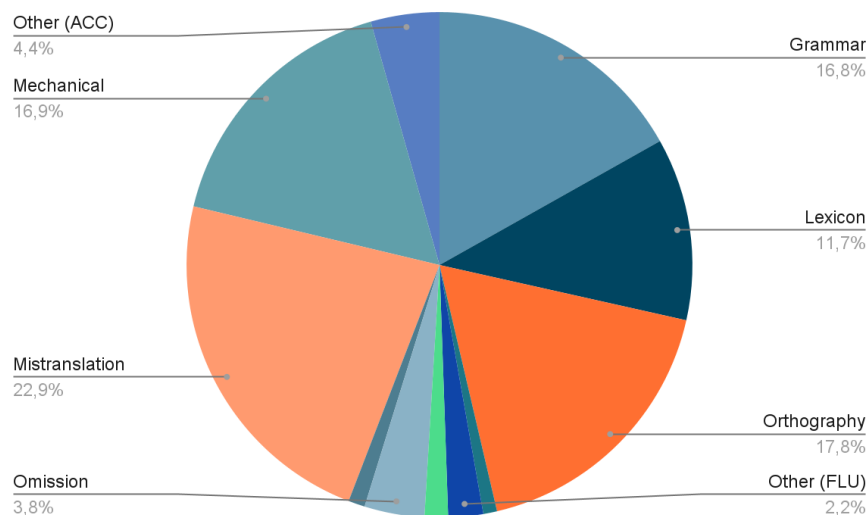
Fluency: 1,353

1. Grammar: 461
 - a. Multi-word Syntax: 1
 - b. Word Form: 254
 - c. Word Order: 37
 - d. Extra Word: 92
 - e. Missing Word: 61
 - f. Other: 16
2. Lexicon: 319
 - a. Non-existing: 48
 - b. Lexical Choice: 271
3. Orthography: 488
 - a. Spelling: 84
 - b. Capitalization: 75
 - c. Punctuation: 321
 - d. Other: 8
4. Multiple: 24
5. Other: 61

Accuracy: 1,383

1. Addition: 41
2. Omission: 105
3. Untranslated: 29
4. DNT: 0
5. Mistranslation: 626
 - a. MWE: 10
 - b. POS: 13
 - c. WSD: 469
 - d. SU: 46
 - e. Other: 88
6. Mechanical: 462
 - a. Capitalization: 114
 - b. Punctuation: 26
 - c. Other: 322
7. Other: 120

Figure 25: Rates of the Error Categories in General



It is observed that the category with most errors is mistranslation with 626 issues in total, making up 22.9% of all errors. As for the subcategories of mistranslation, 469 of them belong to WSD and it is followed by other, 88, and SU,

46. Mistranslation is followed by orthography with 488 errors, almost 66% of which consists of punctuation errors. The reason why fluency>orthography>punctuation errors are approximately 12 times higher than accuracy>mechanical>punctuation is that most of these errors can be easily found and fixed on the target text level. In addition, the punctuation system of the source language differs from that of the target language. Thus, it usually needs to be rearranged in the target text rather than transferring from the source. The next category, mechanical, adds up to 462 in total and responsible for 16.9% of all errors. Most of the errors in this category cannot be considered as capitalization or punctuation, and therefore they are regarded as other. There are 114 capitalization and 26 punctuation errors overall. It is followed by grammar errors with 461 (16.8%) and it involves almost the same number of errors as mechanical. More than half of the grammar errors, 254, are further categorized as word form. Other significant subcategories of grammar are extra word and missing word, each including 92 and 61 errors, respectively. The last category that is considered one of the major parts of this analysis is lexicon with 319 issues, forming 11.7% of all errors. For the subcategories of lexicon, lexical choices are much higher than non-existing/foreign words. In addition, most of these lexical choices involve a word that conflicts with the context or co-text of the machine-translated output and requires checking the source text to find its equivalent. Lastly, omission errors and the category of accuracy>other worth mentioning, each responsible for 3.8% and 4.4%, respectively.

As this analysis shows, the overall results of the first technical, both legal texts and the second medical text are similar. The total number of errors in these text types are alike; what's more, accuracy errors are equal in the first technical and legal text. The amount of fluency errors are also the same in the both technical text. For most of the texts, the gap between the fluency and accuracy are rather narrow but the latter is more. In the first medical text and second technical text, on the other hand, it is the opposite. While the fluency errors detected in the translation of the first medical text are the most among three text types, accuracy errors are the second least right after the second technical text. The main reason behind this change is that the first medical text and second technical text included in this analysis does not include any kind of special formatting and styles such as tables, indents, symbols, etc., which are abundant in the

other texts and their omission or wrong transfer to the target text generates errors that are categorized under accuracy errors>mechanical. These types of elements and features are somewhat conventional in the user manuals, therefore, it is clear that the post-editing of this type of text would be rather different from the others. However, there are other types of technical text, such as the second technical text of the corpus. It does not involve such special features and therefore, its translations generate fewer mechanical errors. For the legal texts, one of the features that increase the number of mechanical errors is capitalization of some words, such as “Regulation”, “Organization”, “Secretariat”, “Community”, “Article” and it is quite common in legal text ranging from contracts to laws. Another factor is the frequent use of indented paragraphs and bold headings, which is similarly prevalent in the first legal text. Among the subtypes of mechanical errors, the category of “other” is the most erroneous for most of the texts in this study, which involves all types of mechanical errors that cannot be categorized as capitalization or punctuation. Therefore, as this analysis shows, this category is quite significant in post-editing Turkish contents. Thus, this research offers adding two other subcategories to mechanical errors that will deal with the transfer of page formats and non-linguistic elements, such as tables, figures, symbols, images, etc. Vasconcellos (1986: 135) argues that a post-editor should be competent in word-processing skills, able to easily use the functions of copy, move, search and replace, and quickly position the cursor. Although these skills might not be a concern for most translators today, they could be essential for solving the errors in the offered subcategories.

Another type of accuracy errors with high numbers of errors is mistranslation. It is responsible for at least 38.4% of the accuracy errors in all texts and, as shown above, it is the most erroneous category with 626 errors across the whole analysis. Among its subcategories, WSD always involves the most errors. Furthermore, it is also the most erroneous category among all subcategories in the translations of all the texts analyzed except for the first technical text, where it is the second after mechanical>other. Therefore, it can be claimed that WSD errors are one of the main reasons that NMT systems still need translators as post-editors. Apart from English to Turkish, WSD is proved to be a problematic aspect of NMT in other studies, as well (Van Brussel, Tezcan and Macken, 2018; Daems, Vandepitte, Hartsuiker and Macken,

2017; Liu, Lu and Neubig, 2018). Therefore, it is important to consider which skills would be beneficial in solving WSD errors during post-editing. WSD errors detected in this study mainly result from terminology and all the text types of this study require the translator to specialize in their terminology (Byrne, 2006: 1; Wakabayashi, 1996: 357; Ramos, 2014: 121). Therefore, acquiring terminology knowledge and applying it with respect to the existing context can be considered as a vital post-editing skill. In addition, the category of other always comes after WSD in the number of errors included. These errors cannot be categorized in other subcategories of mistranslation, meaning they do not have a specific justification. Their burden on the post-editing process is a bit different from the others since they are, in a sense, unpredictable and therefore, do not have a certain skill to be able rectify them.

Another category worth mentioning is omission errors. While it could sometimes be a translation strategy for human translators to adjust the source text according to expectations of the target audience (Dimitriu, 2004: 165), it mostly results in a problem in machine translation since the NMT systems do not perform this omission on purpose and for the sake of target text fluency. Therefore, it is considered as a high-risk category in many studies (Decamp, 2009; Lotz and Rensenburg, 2016; Castilho et al., 2017). In most of the texts, omission errors take up certain amount of all accuracy errors, peaking in the first medical text with 18.6%. While this error category involves lacking transfer of source words into target text, missing words category under the fluency errors only involves those that can be detected by reviewing just the target text. Therefore, the relationship between these categories should also be discussed. Except for the technical texts, omission errors are always more than the missing words. This means that it is not so much possible to detect and fix the missing words on the target text level, referring back to the source text is required. In addition, when these types of errors are analyzed it is found that the NMT systems usually omit more than just one word, and occasionally they even omit phrases and rather long parts of the sentences. These issues mostly occur in longer sentences. The words that are frequently omitted are pronouns and relative clauses. In the light of these findings, the category of omission is a challenge for post-editing. Although there is no certain skill for solving them, it is important to know this might be an obstacle in the post-editing process and thus, it is advisable to look for them using bitextual comparison.

In the analyses of the translations of the first technical and legal texts and second medical text, the category of accuracy>other comes after the omission. For the second technical, legal texts, it includes more errors than the omission, and for the first medical text, it shows a significant increase to 24.1%. In all text types, this category mostly involves sentences or phrases that cannot be corrected with word-based amendments and require restatement. Based on this finding and the analysis of the medical text translations, it can be argued that lower number of accuracy errors do not always mean less work on the bitextual level. Furthermore, as more errors are categorized under “other” categories, it gets harder to post-edit the text since these errors do not have a specific reason and cannot be linked to a certain post-editing skill as a solution. Apart from discussing their success, errors detected in an NMT system translating a specific type of text might be easily categorized into certain categories and therefore show some kind of path for correction. However, the same system’s detected errors can greatly vary according to text type and some of them might not fit into the categories with distinct borders and can be regarded as “other”. In such a case, the category of other could be a burden on the post-editor since it does not specify a route for amendment as the rest of the categories do. Furthermore, there is an alignment to a certain extent between the analysis results of the technical text and legal text translations; however, it is lapsed when compared to the results of the medical text translations. Furthermore, findings indicate that the performance of an NMT system can change according to text type. This shows that the common problem of “domain mismatch” is also true for English to Turkish NMT (Koehn, 2020: 294).

Before continuing with the fluency errors, it might be important to note that untranslated words increase to 12 in the first medical text while they are 1 and 2 in the other text types, except for the second technical text which involves 8 of them. Untranslated words are closely connected with fluency>lexicon>non-existing and foreign words. Therefore, these categories should be discussed together. Similar to the case in untranslated words, non-existing/foreign words are quite few in the first technical and both legal texts while they form almost half of the lexical choice errors in the first medical text. The frequent use of domain-specific and Latin-derived words, which can also be understood from the number of off-list words, is the cause of this growth. In the legal text translations, less lexicon errors are observed when compared

to other text types. One reason for this is that the legal texts have the lowest number of off-list words. However, in technical and medical texts, lexicon is an important category of fluency. In the first technical text translations, the number of lexical choice errors are highest among the three text types. Similarly, WSD errors have been discussed to be numerous. Going into detail of these errors, it is observed that they are mostly related to terms or words that could be easily encountered in such domain-specific texts. Thus, it is found that terminology is quite problematic in NMT into Turkish, and accordingly in post-editing. Additionally, overall numbers across all text types, which is shown above, confirm the importance of this category. As lexicology and translation are considered as “sister discipline[s]” (Calvo Rigual and Calvi, 2014: 56) and there is an inevitable intertwining between terminology and translation (Kockaert and Steurs, 2015: x), based on this discussion and the one above regarding WSD, these connections are also true for post-editing. Therefore, these two neighboring disciplines would be contributive skills in post-editing.

Fluency errors are mainly led by grammar, lexicon and orthography categories. Grammar forms at least 34% of fluency errors in all text types; the lowest is detected in the first technical text analysis and the highest in the second medical text with 38.6%. For orthography, the lowest is first the medical text (30.8%) and the highest is the second legal text (42.8%). While the lexicon errors increase to as high as 32.1% in the first technical text, it shows a significant decrease in the second legal text analysis with 17.5%. As discussed previously, the cause of this decrease in the lexicon errors detected in the legal text might be the fact that the UN’s publications are among the most multilingual documents available online, meaning the terms used by the UN might be more common for NMT systems. In line with this, the legal texts involve the least number of off-list words. Regarding the two subcategories of lexicon, non-existing/foreign words show a dramatic increase in the analysis of the first medical text translations. Errors listed under this subcategory amounts to 21, which is previously linked to the frequent use of domain-specific and Latin-derived words in the medical text. Although the amount of multiple errors is the same and few in all text types, it is worth mentioning that these errors involve sentences that are completely wrong. The category of fluency>other only has 1 error in the first technical text analysis; however it increases to 22 in the first medical text. Therefore, this category

is considered an issue that is pertinent to the medical text translations; however, average sentence length and the number of off-list words is also an essential element. In medical text translations, there can be some long sentences that do not have a clear meaning as a whole. Furthermore, there is no mix of errors that make it hard to annotate fluency errors separately, which is the case for multiple errors. Thus, these sentences cannot be classified into the category of multiple errors. They require rephrasing and it has to be done on a bitextual level.

As stated earlier in this research, the word form subcategory is adapted to include wrong word endings because this is the most appropriate category to consider the agglutinative feature of the Turkish language, which is one of the most distinctive features of the language. Word form is always the highest subcategory of grammar in terms of number of errors, forming at least half of it. As argued in the beginning of this thesis, the agglutinative feature of the Turkish language needs a special emphasis on post-editing. Word form errors detected in this study mostly involve use of wrong tense in terms of proper register, plural-singular words, prepositions, missing copulas. Frequent tense correction in post-editing is also observed by Sayar (2020: 66). Additionally, errors concerning misused or unused possessive suffixes and grammatical cases are noteworthy. Error annotation of the second legal text translations involves 51 errors that fall into this subcategory and it is the highest among three text types. It is closely followed by the first medical text with 50 errors. Furthermore, word form is the first or second subcategory with most errors across all fluency subcategories in the 5 out of 6 texts. This shows that one of the core elements of post-editing skills for English to Turkish NMT would be learning the use and role of Turkish suffixes and how some source word types such as prepositions, relative clauses and also grammatical cases are transferred into the target language as suffixes.

Among the subcategories of grammar, extra words come after the word form in most texts. When the findings in the analysis are observed, it is revealed that extra words mostly involve repetitions, which are either caused by a mistranslation of a source word, which is mostly the case, or added words. Missing words are also important. They are responsible for about 23% of the grammar errors in the machine translations of the first technical text. There are some cases of missing verbs, which might be the most obvious to detect in terms of other missing parts of speech. Missing

subjects, for instance, can be detected and solved through subject-verb disagreements. Therefore, this rule can be considered as a post-editing skill. Again, use of suffixes have a role in this error type, as well. In English, a single subject in a sentence with two parts divided by a conjunction can conform to the grammar rules of the language; its Turkish translation might require adding a second subject with the proper suffix. Therefore, Turkish as an agglutinative language once again shows its differentiation.

Regarding the orthography errors, punctuation comes forward in all texts, except for the first technical text. Some of them involve unnecessarily added commas before conjunctions. The legal text involves many proper nouns related to the field, such as laws, regulations and organizations. However, the punctuation rule significantly differs for them according to the Turkish Language Association. The reason for the increase in the first medical text is the frequent use of percentage symbols and numbers. The NMT systems of the study often violate the rules regarding use of apostrophes with numbers or add unnecessary spaces between the percentage symbol and the number, or the apostrophe and the word. Based on these findings, a comprehensive knowledge of Turkish rules regarding the use of punctuations is clearly indispensable skill for a post-editor who will work on English to Turkish machine-translated texts.

Spelling and capitalization are also vital parts of orthography errors. There is a total of 84 spelling errors in the whole analysis. Most of the spelling errors concern the diacritics, such as the use of circumflex accent and capital “İ” in Turkish. Fluency errors that are considered as capitalization issues mostly involve unnecessary capitalizations or using a lowercase letter in a word written in all-caps. Furthermore, regulation and organization names in the legal texts create a fluency problem once again, but this time for capitalization. While capitalization errors are not frequent as others, it is worth considering them alongside spelling and punctuation rules when post-editing, which was also emphasized by McElhaney and Vasconcellos (1988: 141). Thus, orthography rules can be considered as an essential post-editing skill.

Although there may be significant differences between the error numbers of the NMT systems and varied results between six texts of the corpus, some categories can be considered as problematic aspects in all of them. In terms of fluency, these are word form, extra word and missing word for grammar; lexical choice; punctuation,

capitalization and spelling for orthography. As for accuracy, omission, mistranslation, specifically word sense disambiguation, and under mechanical errors, capitalization and other. Furthermore, the category of accuracy>other is found out to involve complex errors. To summarize above discussions, the skills for Turkish post-editing are, but not limited to:

- general information regarding what awaits the translators in a post-editing process, which will be mostly a bilingual process;
- being aware of the problematical categories, i.e. what to look for;
- terminology knowledge of specific text types and lexicology for solving the issues especially in the categories of WSD, untranslated words and lexicon;
- the use and role of Turkish suffixes when translation into Turkish, which would be helpful in detecting and correcting word form errors;
- grammar rules such as subject-verb agreement, and orthography rules such as capitalization, punctuation, and spelling.

Based on the findings of this thesis, below taxonomy, which is adapted from SCATE, can be proposed for evaluating NMT quality into Turkish:

Fluency

1. Grammar
 - a. Multi-word Syntax
 - b. Word Ending
 - c. Word Order
 - d. Extra Word
 - e. Missing Word
 - f. Other
2. Lexicon
 - a. Non-existing
 - b. Lexical Choice
3. Orthography
 - a. Spelling
 - b. Capitalization
 - c. Punctuation
 - d. Other
4. Multiple Errors
5. Other

Accuracy

1. Addition
2. Omission
3. Untranslated
4. DNT
5. Mistranslation
 - a. MWE
 - b. POS
 - c. WSD
 - d. SU
 - e. Other
6. Mechanical
 - a. Capitalization
 - b. Punctuation
 - c. Page format
 - d. Non-linguistic elements
 - e. Other
7. Bilingual Terminology

8. Source Error

9. Other

In this proposed taxonomy, word form is changed to word ending in order to cover the one of the essential aspects of Turkish machine translation errors. Furthermore, two other subcategories are added to accuracy>mechanical, these are page format and non-linguistic elements. The original SCATE taxonomy includes the partial translation subcategory under mistranslation errors. Since it involves the issues regarding separable words that is not available in Turkish, it is removed from the list. Although this study did not use the categories of bilingual terminology and source errors, they might be valid for some other corpora. Similarly, this analysis has not found any errors to be categorized under DNT since the corpus does not include any proper noun that should be left untranslated. Nevertheless, this category can be used in different corpora.

CONCLUSION

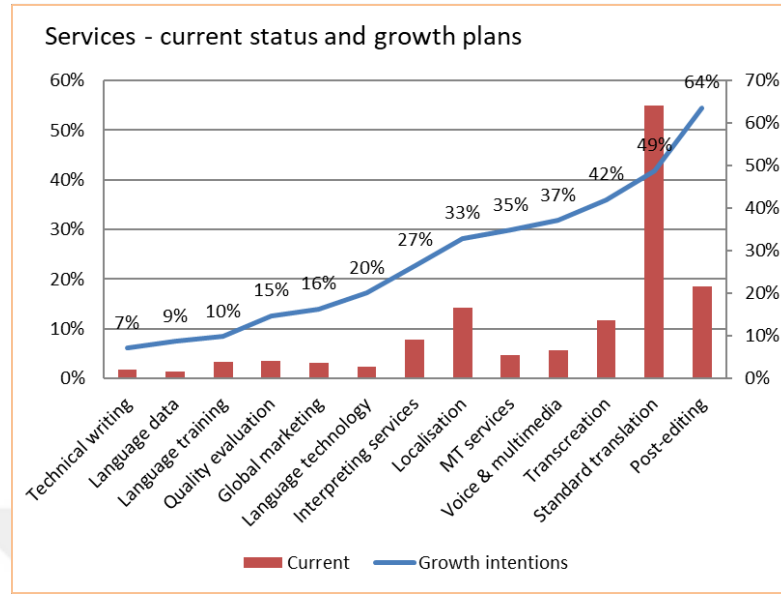
This research scrutinizes the performance of NMT into Turkish and the post-editing skills that might be specifically necessary for Turkish post-editing. For this end, a machine translation test has been carried out with five online NMT systems, namely Google Translate, Bing Translator, Yandex.Translate, Reverso and Watson Language Translator. Text types to be machine-translated were technical, legal and medical and two texts for each type are chosen. Then, the raw MT outputs are evaluated using SCATE MT error taxonomy. Results are interpreted from a post-editing perspective, revealing the most frequent error categories to be corrected in post-editing. Furthermore, necessary skills for fixing errors in these categories are underlined.

This analysis and its detailed discussion confirm what was argued over 50 years ago: “machine translation is not yet of such quality as to allow post-editing to be done without a copy of the original in the hands of the translator.” (ALPAC, 1966: 98). Therefore, translators are still a vital part of the MT process, as it has always been throughout the history of MT. As stated by many scholars (McElhaney and Vasconcellos, 1988: 142; O’Brien, 2002: 101; Krings, 2001: 12; Rico and Torrejón, 2012: 167), the post-editor has to be a translator. The reason behind this obligation,

based on the results of this research, is that fluency errors require the knowledge of the target language. However, as this analysis shows, some fluency errors require checking the source text. Furthermore, fixing accuracy errors depend on, first, detecting the translation errors and then correcting them. Therefore, post-editing skills for correcting neural machine-translated texts from English to Turkish would mostly involve knowledge of the Turkish language, especially its grammar and punctuation rules. These results are in the same line with the arguments of the research. Furthermore, these findings can form the core of the post-editing skill for Turkish language, along with skills that are discussed in section 1.5, such as relevant information on NMT, its procedure, history of MT, its current use in the market, what expects the translators as post-editors, etc. Concerning the needs of the global machine translation market, which is estimated to reach 1.5 billion dollars by 2024 (STATISTA, 2017) and 3 billion dollars by 2027 (Global Market Insights, 2020), gaining these skills is essential for current or future translators to claim a post-editor role in the market.

As Lommel and DePalma (2016: 20) put it, post-editing “is the wave of the future”. Thus, it is vital to learn the necessary qualifications of this process. While professional translators are hesitant to accept post-editing projects because of their poor impressions about MT quality and post-editing labor, student translators appear to have a larger potential and enthusiasm for them (Garcia, 2010; Yamada, 2015). Thus, the findings of this study might be valuable for future studies on post-editing training, which would design a post-editing course specifically designed for the Turkish language. Such a course would be quite valuable for the future translators since, according to ELIS (2022: 14), post-editing comes right after standard translation being the most used language service type and it is expected to grow more than translation, as shown in Figure 26. Furthermore, language companies see post-editing and the quality improvement of NMT as an opportunity (ELIS, 2022: 11). This way of thinking will certainly shape the market and the skills for this rising practice are quite essential for translator candidates.

Figure 26: Current Status and Growth Plans of Services Provided by Language Companies



(ELIS, 2022: 14)

The findings about the post-editing skills generate another discussion. It is also worthwhile to consider who the audience for this post-editing skills is. It could be, for instance, translation students or foreign language speakers. If the audience is translation students, then it would be also useful to discuss the difference between the post-editing skills and skills provided in translation education.

Another contribution of this thesis might be to the research field of post-editing effort. As discussed previously, knowing what expects post-editors when correcting Turkish NMT output might reduce both effort and time by presenting a sort of guideline for what to especially look for. Thus, this research hopes to be a fruitful baseline for many aspects of post-editing, which is a recent topic of interest for the translation studies in Turkey.

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APPENDICES

Appendix I: First Technical Text NMT Test Error Annotation

1. SOURCE TEXT

Warning! Important Safety Instructions

Please read the Safety Instructions before using your TV.

CAUTION			Class II product: This symbol indicates that a safety connection to electrical earth (ground) is not required.
RISK OF ELECTRIC SHOCK. DO NOT OPEN.			
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.			AC voltage: Rated voltage marked with this symbol is AC voltage.
	This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.		DC voltage: Rated voltage marked with this symbol is DC voltage.
	This symbol indicates that this product has included important literature concerning operation and maintenance.		Caution. Consult instructions for use: This symbol instructs the user to consult the user manual for further safety related information.

- The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of this apparatus and to protect it from overheating, these slots and openings must never be blocked or covered.
 - Do not place this apparatus in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.
 - Do not place this apparatus near or over a radiator or heat register, or where it is exposed to direct sunlight.
 - Do not place vessels (vases etc.) containing water on this apparatus, as this can result in a fire or electric shock.
- Do not expose this apparatus to rain or place it near water (near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming

pool, etc.). If this apparatus accidentally gets wet, unplug it and contact an authorised dealer immediately.

- This apparatus uses batteries. In your community, there might be environmental regulations that require you to dispose of these batteries properly. Please contact your local authorities for disposal or recycling information.
- Do not overload wall outlets, extension cords, or adaptors beyond their capacity, since this can result in fire or electric shock.
- Power-supply cords should be placed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at the plug end, at wall outlets, and at the point where they exit from the appliance.
- To protect this apparatus from a lightning storm, or when left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the set due to lightning and power line surges.
- Before connecting the AC power cord to the DC adaptor outlet, make sure that the voltage designation of the DC adaptor corresponds to the local electrical supply.
- Never insert anything metallic into the open parts of this apparatus. This may cause a danger of electric shock.

1.1. GOOGLE TRANSLATE

Uyarı! Önemli güvenlik¹ TALİMATLARI²³

Lütfen TV'nizi kullanmadan önce Güvenlik Talimatlarını okuyun.

DİKKAT⁴

ELEKTRİK ÇARPMASI RİSKİ. AÇMA.⁵⁶

DİKKAT: ELEKTRİK ÇARPMASI RİSKİNİ AZALTMAK İÇİN KAPAĞI (VEYA ARKA KISMI) AÇMAYIN. İÇERİSİNDE KULLANICININ SERVİS EDEBİLECEĞİ⁷⁸ PARÇA YOKTUR. TÜM SERVİSLERİ⁹¹⁰¹¹ KALİFİYE PERSONELE BAŞVURUN.

¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

² Accuracy-mechanical-other (should be bold)

³ Accuracy-mechanical-capitalization (should be Talimatları)

⁴ Accuracy-mechanical-other- (should be bold)

⁵ Fluency-grammar-word form (should be “açmayın”)

⁶ Accuracy-mechanical-other (should be bold and white on a black background)

⁷ Fluency-lexicon-lexical choice (tamirini/bakımını yapabileceği)

⁸ Accuracy-mistranslation-WSD

⁹ Fluency-lexicon-lexical choice (bakımlarI/tamirleri)

¹⁰ Accuracy-mistranslation-WSD

¹¹ Fluency-grammar-missing words (“için” is missing)

Sınıf II ürün: Bu sembol¹², elektrik toprağına¹³¹⁴ (topraklama) bir güvenlik bağlantısının gerekli olmadığını gösterir.

AC voltajı: Bu simgeyle¹⁵¹⁶ işaretlenen nominal voltaj AC voltajıdır.

Bu sembol¹⁷, içeride yüksek voltaj bulunduğunu gösterir. Bu ürünün herhangi bir iç parçasıyla her türlü temas tehlikelidir.

DC voltajı: Bu simgeyle¹⁸¹⁹ işaretlenen nominal voltaj DC voltajıdır.

Bu sembol²⁰, bu ürünün çalıştırma ve bakımla ilgili önemli literatürü²¹²² içerdiğini gösterir.

Dikkat. Kullanım talimatlarına başvurun: Bu sembol²³, kullanıcıya güvenlikle ilgili daha fazla bilgi için kullanıcı kılavuzuna başvurma talimatı verir²⁴²⁵.²⁶

• Kabindeki ve arka veya alt kısımdaki yuvalar ve açıklıklar²⁷²⁸ gerekli havalandırma için sağlanmıştır. Bu aparatın güvenilir bir şekilde çalışmasını sağlamak ve ²⁹aşırı ısınmadan korumak için bu yuvalar ve açıklıklar³⁰³¹ asla engellenmemeli³² veya kapatılmamalıdır³³.

–Uygun havalandırma sağlanmadıkça, bu cihazı kitaplık veya gömme dolap gibi kapalı bir yere yerleştirmeyin.³⁴

–Bu cihazı bir radyatörün veya ısı kaynağının³⁵ yakınına veya üzerine ya da doğrudan güneş ışığına maruz kalacağı bir yere yerleştirmeyin.³⁶

¹² Accuracy-mechanical-other (symbol is missing)

¹³ Fluency-lexicon-lexical choice (“elektrik toprağı” is a wrong lexical choice)

¹⁴ Accuracy-mistranslation-other (electrical earthing and ground are both translated as “topraklama” into Turkish. Therefore one should be omitted)

¹⁵ Accuracy-mechanical-other (symbol is missing)

¹⁶ Accuracy-other (previously translated as “sembol”, inconsistency)

¹⁷ Accuracy-mechanical-other (symbol is missing)

¹⁸ Accuracy-mechanical-other (symbol is missing)

¹⁹ Accuracy-other (previously translated as “sembol”, inconsistency)

²⁰ Accuracy-mechanical-other (symbol is missing)

²¹ Fluency-lexicon-lexical choice (it is not suitable for the context)

²² Accuracy-mistranslation-WSD (bilgiler)

²³ Accuracy-mechanical-other (symbol is missing)

²⁴ Fluency-lexicon-lexical choice (“talimat vermek” is like an order. “Önerir-yönlendirir” would be better)

²⁵ Accuracy-mistranslation-other

²⁶ Accuracy-mechanical-other (table is missing)

²⁷ Fluency-lexicon-lexical choice (“açıklık” does not fit here)

²⁸ Accuracy-mistranslation-WSD-content (“delikler” would be better)

²⁹ Accuracy-omission (“it” is missing and this leads to disagreement between the subject and verb)

³⁰ Fluency-lexicon-lexical choice

³¹ Accuracy-mistranslation-WSD (“delikler” would be better)

³² Accuracy-mistranslation-WSD (kapatılmamalı)

³³ Accuracy-mistranslation-WSD (üzeri örtülmemelidir)

³⁴ Accuracy-mechanical-other (The sentence should be indented)

³⁵ Accuracy-mistranslation-WSD (kalorifer ızgarası)

³⁶ Accuracy-mechanical-other (The sentence should be indented)

–Bu cihazın üzerine içinde su bulunan kaplar (vazolar vb.) Koymayın³⁷, bu bir³⁸ yangına veya elektrik çarpmasına neden olabilir.³⁹

• Bu cihazı yağmura maruz bırakmayın veya suya yakın bir yere koymayın (kület, lavabo, mutfak lavabosu veya çamaşır küvetinin⁴⁰⁴¹ yanında⁴², ıslak bir bodrumda⁴³ veya yüzme havuzu vb. Yakınında⁴⁴⁴⁵). Bu aparat yanlışlıkla ıslanırsa, fişini çekin ve hemen yetkili bir bayi ile iletişime geçin.

• Bu cihaz pil kullanır. Topluluğunuzda, bu pilleri uygun şekilde atmanızı gerektiren çevresel düzenlemeler⁴⁶ olabilir. Lütfen atma veya geri dönüşüm bilgileri için yerel yetkililerinize başvurun.

• Duvar prizlerini, uzatma kablolarını veya adaptörleri kapasitelerinin ötesinde aşırı yüklemeyin;^{47 48}bu, yangına veya elektrik çarpmasına neden olabilir.

• Güç kaynağı kabloları üzerine basılmayacak veya üzerine ya da yanına⁴⁹ yerleştirilen nesnelerle sıkıştırılmayacak şekilde yerleştirilmelidir. Fiş ucundaki, duvar prizlerindeki ve cihazdan çıktıkları noktadaki kablolarla özellikle dikkat edin.

• Bu cihazı şimşekli⁵⁰ fırtınadan⁵¹ korumak için veya gözetimsiz bırakıldığında ve uzun süre⁵² kullanılmadığında, ⁵³duvar prizinden çıkarın ve anten veya kablo sistemini çıkarın⁵⁴. Bu, yıldırım ve güç⁵⁵ hattı dalgalanmaları nedeniyle setin zarar görmesini önleyecektir.

• AC güç kablosunu DC adaptör çıkışına bağlamadan önce, DC adaptörün voltaj tanımının yerel elektrik kaynağına karşılık geldiğinden⁵⁶ emin olun.

• Bu aparatın açık kısımlarına asla metal bir şey sokmayın. Bu, elektrik çarpması tehlikesine neden olabilir.

³⁷ Fluency-orthography-capitalization

³⁸ Fluency-grammar-extra word (“bir” is unnecessary)

³⁹ Accuracy-mechanical-other (The sentence should be indented)

⁴⁰ Fluency-lexicon-lexical choice (does not exist)

⁴¹ Accuracy-mistranslation-WSD (çamaşır teknesi/evyesi)

⁴² Fluency-grammar-word form (yanına)

⁴³ Fluency-grammar-word form (bodruma)

⁴⁴ Fluency-orthography-capitalization

⁴⁵ Fluency-grammar-word form (yakınına)

⁴⁶ Accuracy-mistranslation-WSD (yönetmelikler)

⁴⁷ Fluency-orthography-punctuation (semicolon is wrongly used here, should be a comma or a conjunction)

⁴⁸ Accuracy-omission (“since” is omitted)

⁴⁹ Accuracy-mistranslation-WSD (önüne)

⁵⁰ Fluency-grammar-word form (şimşek)

⁵¹ Fluency-grammar-word form (fırtınasından)

⁵² Accuracy-other (“uzun süre” should be before “gözetimsiz bırakıldığında” to specify both)

⁵³ Fluency-grammar-missing word (fişini)

⁵⁴ Accuracy-mistranslation-WSD-content (kablo sisteminin bağlantısını kesin)

⁵⁵ Accuracy-mistranslation-WSD-content (elektrik)

⁵⁶ Fluency-lexicon-lexical choice (kaynağı ile uyumlu olduğundan)

1.1.1. Analysis of Google Translate

Fluency Errors: 21

1. Grammar: 9
 - a. Multi-word Syntax: 0
 - b. Word Form: 6
 - c. Word Order: 0
 - d. Extra word: 1
 - e. Missing Word: 2
 - f. Other: 0
2. Lexicon: 9
 - a. Non-Existing: 0
 - b. Lexical Choice: 9
3. Orthography: 3
 - a. Spelling: 0
 - b. Capitalization: 2
 - c. Punctuation: 1
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 0

Accuracy Errors: 35

1. Addition: 0
2. Omission: 2
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 15
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 13
 - d. Semantically Unrelated: 0
 - e. Other: 2
6. Mechanical: 15
 - a. Capitalization: 2
 - b. Punctuation: 0
 - c. Other: 13
7. Other: 3

1.2. REVERSO

Uyarı! Önemli Güvenlik Talimatları¹

TV'nizi kullanmadan önce lütfen Güvenlik talimatlarını² okuyun.

DIKKAT³⁴ Sınıf II ürün: Bu simge⁵, elektrik topraklamasına (topraklama⁶⁷) güvenlik bağlantısının gerekli olmadığını gösterir.⁸

ELEKTRİK⁹ ÇARPMASI RISKİ¹⁰. AÇMAYIN.¹¹

DİKKAT: ELEKTRİK¹² ÇARPMASI RISKİNİ¹³ AZALTMAK İÇİN¹⁴ KAPAĞI (VEYA ARKASI¹⁵) ÇIKARMAYIN. İÇERİDE^{16 17} KULLANICI TARAFINDAN

ONARILABİLECEK¹⁸ PARÇA YOKTUR. TÜM SERVİS¹⁹ İŞLEMLERİNİ²⁰

KALIFIYE²¹ PERSONELE YAPTIRIN. AC gerilimi: Bu sembolle²² işaretlenmiş nominal gerilim AC gerilimidir.²³

Bu simge²⁴, ²⁵içinde²⁶ yüksek voltaj olduğunu gösterir. Bu ürünün herhangi bir iç parçasıyla herhangi bir şekilde temas etmek tehlikelidir. DC gerilimi: Bu sembolle²⁷ işaretlenmiş nominal gerilim DC gerilimidir.²⁸

¹ Accuracy-mechanical-other (bold)

² Accuracy-mechanical-capitalization (Talimatlarını)

³ Fluency-Orthography-spelling (diacritics, DİKKAT)

⁴ Accuracy-mechanical-other (bold)

⁵ Accuracy-mechanical-other (symbol is missing)

⁶ Fluency-grammar-extra word (topraklama is repeated)

⁷ Accuracy-mistranslation-other (electrical earthing and ground are both translated as “topraklama” into Turkish. Therefore one should be omitted)

⁸ Accuracy-mechanical-other (this sentence is mislocated. It is not on the same paragraph with “DİKKAT”)

⁹ Fluency-Orthography-spelling (diacritics, ELEKTRİK)

¹⁰ Fluency-Orthography-spelling (diacritics, RİSKİ)

¹¹ Accuracy-mechanical-other (should be bold and white on a black background)

¹² Fluency-Orthography-spelling (diacritics, ELEKTRİK)

¹³ Fluency-Orthography-spelling (diacritics, RİSKİNİ)

¹⁴ Fluency-Orthography-spelling (diacritics, İÇİN)

¹⁵ Fluency-grammar-word form (arkasını)

¹⁶ Fluency-Orthography-spelling (diacritics, İÇERİDE)

¹⁷ Fluency-grammar-word form (içinde)

¹⁸ Fluency-Orthography-spelling (diacritics, ONARILABİLECEK)

¹⁹ Fluency-Orthography-spelling (diacritics, SERVİS)

²⁰ Fluency-Orthography-spelling (diacritics, İŞLEMLERİNİ)

²¹ Fluency-Orthography-spelling (diacritics, KALİFİYE)

²² Accuracy-mechanical-other (symbol is missing)

²³ Accuracy-mechanical-other (the sentence should not be on the same paragraph with the previous one, must be separate)

²⁴ Accuracy-mechanical-other (symbol is missing)

²⁵ Fluency-grammar-missing word (neyin içinde?)

²⁶ Accuracy-mistranslation-other (cihazın içinde/içeride)

²⁷ Accuracy-mechanical-other (symbol is missing)

²⁸ Accuracy-mechanical-other (the sentence should not be on the same paragraph with the previous one, must be separate)

Bu simge²⁹, bu ürünün kullanım ve bakım ile ilgili önemli bilgiler içerdiğini gösterir. Dikkat. Kullanım talimatlarına bakın: Bu sembol³⁰³¹, güvenlik ile ilgili daha fazla bilgi için kullanıcının kullanım kılavuzuna başvurmasını sağlar^{32 3334}.

- gerekli³⁵ havalandırma için kabin³⁶³⁷ ve arka veya alt kısımdaki yuvalar ve açıklıklar³⁸³⁹ sağlanmıştır⁴⁰. Bu cihazın güvenilir bir şekilde çalışmasını sağlamak ve ⁴¹aşırı ısınmaya karşı korumak için, bu yuvalar ve açıklıklar⁴² asla kapatılmamalı veya kapatılmamalıdır⁴³⁴⁴.

- uygun⁴⁵ havalandırma sağlanmadığı süreçte, bu cihazı kitaplık veya yerleşik dolap⁴⁶⁴⁷ gibi kapalı alanlara yerleştirmeyin.⁴⁸

- Bu cihazı bir radyatör veya ısı cihazının⁴⁹ yakınına veya üzerine ya da doğrudan güneş ışığına maruz kalacağı bir yere koymayın.⁵⁰

- Yangın veya elektrik çarpmasına yol açabileceği için, bu cihazın üzerine su içeren kaplar (vazolar vb.) koymayın.⁵¹

- Bu cihazı yağmura maruz bırakmayın veya suyun yakınına yerleştirmeyin (kület, lavabo, mutfak lavabosu veya çamaşır küveti⁵²⁵³ yakınında⁵⁴, ıslak bodrumda⁵⁵ veya yüzme havuzu yakınında⁵⁶ vb.⁵⁷). Bu cihaz yanlışlıkla ıslanırsa fişini çekin ve derhal yetkili bir bayi ile iletişim kurun⁵⁸.

²⁹ Accuracy-mechanical-other (symbol is missing)

³⁰ Accuracy-mechanical-other (symbol is missing)

³¹ Accuracy-mistranslation-other (the word “symbol” is translated as both “simge” and “sembol.” One of them should be followed for consistency)

³² Fluency-lexicon-lexical choice (önerir)

³³ Accuracy-mechanical-other (Starting from “Dikkat,” this sentence should not be on the same paragraph with the previous one, must be separate)

³⁴ Accuracy-mechanical-other (table is missing)

³⁵ Fluency-orthography-capitalization (Gerekli)

³⁶ Fluency-grammar-word form (kabindeki)

³⁷ Accuracy-omission (“in the” is omitted, which causes the previous Fluency error)

³⁸ Fluency-lexicon-lexical choice (“açıklık” does not fit with the ventilation context)

³⁹ Accuracy-mistranslation-WSD (delikler)

⁴⁰ Fluency-grammar-word order (Kabindeki ve arka veya alt kısımdaki yuvalar ve delikler gerekli havalandırma için sağlanmıştır)

⁴¹ Fluency-grammar-missing word (*cihazı* aşırı ısınmalara karşı)

⁴² Fluency-lexicon-lexical choice

⁴³ Fluency-grammar-extra word (repetition)

⁴⁴ Accuracy-mistranslation-WSD (üzeri örtülmemelidir)

⁴⁵ Fluency-orthography-capitalization (Uygun)

⁴⁶ Fluency-lexicon-lexical choice (there is no such thing as “yerleşik dolap”)

⁴⁷ Accuracy-mistranslation-WSD (gömme dolap)

⁴⁸ Accuracy-mechanical-other (The sentence should be indented)

⁴⁹ Accuracy-mistranslation-WSD (kalorifer ızgarası)

⁵⁰ Accuracy-mechanical-other (The sentence should be indented)

⁵¹ Accuracy-mechanical-other (The sentence should be indented)

⁵² Fluency-lexicon-lexical choice (does not exist)

⁵³ Accuracy-mistranslation-WSD (çamaşır teknesi/evyesi)

⁵⁴ Fluency-grammar-word form (yakınına)

⁵⁵ Fluency-grammar-word form (bodruma)

⁵⁶ Fluency-grammar-word form (yakınına)

⁵⁷ Fluency-grammar-word order ([...] vb. yakınına)

⁵⁸ Fluency-lexicon-lexical choice (iletişime geçin)

- Bu cihaz pil kullanır. Topluluğunuzda, bu pilleri uygun şekilde atmanızı gerektiren çevre yönetmelikleri olabilir. İmha⁵⁹ veya geri dönüşüm bilgileri için lütfen yerel yetkililerle iletişim kurun⁶⁰.
- yangına⁶¹ veya elektrik çarpmasına neden olabileceği için duvar prizlerini, uzatma kablolarını veya adaptörleri kapasitesinin üzerinde aşırı yüklemeyin.
- Güç kaynağı kabloları, üzerlerine⁶² veya üzerlerine⁶³⁶⁴ yerleştirilen eşyaların üzerine basmaması⁶⁵ veya sıkışmaması⁶⁶ için⁶⁷ yerleştirilmelidir⁶⁸⁶⁹. Fişin ucunda, prizlerde ve cihazdan çıktıkları noktada kablolarla özellikle dikkat edin.
- Bu cihazı yıldırım fırtınasından korumak için veya uzun süre gözetimsiz ve kullanılmamış halde bırakıldığında⁷⁰, fişini prizden çekin ve anten veya kablo sisteminin bağlantısını kesin. Bu, yıldırım ve güç hattı dalgalanmaları nedeniyle sete zarar gelmesini önler.
- AC güç kablosunu DC adaptör çıkışına bağlamadan önce, DC adaptörünün voltaj tanımının yerel elektrik kaynağına uygun olduğundan emin olun.
- cihazın⁷¹ açık kısımlarına kesinlikle⁷² metal hiçbir şey⁷³ sokmayın. Bu, elektrik çarpması tehlikesine neden olabilir.

1.2.1. Analysis of Reverso

Fluency Errors: 39

1. Grammar: 14
 - a. Multi-word Syntax: 0
 - b. Word Form: 7
 - c. Word Order: 2
 - d. Extra word: 3
 - e. Missing Word: 2
 - f. Other: 0
2. Lexicon: 9
 - a. Non-Existing: 0
 - b. Lexical Choice: 9
3. Orthography: 15
 - a. Spelling: 11
 - b. Capitalization: 4

⁵⁹ Accuracy-mistranslation-WSD (Atma)

⁶⁰ Fluency-lexicon-lexical choice (iletişime geçin)

⁶¹ Fluency-orthography-capitalization (Yangına)

⁶² Fluency-grammar-word form (üzerine)

⁶³ Fluency-grammar-extra word (repetition)

⁶⁴ Accuracy-mistranslation-WSD (önüne)

⁶⁵ Accuracy-mistranslation-other (It is not the items that might walk on the cords)

⁶⁶ Accuracy-mistranslation-other (eşyaların sıkıştırmaması)

⁶⁷ Accuracy-mistranslation-WSD (.-cak şekilde)

⁶⁸ Fluency-multiple

⁶⁹ Accuracy-other (The sentence must be restated: Güç kaynağı kabloları üzerine basılmayacak veya üzerine ya da önlerine yerleştirilen eşyalarla sıkıştırılmayacak şekilde yerleştirilmelidir.)

⁷⁰ Fluency-lexicon-lexical choice (kullanılmadığında)

⁷¹ Fluency-orthography-capitalization (Cihazın)

⁷² Accuracy-mistranslation-WSD (asla)

⁷³ fluency-lexicon-lexical choice (bir şey)

- c. Punctuation: 0
 - d. Other: 0
- 4. Multiple Errors: 1
- 5. Other: 0

Accuracy Errors: 34

- 1. Addition: 0
- 2. Omission: 1
- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 14
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 9
 - d. Semantically Unrelated: 0
 - e. Other: 5
- 6. Mechanical: 18
 - a. Capitalization: 1
 - b. Punctuation: 0
 - c. Other: 17
- 7. Other: 1

1.3. YANDEX TRANSLATE

Uyarı! Önemli Güvenlik Talimatları¹

Lütfen TV'nizi kullanmadan önce güvenlik² talimatlarını³ okuyun.

Dikkat⁴ Sınıf II ürün: bu⁶ sembol⁷, elektrik topraklama⁸ (topraklama)⁹ ile güvenlik bağlantısının gerekli olmadığını gösterir.¹⁰

ELEKTRİK ÇARPMASI RİSKİ. AÇMAYIN.¹¹

DİKKAT: ELEKTRİK ÇARPMASI RİSKİNİ AZALTMAK İÇİN,¹² (VEYA GERİ¹³)¹⁴ KAPAĞI ÇIKARMAYIN. İÇİNDE KULLANICI TARAFINDAN BAKIM İÇİN¹⁶ UYGUN¹⁷ PARÇALAR YOKTUR. PERSONEL İÇİN UZMAN HİZMET¹⁸ BAŞVURUN¹⁹. AC voltajı: bu²¹ sembolle²² işaretlenmiş Anma²³ gerilimi AC voltajıdır.²⁴

¹ Accuracy-mechanical-other (should be bold)

² Accuracy-mechanical-capitalization (first letter should be capitalized: Güvenlik)

³ Accuracy-mechanical-capitalization (first letter should be capitalized: Talimatlarını)

⁴ Accuracy-mechanical-capitalization (DİKKAT)

⁵ Accuracy-mechanical-other (should be bold)

⁶ Fluency-Orthography-Capitalization (Bu)

⁷ Accuracy-mechanical-other (symbol is missing)

⁸ Accuracy-mistranslation-other (“electrical earth” and “ground” can be individually translated as “topraklama” but when both of them are in the same sentence, it creates a repetition. Therefore one should be omitted)

⁹ Fluency-grammar-extra word (repetition)

¹⁰ Accuracy-mechanical-other (this sentence should not be on the same paragraph with the previous one, must be separate)

¹¹ Accuracy-mechanical-other (should be bold and White on a black ground)

¹² Fluency-Orthography-Punctuation (unnecessary comma)

¹³ Fluency-lexicon-lexical choice (“(VEYA GERİ)” looks like mistranslated)

¹⁴ Accuracy-mistranslation-WSD (arka kısmı)

¹⁵ Accuracy-other (mislocated, should be : [...] AZALTMAK İÇİN KAPAĞI (VEYA ARKA KISMI) ÇIKARMAYIN.)

¹⁶ Fluency-Lexicon-lexical choice (does not fit, interrupts the fluency, the ST needs to be checked to correct it)

¹⁷ Accuracy-mistranslation-WSD (kullanıcının bakımını yapabileceği/tamir edebileceği)

¹⁸ Accuracy-mistranslation-WSD (bakım/tamir)

¹⁹ Fluency-Multiple (contains too many errors to correct with only the target text, ST needs to be checked)

²⁰ Accuracy-other (The sentence needs to be restated: “TÜM BAKIM İŞLERİ İÇİN YETKİLİ PERSONELE BAŞVURUN”)

²¹ Fluency-orthography-capitalization (Bu)

²² Accuracy-mechanical-other (symbol is missing)

²³ Accuracy-mechanical-capitalization (anma)

²⁴ Accuracy-mechanical-other (this sentence should stand alone)

Bu sembol²⁵, ²⁶içinde²⁷ yüksek voltajın bulunduğunu gösterir. Bu ürünün herhangi bir iç kısmı²⁸ ile herhangi bir temas kurmak²⁹ tehlikelidir³⁰. DC voltaj³¹: bu³² sembolle³³ işaretlenmiş Anma³⁴ gerilimi DC voltajdır³⁵.³⁶
Bu sembol³⁷, bu ürünün işletme ve bakım ile ilgili önemli literatürü³⁸³⁹ içerdiğini gösterir. Dikkat. Kullanım talimatlarına bakın: bu⁴⁰ sembol⁴¹, kullanıcıya güvenlikle ilgili daha fazla bilgi için kullanım kılavuzuna başvurmasını bildirir⁴².⁴³⁴⁴
*⁴⁵ Kabin içindeki⁴⁶ ve arka veya alt kısımdaki yuvalar ve açıklıklar⁴⁷⁴⁸ gerekli havalandırma için sağlanmıştır. Bu cihazın güvenilir çalışmasını sağlamak ve ⁴⁹⁵⁰aşırı ısınmaya karşı korumak için, bu yuvalar ve açıklıklar⁵¹⁵² asla engellenmemeli veya kapatılmamalıdır⁵³.
⁵⁴⁵⁵-Uygun havalandırma sağlanmadığı sürece, bu cihazı kitaplık veya yerleşik dolap⁵⁶⁵⁷ gibi kapalı bir alana yerleştirmeyin.⁵⁸
– Bu cihazı bir radyatörün veya ısı kaydının⁵⁹⁶⁰ yanına veya üzerine veya doğrudan güneş ışığına maruz kaldığı⁶¹ yere koymayın.⁶²

²⁵ Accuracy-mechanical-other (symbol is missing)

²⁶ Fluency-grammar-missing word (neyin içinde?)

²⁷ Accuracy-mistranslation-other (cihazın içinde/içeride)

²⁸ Accuracy-mistranslation-WSD (iç parçasıyla)

²⁹ Accuracy-mistranslation-WSD (temas kurmak means “make contact with (someone)” however it must be “contact/touch”, therefore: “temas etmek”)

³⁰ Accuracy-mechanical-other (this sentence should not be here, must be separate)

³¹ Fluency-grammar-word form (voltajı)

³² Fluency-orthography-capitalization (Bu)

³³ Accuracy-mechanical-other (symbol is missing)

³⁴ Accuracy-mechanical-capitalization (anma)

³⁵ Fluency-grammar-word form (voltajıdır)

³⁶ Accuracy-mechanical-other (this sentence should stand alone)

³⁷ Accuracy-mechanical-other (symbol is missing)

³⁸ Fluency-lexicon-lexical choice (literatür does not fit here)

³⁹ Accuracy-mistranslation-WSD (bilgiler)

⁴⁰ Fluency-orthography-capitalization (Bu)

⁴¹ Accuracy-mechanical-other (symbol is missing)

⁴² Fluency-lexicon-lexical choice (does not fit: “yönlendirir” would be better)

⁴³ Accuracy-mechanical-other (Starting from “Dikkat,” this sentence should not be on the same paragraph with the previous one, must be separate)

⁴⁴ Accuracy-mechanical-other (table is missing)

⁴⁵ Accuracy-mechanical-other (should be a bullet point)

⁴⁶ Accuracy-mistranslation-WSD (Kabindeki)

⁴⁷ Fluency-lexicon-lexical choice (does not fit here)

⁴⁸ Accuracy-mistranslation-WSD (delikler would be better)

⁴⁹ Fluency-grammar-missing word (subject-verb disagreement, should include “cihazı”)

⁵⁰ Accuracy-omission (“it” is omitted, which causes the subject-verb disagreement)

⁵¹ Fluency-lexicon-lexical choice

⁵² Accuracy-mistranslation-WSD (delikler)

⁵³ Accuracy-mistranslation-WSD (üzeri kapatılmamalıdır)

⁵⁴ Fluency-orthography-punctuation (bullets are different, the ST needs to be checked)

⁵⁵ Accuracy-mechanical-punctuation (must be dash)

⁵⁶ Fluency-lexicon-lexical choice (there is no such thing as “yerleşik dolap”)

⁵⁷ Accuracy-mistranslation-WSD (gömme dolap)

⁵⁸ Accuracy-mechanical-other (The sentence should be indented)

⁵⁹ Fluency-lexicon-lexical choice (“ısı kaydı” is not a thing)

⁶⁰ Accuracy-mistranslation-WSD (kalorifer ızgarasının)

⁶¹ Fluency-grammar-word form (kalacağı)

⁶² Accuracy-mechanical-other (The sentence should be indented)

63- Kapları (vazolar vb.) koymayın^{64.65})⁶⁶ bu⁶⁷ aparat⁶⁸ su içeren⁶⁹, ⁷⁰bu bir yangına veya elektrik çarpmasına neden olabilir.⁷¹

*⁷² Bu cihazı yağmura maruz bırakmayın veya suya⁷³⁷⁴ (küvet, lavabo, mutfak lavabosu veya çamaşır küveti⁷⁵⁷⁶ yakınında⁷⁷, ıslak bir bodrumda⁷⁸ veya yüzme havuzunun yakınında⁷⁹ vb.⁸⁰) koymayın.⁸¹).⁸² Bu cihaz yanlışlıkla ıslanırsa, fişini çekin ve derhal yetkili bir satıcıya başvurun.

*⁸³ Bu cihaz pil kullanır. Topluluğunuzda, bu pilleri düzgün bir şekilde atmanızı gerektiren çevresel düzenlemeler olabilir. Lütfen atma ya da geri dönüştürme bilgileri için,⁸⁴ yerel yetkililerle temasa geçin.

*⁸⁵ Duvar prizlerini, uzatma kablolarını veya adaptörleri kapasitelerinin ötesine⁸⁶ aşırı yüklemeyin,⁸⁷ çünkü bu yangın veya elektrik çarpmasına neden olabilir.

*⁸⁸ Güç kaynağı kabloları, üzerine veya üzerine⁸⁹⁹⁰ yerleştirilen öğelerle⁹¹ yürümeyecek⁹²⁹³ veya sıkışmayacak şekilde yerleştirilmelidir. Fiş ucundaki kabloları, duvar prizlerine ve ⁹⁴cihazdan çıktıkları⁹⁵ yere özellikle dikkat edin.

*⁹⁶ Bu cihazı bir yıldırım fırtınasından korumak için veya gözetimsiz bırakıldığında ve uzun süre kullanılmadığında, ⁹⁷duvar prizinden çıkarın ve anten veya kablo

63 Accuracy-mechanical-punctuation (must be dash)

64 Fluency-grammar-missing word (nereye koymayın?)

65 Accuracy-mechanical-punctuation (no full-stop here in the ST)

66 Fluency-orthography-punctuation (this parenthesis does not have a corresponding one)

67 Fluency-orthography-capitalization (Bu)

68 Accuracy-mistranslation-WSD (bu aparatın üzerine)

69 Fluency-multiple (too many errors to correct on the TT, need to check the ST)

70 accuracy-omission (as)

71 Accuracy-mechanical-other (The sentence should be indented)

72 Accuracy-mechanical-other (should be a bullet point)

73 Fluency-grammar-missing word ("suya koymayın" would be too obvious. Something might be missing)

74 Accuracy-omission (near) (suya yakın bir yere)

75 Fluency-lexicon-lexical choice (does not exist)

76 Accuracy-mistranslation-WSD (çamaşır teknesi/evyesi)

77 Fluency-grammar-word form (yakınına)

78 Fluency-grammar-word form (bodruma)

79 Fluency-grammar-word form (yakınına)

80 Fluency-grammar-word order (yüzme havuzu vb. yakınına)

81 Fluency-orthography-punctuation (parenthesis is already closed)

82 Fluency-orthography-punctuation (extra full-point)

83 Accuracy-mechanical-other (should be a bullet point)

84 Fluency-orthography-punctuation (unnecessary comma)

85 Accuracy-mechanical-other (should be a bullet point)

86 Fluency-grammar-word form (ötesinde)

87 Fluency-orthography-punctuation (no need for a comma before a conjunction)

88 Accuracy-mechanical-other (should be a bullet point)

89 Fluency-grammar-extra word (repetition)

90 Accuracy-mistranslation-WSD (önüne)

91 Accuracy-mistranslation-other ("öğelerle" is wrong. Should be "üzerine basılmayacak şekilde", independent from "öğeler": Güç kaynağı kabloları, üzerine basılmayacak veya üzerine ve önüne yerleştirilen öğeler tarafınan sıkıştırılmayacak şekilde yerleştirilmelidir)

92 Fluency-other (cords walking with items is illogical)

93 Accuracy-mistranslation-WSD (basılmayacak)

94 Accuracy-omission ("they" is omitted)

95 Fluency-grammar-missing word (missing an object)

96 Accuracy-mechanical-other (should be a bullet point)

97 Fluency-grammar-missing word (fişini)

sisteminin bağlantısını kesin. Bu, Yıldırım⁹⁸ ve güç hattı dalgalanmaları nedeniyle setin hasar görmesini önleyecektir.

*⁹⁹ AC güç kablосunu DC adaptör prizine¹⁰⁰ bağlamadan önce, DC adaptörünün¹⁰¹ voltaj tanımının yerel elektrik kaynağına karşılık geldiğinden¹⁰² emin olun.

*¹⁰³ Bu cihazın açık kısımlarına asla metalik¹⁰⁴ bir şey sokmayın. Bu, elektrik çarpması tehlikesine neden olabilir.

1.3.1. Yandex Translate Analysis

Fluency Errors: 43

1. Grammar: 17
 - a. Multi-word Syntax: 0
 - b. Word Form: 8
 - c. Word Order: 1
 - d. Extra word: 2
 - e. Missing Word: 6
 - f. Other: 0
2. Lexicon: 11
 - a. Non-Existing: 0
 - b. Lexical Choice: 11
3. Orthography: 12
 - a. Spelling: 0
 - b. Capitalization: 5
 - c. Punctuation: 7
 - d. Other: 0
4. Multiple Errors: 2
5. Other:

Accuracy Errors: 61

1. Addition: 0
2. Omission: 4
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 20
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 17
 - d. Semantically Unrelated: 0
 - e. Other: 3
6. Mechanical: 35

⁹⁸ Accuracy-mechanical-capitalization (yıldırım)

⁹⁹ Accuracy-mechanical-other (should be a bullet point)

¹⁰⁰ Accuracy-mistranslation-WSD (çıkışına)

¹⁰¹ Fluency-grammar-word form (DC adaptörün)

¹⁰² Fluency-lexicon-lexical choice (uyumlu olduğundan)

¹⁰³ Accuracy-mechanical-other (should be a bullet point)

¹⁰⁴ Fluency-lexicon-lexical choice (metalik is a color, should be metal)

- a. Capitalization: 6
 - b. Punctuation: 3
 - c. Other: 26
- 7. Other: 2



1.4. BING TRANSLATOR

Uyarı! Önemli Güvenlik Talimatları¹

Tv'nizi² kullanmadan önce lütfen Güvenlik Talimatları'nı³ okuyun.

DİKKAT⁴⁵ Sınıf II ürün: Bu sembol⁶, elektrik toprağına (zemine⁷) bir güvenlik bağlantısının gerekli olmadığını gösterir.⁸

ELEKTRİK⁹ ÇARPMASI¹⁰ RISKİ¹¹. AÇMAYIN.¹²

DİKKAT: ELEKTRİK¹³ ÇARPMASI¹⁴ RISKİNİ¹⁵ AZALTMAK İÇİN¹⁶ KAPAĞI¹⁷

(VEYA SIRTİ¹⁸¹⁹²⁰) ÇIKARMAYIN²¹. İÇİNDE²² KULLANICI²³ TARAFINDAN²⁴

SERVİSE²⁵ ALINABİLEN²⁶²⁷²⁸ PARÇA YOK²⁹. TÜM SERVİSLERİ³⁰³¹

KALIFIYE³² PERSONELE YÖNLENDİRİN³³.

AC voltajı: Bu

sembolle³⁴ işaretlenmiş nominal voltaj AC voltajıdır.³⁵

¹ Accuracy-mechanical-other (Should be bold)

² Accuracy-mechanical-capitalization (TV)

³ Fluency-grammar-other (the apostrophe should be removed)

⁴ Fluency-Orthography-Capitalization (DİKKAT)

⁵ Accuracy-mechanical-other (should be bold)

⁶ Accuracy-mechanical-other (symbol is missing)

⁷ Accuracy-mistranslation-WSD (topraklama)

⁸ Accuracy-mechanical-other (this sentence should stand alone)

⁹ Fluency-Orthography-Spelling (diacritics, ELEKTRİK)

¹⁰ Fluency-Orthography-Capitalization (ÇARPMASI)

¹¹ Fluency-Orthography-Spelling (diacritics, RİSKİ)

¹² Accuracy-mechanical-other (should be bold and white on a black background)

¹³ Fluency-Orthography-Spelling (diacritics, ELEKTRİK)

¹⁴ Fluency-Orthography-Capitalization (ÇARPMASI)

¹⁵ Fluency-Orthography-Spelling (diacritics, RİSKİNİ)

¹⁶ Fluency-Orthography-Spelling (İÇİN)

¹⁷ Fluency-Orthography-Capitalization (KAPAĞI)

¹⁸ Fluency-Orthography-Capitalization (SIRTİ)

¹⁹ Fluency-Lexicon-Lexical Choice ("sirt" does not fit to the context)

²⁰ Accuracy-mistranslation-WSD (ARKA KISMI)

²¹ Fluency-Orthography-Capitalization (ÇIKARMAYIN)

²² Fluency-Orthography-Spelling (diacritics, İÇİNDE)

²³ Fluency-Orthography-Capitalization (KULLANICI)

²⁴ Fluency-Orthography-Capitalization (TARAFINDAN)

²⁵ Fluency-Orthography-Spelling (diacritics, SERVİSE)

²⁶ Fluency-Orthography-Capitalization (ALINABİLİR)

²⁷ Fluency-lexicon-lexical choice ("servise alınabilen" does not fit here)

²⁸ Accuracy-mistranslation-WSD (tamir edilebilecek/bakımı yapılabilir)

²⁹ Fluency-grammar-word form (yoktur)

³⁰ Fluency-Orthography-Spelling (diacritics, SERVİSLERİ)

³¹ Accuracy-mistranslation-WSD (bakım/tamir/servis işlemlerini)

³² Fluency-Orthography-Spelling (diacritics, KALİFİYE)

³³ Fluency-Orthography-Spelling (diacritics, YÖNLENDİRİN)

³⁴ Accuracy-mechanical-other (symbol is missing)

³⁵ Accuracy-mechanical-other (this sentence should stand alone)

Bu sembol^{36, 37} içinde³⁸ yüksek voltajın bulunduğunu gösterir. Bu ürünün herhangi bir iç kısmıyla³⁹ herhangi bir şekilde temas etmek tehlikelidir.

DC gerilimi⁴⁰: Bu sembolle⁴¹ işaretlenmiş nominal voltaj DC voltajıdır.⁴²

Bu sembol⁴³, bu ürünün işletme ve bakımla ilgili önemli literatürü^{44,45} içerdiğini gösterir. Dikkat. Kullanım talimatlarına başvurun: Bu sembol⁴⁶, kullanıcıya güvenlikle ilgili daha fazla bilgi için kullanım kılavuzuna başvurmaları söyler^{47, 48,49}.

- Kabindeki ve arka veya alttaki yuvalar ve açıklıklar^{50,51} gerekli havalandırma için sağlanmıştır. Bu cihazın güvenilir çalışmasını sağlamak ve ⁵²aşırı ısınmaya karşı korumak için, bu yuvalar ve açıklıklar^{53,54} asla engellenmemeli veya örtülmemelidir.
- Uygun havalandırma sağlanmadığı sürece bu cihazı kitaplık veya yerleşik^{55,56} dolap gibi kapalı bir alana yerleştirmeyin.⁵⁷
- Bu cihazı bir radyatörün veya ısı kütüğün^{58,59} yanına veya üzerine veya doğrudan güneş ışığına maruz kaldığı⁶⁰ yerlere yerleştirmeyin.⁶¹
- Yangın veya elektrik çarpmasına neden olabileceği için bu cihazın üzerine su içeren kaplar (vazolar vb.) yerleştirmeyin.⁶²
- Bu cihazı yağmura maruz bırakmayın veya suya yaklaştırmayın^{63,64} (küvet, lavabo, mutfak lavabosu veya çamaşır küveti^{65,66} yakınında⁶⁷, ıslak bir bodrum katında⁶⁸ veya

³⁶ Accuracy-mechanical-other (symbol is missing)

³⁷ Fluency-grammar-missing word (neyin içinde)

³⁸ Accuracy-mistranslation-other (cihazın içinde/içeride)

³⁹ Accuracy-mistranslation-WSD (iç parçasıyla)

⁴⁰ Fluency-lexicon-lexical choice (it was previously translated as “voltaj.” Different translations for the same term creates an inconsistency)

⁴¹ Accuracy-mechanical-other (symbol is missing)

⁴² Accuracy-mechanical-other (this sentence should stand alone)

⁴³ Accuracy-mechanical-other (symbol is missing)

⁴⁴ Fluency-lexicon-lexical choice (“literatür” does not fit here)

⁴⁵ Accuracy-mistranslation-WSD (bilgiler)

⁴⁶ Accuracy-mechanical-other (symbol is missing)

⁴⁷ Fluency-lexicon-lexical choice (önerir)

⁴⁸ Accuracy-mechanical-other (this sentence should stand alone)

⁴⁹ Accuracy-mechanical-other (table is missing)

⁵⁰ Fluency-lexicon-lexical choice (“açıklık” does not fit here)

⁵¹ Accuracy-mistranslation-WSD (delikler)

⁵² Fluency-grammar-missing word (subject-verb disagreement, “*cihazı* aşırı ısınmaya karşı korumak için [...]”)

⁵³ Fluency-lexicon-lexical choice (“açıklık” does not fit here)

⁵⁴ Accuracy-mistranslation-WSD (delikler)

⁵⁵ Fluency-lexicon-lexical choice (there is no such thing as “yerleşik dolap”)

⁵⁶ Accuracy-mistranslation-WSD (gömme)

⁵⁷ Accuracy-mechanical-other (The sentence should be indented)

⁵⁸ Fluency-lexicon-lexical choice (ısı kütüğü is not a thing)

⁵⁹ Accuracy-mistranslation-WSD (kalorifer ızgarası)

⁶⁰ Fluency-grammar-word form (kalacağı)

⁶¹ Accuracy-mechanical-other (The sentence should be indented)

⁶² Accuracy-mechanical-other (The sentence should be indented)

⁶³ Fluency-orthography-spelling (yaklaştırmayın)

⁶⁴ Accuracy-mistranslation-WSD (yakınına yerleştirmeyin)

⁶⁵ Fluency-lexicon-lexical choice (does not exist)

⁶⁶ Accuracy-mistranslation-WSD (çamaşır teknesi/evyesi)

⁶⁷ Fluency-grammar-word form (yakınına)

⁶⁸ Fluency-grammar-word form (katına)

yüzme havuzunun yakınında⁶⁹ vb.). Bu cihaz yanlışlıkla ıslanırsa fişini çekin ve derhal yetkili bir satıcıya başvurun.

- Bu cihaz pil kullanır. Topluluğunuzda, bu pilleri düzgün bir şekilde atmanızı gerektiren çevresel düzenlemeler⁷⁰ olabilir. Bertaraf⁷¹ veya geri dönüşüm bilgileri için lütfen yerel yetkililerinizle iletişime geçin.
- Duvar prizlerini, uzatma kablolarını veya adaptörleri kapasitelerinin üzerinde aşırı yüklemeyin,⁷² çünkü bu⁷³ yangına veya elektrik çarpmasına neden olabilir.
- Güç kaynağı kabloları, üzerlerine⁷⁴ veya üzerlerine⁷⁵ yerleştirilen eşyalar tarafından sıkıştırılmaları⁷⁷ veya sıkıştırılmaları⁷⁸ muhtemel olmayacak şekilde yerleştirilmelidir⁷⁹. Fiş ucundaki, duvar prizlerindeki ve cihazdan çıktıkları noktadaki kablolarla özellikle dikkat edin.
- Bu cihazı yıldırım fırtınasından korumak için veya uzun süre sahipsiz⁸⁰ ve kullanılmadığında⁸², ⁸³ duvar prizinden çıkarın ve anten veya kablo sistemini çıkarın⁸⁴. Bu, yıldırım ve elektrik hattı dalgalanmaları nedeniyle setin hasar görmesini önleyecektir.
- AC güç kablosunu DC adaptör çıkışına bağlamadan önce, DC adaptörün voltaj atamasının⁸⁵ yerel elektrik kaynağına karşılık geldiğine⁸⁷ emin olun.
- Bu cihazın açık kısımlarına asla metalik⁸⁸ bir şey takmayın⁸⁹. Bu, elektrik çarpması tehlikesine neden olabilir.

1.4.1. Bing Translator Analysis

Fluency Errors: 50

1. Grammar: 13

⁶⁹ Fluency-grammar-word form (yakınına)

⁷⁰ Accuracy-mistranslation-WSD (yönetmelikler)

⁷¹ Fluency-lexicon-lexical choice (atma)

⁷² Fluency-orthography-punctuation (no need for a comma before a conjunction)

⁷³ Fluency-orthography-punctuation (here, it means “it can cause this fire” but it should be “this can cause a fire.” Therefore we either need a comma after “bu”)

⁷⁴ Fluency-grammar-word form (üzerine)

⁷⁵ Fluency-grammar-extra word (repetition)

⁷⁶ Accuracy-mistranslation-WSD (üzerine ya da önüne yerleştirilen)

⁷⁷ Accuracy-mistranslation-SU (walked on-üzerine basılmayacak şekilde, should be after “güç kabloları”)

⁷⁸ Fluency-grammar-extra word (repetition)

⁷⁹ Accuracy-other (the sentence must be restated: “Güç kaynağı kabloları, üzerine basılmayacak veya üzerine ya da önüne yerleştirilen eşyalar tarafından sıkıştırılmaları muhtemel olmayacak şekilde yerleştirilmelidir.”)

⁸⁰ Fluency-lexicon-lexical choice (leaving a TV “sahipsiz” is irrelevant, need to check the ST)

⁸¹ Accuracy-mistranslation-WSD (gözetimsiz bırakıldığında)

⁸² Fluency-grammar-missing word (Subject-verb disagreement: veya cihaz uzun süre gözetimsiz bırakıldığında ve kullanılmadığında [...])

⁸³ Fluency-grammar-missing word (fişini duvar prizinden çıkarın)

⁸⁴ Accuracy-mistranslation-WSD (should be translated as “bağlantısını kesin.” Otherwise, it creates a repetition)

⁸⁵ Fluency-lexicon-lexical choice (“ataması” is wrong)

⁸⁶ Accuracy-mistranslation-WSD (tanımının)

⁸⁷ Fluency-lexicon-lexical choice (kaynağı ile uyumlu olduğundan)

⁸⁸ Fluency-lexicon-lexical choice (metalik is a color, should be metal)

⁸⁹ Accuracy-mistranslation-WSD (sokmayın)

- a. Multi-word Syntax: 0
 - b. Word Form: 6
 - c. Word Order: 0
 - d. Extra word: 2
 - e. Missing Word: 4
 - f. Other: 1
- 2. Lexicon: 15
 - a. Non-Existing: 0
 - b. Lexical Choice: 15
- 3. Orthography: 22
 - a. Spelling: 11
 - b. Capitalization: 9
 - c. Punctuation: 2
 - d. Other: 0
- 4. Multiple Errors: 0
- 5. Other: 0

Accuracy Errors: 39

- 1. Addition: 0
- 2. Omission: 0
- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 20
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 18
 - d. Semantically Unrelated: 1
 - e. Other: 1
- 6. Mechanical: 18
 - a. Capitalization: 1
 - b. Punctuation: 0
 - c. Other: 17
- 7. Other: 1

1.5. WATSON TRANSLATE

Uyarı! Önemli Güvenlik Yönergeleri^{1, 2} lütfen TV^{4,5} nizi kullanmadan önce Güvenlik Yönergeleri⁶ni okuyun.
DİKKAT^{7,8} Class^{9,10} II ürünü: Bu simge¹¹, elektrik dünyasıyla^{12,13} (topraklı¹⁴) bir güvenlik bağlantısının gerekli olmadığını gösterir.¹⁵
ELEKTRİK¹⁶ ŞOKU¹⁷ RİSKİ¹⁸ VAR. AÇIKLAMAYIN^{19,20,21,22}. DİKKAT²³:
ELEKTRİK²⁴ ŞOKU²⁵ RİSKİNİ²⁶ AZALTMAK İÇİN^{27,28} KAPAĞI²⁹
ÇIKARMAYIN³⁰ (YA DA GERİ^{31,32}). İÇİNDE^{33,34} KULLANICI³⁵ HİZMET³⁶

-
- ¹ Accuracy-mechanical-other (should be bold)
² Accuracy-mechanical-punctuation (no comma here)
³ Accuracy-mechanical-other (should begin as another sentence)
⁴ Fluency-orthography-punctuation (there should be no space)
⁵ Fluency-orthography-punctuation (there should be no space)
⁶ Fluency-orthography-punctuation (there should be no space)
⁷ Fluency-orthography-spelling (diacritics, should be DİKKAT)
⁸ Accuracy-mechanical-other (should be bold)
⁹ Fluency-lexicon-Foreign word
¹⁰ Accuracy-untranslated
¹¹ Accuracy-mechanical-other (symbol is missing)
¹² Fluency-lexicon-lexical choice (senseless)
¹³ accuracy-mistranslation-WSD (toprağına)
¹⁴ Accuracy-mistranslation-WSD (topraklama)
¹⁵ Accuracy-mechanical-other (this sentence should stand alone)
¹⁶ Fluency-orthography-spelling (diacritics, should be ELEKTRİK)
¹⁷ Accuracy-mechanical-capitalization (ŞOKU)
¹⁸ Fluency-orthography-spelling (diacritics, should be RİSKİ)
¹⁹ Fluency-lexicon-lexical choice (does not fit here, do not explain what?)
²⁰ Accuracy-mistranslation-SU (must be AÇMAYIN)
²¹ Accuracy-Mechanical-capitalization (should be written in all caps)
²² Accuracy-mechanical-other (should be bold, White on a black background)
²³ Fluency-orthography-spelling (diacritics, should be DİKKAT)
²⁴ Fluency-orthography-spelling (diacritics, should be ELEKTRİK)
²⁵ Accuracy-mechanical-capitalization
²⁶ Fluency-orthography-spelling (should be RİSKİNİ)
²⁷ Fluency-orthography-spelling (should be İÇİN)
²⁸ Accuracy-mechanical-capitalization (written in all caps)
²⁹ Accuracy-mechanical-capitalization (written in all caps)
³⁰ Accuracy-mechanical-capitalization (written in all caps)
³¹ Fluency-grammar-other (seems irrelevant)
³² Accuracy-mistranslation-WSD (ARKA KISMI)
³³ Fluency-orthography-spelling (diacritics, should be İÇİNDE)
³⁴ Accuracy-mechanical-capitalization (written in all caps)
³⁵ Accuracy-mechanical-capitalization (written in all caps)
³⁶ Fluency-orthography-spelling (should be HİZMET)

VERİLEBİLİR³⁷³⁸ PARÇA³⁹⁴⁰⁴¹ TüM⁴² BAKıM^{4344 45}PERSONELİNE⁴⁶
BAKıN⁴⁷⁴⁸⁴⁹⁵⁰. AC voltajı: Bu simgesiyle⁵¹⁵² işaretlenen Red⁵³⁵⁴
voltaj, AC voltajıdır.⁵⁵

Bu simge^{56, 57} içinde⁵⁸ yüksek voltajın olduğunu gösterir. Bu ürünün herhangi
bir iç bölüşüyle⁵⁹⁶⁰ herhangi bir şekilde iletişim kurmak⁶¹⁶² tehlikelidir.

DC voltajı: Bu simgesiyle⁶³⁶⁴ işaretli olan voltaj işaretli voltaj⁶⁵⁶⁶ DC
voltajıdır.⁶⁷

Bu sembol⁶⁸⁶⁹, bu ürünün operasyon⁷⁰ ve bakımla ilgili önemli bir
literatüre⁷¹⁷² sahip olduğunu⁷³ gösterir. Dikkat. Kullanım⁷⁴ için bkz.⁷⁵

³⁷ Fluency-orthography-spelling (should be VERİLEBİLİR)

³⁸ Accuracy-mistranslation-WSD (tamir edebileceği)

³⁹ Accuracy-mechanical-capitalization

⁴⁰ Accuracy-omission ("no" is missing)

⁴¹ Accuracy-mechanical-punctuation (a dot is missing)

⁴² Accuracy-mechanical-capitalization (TÜM)

⁴³ Accuracy-mechanical-capitalization (BAKIM)

⁴⁴ accuracy-mistranslation-other (bakım/tamir işlemlerini)

⁴⁵ Accuracy-omission ("qualified" is omitted)

⁴⁶ Fluency-orthography-spelling (diacritics, should be PERSONELİNE)

⁴⁷ Fluency-multiple errors (this sentence contains too many errors to fix on the TT level)

⁴⁸ Accuracy-mechanical-capitalization (BAKIN)

⁴⁹ Accuracy-mistranslation-WSD (bırakın/... için... başvurun)

⁵⁰ Accuracy-OTHER (The sentence must be restated: İÇERİSİNDE KULLANICININ BAKIMINI YAPABİLECEĞİ PARÇA YOKTUR. TÜM BAKIM İŞLEMLERİ İÇİN KALİFİYE PERSONELE BAŞVURUN)

⁵¹ Accuracy-mechanical-other (symbol is missing)

⁵² Fluency-grammar-word form (simgeyle)

⁵³ Fluency-lexicon-lexical choice (does not fit here)

⁵⁴ Accuracy-mistranslation-SU (nominal)

⁵⁵ Accuracy-mechanical-other (this sentence should stand alone)

⁵⁶ Accuracy-mechanical-other (symbol is missing)

⁵⁷ Fluency-grammar-missing word (neyin içinde)

⁵⁸ Accuracy-mistranslation-other (cihazın içinde/içeride)

⁵⁹ Fluency-lexicon-lexical choice (does not fit here)

⁶⁰ Accuracy-mistranslation-SU (iç parçasıyla)

⁶¹ Fluency-lexicon-lexical choice (irrelevant)

⁶² Accuracy-mistranslation-WSD (temas etmek)

⁶³ Fluency-grammar-word form (simgeyle)

⁶⁴ Accuracy-mechanical-other (symbol is missing)

⁶⁵ Fluency-grammar-extra word (repetition)

⁶⁶ Accuracy-addition

⁶⁷ Accuracy-mechanical-other (this sentence should stand alone)

⁶⁸ Accuracy-mechanical-other (symbol is missing)

⁶⁹ Accuracy-mistranslation-other (previously translated as "simge," creates inconsistency)

⁷⁰ Accuracy-mistranslation-WSD (çalışma)

⁷¹ Fluency-lexicon-lexical choice

⁷² Accuracy-mistranslation-WSD (bilgiler)

⁷³ Accuracy-mistranslation-WSD (içerdiğini)

⁷⁴ Accuracy-addition

⁷⁵ Accuracy-mistranslation-SU (başvurun)

kullanım yönergeleri⁷⁶: Bu simge, kullanıcının daha fazla⁷⁷ güvenlikle ilgili bilgi için kullanıcı kılavuzuna danışmasını bildirir.⁷⁸

⁷⁹Kabindeki ve arka ya da altta bulunan yuvalar ve açıklıklar⁸⁰⁸¹, gerekli havalandırma için sağlanır⁸². Bu aygıtın güvenilir çalışmasını sağlamak ve bunu⁸³⁸⁴ aşırı ısınmaktan korumak için bu yuvalar ve açıklıkların⁸⁵⁸⁶ hiçbir zaman engellenmiş ya da örtülü olması⁸⁷ gerekir⁸⁸.

-Bu aygıtı, uygun havalandırma sağlanmıyorsa, kitaplık ya da yerleşik⁸⁹⁹⁰ dolap gibi kapalı bir alana yerleştirmeyin.⁹¹

-Bu aygıtı radyatörden⁹² ya da ısı kaydına⁹³⁹⁴ yakın bir yere⁹⁵ yerleştirmeyin, ya da doğrudan güneş ışımına⁹⁶⁹⁷ maruz kaldığı^{98 99} yere koymayın.¹⁰⁰

-Bu aparata su içeren damarları¹⁰¹¹⁰² (vazolar vb.) yerleştirmeyin, bunun sonucunda¹⁰³ yangın ya da elektrik çarpması sonucu ortaya çıkan bir¹⁰⁴ elektrik çarpmasına¹⁰⁵ neden olabilir.¹⁰⁶

¹⁰⁷Bu aygıtı yağmura maruz bırakmayın ya da suya yakın bir yere (kület, washbowl¹⁰⁸¹⁰⁹, mutfak lavabosu ya da çamaşır küveti¹¹⁰¹¹¹, ıslak bir bodrumda ya da

⁷⁶ Accuracy-other (restated: Kullanım yönergelerine başvurun)

⁷⁷ Fluency-grammar-word order (“daha fazla” should modify “bilgi”: [...] kullanıcının güvenlikle ilgili daha fazla bilgi için [...])

⁷⁸ Accuracy-mechanical-other (Starting from “Dikkat,” this paragraph should stand alone)

⁷⁹ Accuracy-mechanical-other (bullet point is missing)

⁸⁰ Fluency-lexicon-lexical choice (“açıklık” does not fit here)

⁸¹ Accuracy-mistranslation-WSD (delikler would be better)

⁸² Fluency-grammar-word form (sağlanmıştır)

⁸³ Fluency-lexicon-lexical choice (should be “onu” or “aygıtı”)

⁸⁴ Accuracy-mistranslation-WSD (onu)

⁸⁵ Fluency-lexicon-lexical choice (“açıklık” does not fit here)

⁸⁶ Accuracy-mistranslation-WSD (delikler would be better)

⁸⁷ Accuracy-mistranslation-other (must be negative, olmaması)

⁸⁸ Fluency-grammar-other (negative adverb-olumlu yüklem uyumsuzluğu)

⁸⁹ Fluency-lexicon-lexical choice (there is no such thing as “yerleşik dolap”)

⁹⁰ Accuracy-mistranslation-WSD (gömmе dolap)

⁹¹ Accuracy-mechanical-other (The sentence should be indented)

⁹² Fluency-grammar-word form (radyatöre)

⁹³ Fluency-lexicon-lexical choice (ısı kaydı sounds meaningless)

⁹⁴ Accuracy-mistranslation-WSD (kalorifer ızgarası)

⁹⁵ Accuracy-omission (“over” is omitted, ya da üzerine)

⁹⁶ Fluency-lexicon-non-existing word

⁹⁷ Accuracy-mistranslation-SU (ışınına)

⁹⁸ Fluency-grammar-word form (kalacağı)

⁹⁹ Fluency-grammar-missing word (*bir* yere)

¹⁰⁰ Accuracy-mechanical-other (The sentence should be indented)

¹⁰¹ Fluency-lexicon-lexical choice (out of context)

¹⁰² Accuracy-mistranslation-WSD (kapları)

¹⁰³ Accuracy-addition (“can result in” is already translated at the end of sentence as “neden olabilir”)

¹⁰⁴ Accuracy-addition (“elektrik çarpması sonucu ortaya çıkan bir” is addition)

¹⁰⁵ Fluency-grammar-extra words (repetition)

¹⁰⁶ Accuracy-mechanical-other (The sentence should be indented)

¹⁰⁷ Accuracy-mechanical-other (there should be a bullet point)

¹⁰⁸ Fluency-lexicon-foreign word

¹⁰⁹ Accuracy-untranslated

¹¹⁰ Fluency-lexicon-lexical choice (does not exist)

¹¹¹ Accuracy-mistranslation-WSD (çamaşır teknesi/evyesi)

bir yüzme havuzunun yakınında,¹¹² vb.) bırakmayın. Eğer bu cihaz kazayla ıslanırsa, fişini çeksin¹¹³¹¹⁴ ve yetkili bir satıcıyla hemen iletişime geçsin¹¹⁵¹¹⁶.

¹¹⁷Bu cihaz pilleri¹¹⁸ kullanıyor. Topluluğunuzda, bu pilleri düzgün bir şekilde atmanızı gerektiren çevre düzenlemeleri olabilir. Atık ya da geri dönüşüm bilgileri için yerel yetkililerinizle iletişim kurun.

¹¹⁹Bu durum yangına ya da elektrik çarpmasına neden olduğundan¹²⁰, duvar prizlerini, uzatma kablolarını ya da uyarlayıcıları¹²¹¹²² kapasitelerinin dışına¹²³ aşırı yüklemeyin.

¹²⁴Güç kaynağı kabloları yerleştirilmelidir¹²⁵¹²⁶; böylece, üzerlerine¹²⁷ yerleştirilen ya da bu kabloların¹²⁸ üzerine yerleştirilen¹²⁹¹³⁰ öğeler tarafından sıkıştırılmazlar ya da pemplenmemelidir¹³¹¹³²¹³³¹³⁴. Fiş uçta¹³⁵¹³⁶, duvar prizlerinde ve aygıttan çıktıkları noktada kablolarla özellikle dikkat edin.

¹³⁷Bu aygıtı yıldırım fırtınasından korumak için ya da gözetimsiz¹³⁸¹³⁹ ve uzun süre kullanılmadığında, bunu¹⁴⁰¹⁴¹ duvar prizinden çıkarın ve anten ya da kablo sistemini sökün¹⁴². bu¹⁴³ durum, yıldırım ve güç hattı surları¹⁴⁴¹⁴⁵ nedeniyle sette hasar oluşmasını önleyecektir.

¹¹² Fluency-orthography-punctuation (unnecessary comma)

¹¹³ Fluency-grammar-word form (çekin)

¹¹⁴ Accuracy-mistranslation-other (wrong subject)

¹¹⁵ Fluency-grammar-word form (geçin)

¹¹⁶ Accuracy-mistranslation-other (wrong subject)

¹¹⁷ Accuracy-mechanical-other (there should be a bullet point)

¹¹⁸ Fluency-grammar-word form (pil)

¹¹⁹ Accuracy-mechanical-other (there should be a bullet point)

¹²⁰ Accuracy-omission (the modal “can” is omitted, therefore the verb is mistranslated)

¹²¹ Fluency-lexicon-lexical choice (out of context)

¹²² Accuracy-mistranslation-WSD (adaptörleri)

¹²³ Fluency-lexicon-lexical choice (üzerinde/ötesinde)

¹²⁴ Accuracy-mechanical-other (there should be a bullet point)

¹²⁵ Fluency-grammar-missing word (nasıl? nereye?)

¹²⁶ Accuracy-other (this part is translated without considering the rest of the sentence)

¹²⁷ Fluency-grammar-word form (üzerine)

¹²⁸ Accuracy-addition

¹²⁹ Fluency-grammar-extra word (repetition)

¹³⁰ Accuracy-addition

¹³¹ Fluency-lexicon-non-existing word

¹³² Accuracy-mistranslation-other (no such word)

¹³³ Accuracy-omission (be walked on is omitted)

¹³⁴ Accuracy-other (This sentence must be restated: Güç kaynağı kabloları üzerine basılmayacak veya üzerine ya da önüne yerleştirilen nesnelerle sıkıştırılmayacak şekilde yerleştirilmelidir.)

¹³⁵ Fluency-grammar-word form (ucunda)

¹³⁶ Accuracy-mistranslation-WSD

¹³⁷ Accuracy-mechanical-other (there should be a bullet point)

¹³⁸ Fluency-grammar-missing word (gözetimsiz kaldığında)

¹³⁹ Accuracy-omission (“left” is omitted)

¹⁴⁰ Fluency-lexicon-lexical choice (cihazı)

¹⁴¹ Accuracy-mistranslation-WSD (pronoun “it” is translated as if “this”)

¹⁴² Fluency-lexicon-lexical choice (bağlantısını kesin)

¹⁴³ Fluency-orthography-capitalization (Bu)

¹⁴⁴ Fluency-lexicon-lexical choice (off the context)

¹⁴⁵ Accuracy-mistranslation-SU (should be dalgalanmaları)

¹⁴⁶AC güç kablosunu DC bağdaştırıcısı¹⁴⁷ prizine bağlamadan önce, DC bağdaştırıcısının voltaj belirtiminin¹⁴⁸¹⁴⁹ yerel elektrik kaynağına karşılık geldiğinden¹⁵⁰ emin olun.

Bu aygıtın açık kısımlarına metalik¹⁵¹ bir şey asla sokmayın. Bu, elektrik çarpması tehlikesinin oluşmasına neden olabilir.

1.5.1. Analysis of Watson Translator

Fluency Errors: 62

1. Grammar: 20
 - a. Multi-word Syntax: 0
 - b. Word Form: 10
 - c. Word Order: 1
 - d. Extra word: 3
 - e. Missing Word: 4
 - f. Other: 2
2. Lexicon: 25
 - a. Non-Existing: 4
 - b. Lexical Choice: 21
3. Orthography: 16
 - a. Spelling: 11
 - b. Capitalization: 1
 - c. Punctuation: 4
 - d. Other: 0
4. Multiple Errors: 1
5. Other: 0

Accuracy Errors: 89

1. Addition: 6
2. Omission: 6
3. Untranslated: 2
4. DNT: 0
5. Mistranslation: 34
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 21
 - d. Semantically Unrelated: 6
 - e. Other: 7

¹⁴⁶ Accuracy-mechanical-other (there should be a bullet point)

¹⁴⁷ accuracy-mistranslation-WSD (adaptörü)

¹⁴⁸ Fluency-lexicon-lexical choice (does not fit here)

¹⁴⁹ Accuracy-mistranslation-WSD (tanımının)

¹⁵⁰ Fluency-lexicon-lexical choice (kaynağı ile uyumlu olduğundan)

¹⁵¹ Fluency-lexicon-lexical choice (metalik is a color, should be metal)

- 6. Mechanical: 37
 - a. Capitalization: 12
 - b. Punctuation: 2
 - c. Other: 23

7. Other: 4

1.6. OVERALL ANALYSIS OF THE TECHNICAL TEXT

Fluency Errors: 215

- 1. Grammar: 73
 - a. Multi-word Syntax: 0
 - b. Word Form: 37
 - c. Word Order: 4
 - d. Extra word: 11
 - e. Missing Word: 18
 - f. Other: 3
- 2. Lexicon: 69
 - a. Non-Existing: 4
 - b. Lexical Choice: 65
- 3. Orthography: 68
 - a. Spelling: 33
 - b. Capitalization: 21
 - c. Punctuation: 14
 - d. Other: 0
- 4. Multiple Errors: 4
- 5. Other: 1

Accuracy Errors: 258

- 1. Addition: 6
- 2. Omission: 13
- 3. Untranslated: 2
- 4. DNT: 0
- 5. Mistranslation: 103
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 78
 - d. Semantically Unrelated: 7
 - e. Other: 18
- 6. Mechanical: 123
 - a. Capitalization: 22
 - b. Punctuation: 5
 - c. Other: 96
- 7. Other: 11

Appendix II: First Legal Text NMT Test Error Annotation

2. SOURCE TEXT

Staff Regulations of the United Nations

Scope and purpose

The Staff Regulations embody the fundamental conditions of service and the basic rights, duties and obligations of the United Nations Secretariat. They represent the broad principles of human resources policy for the staffing and administration of the Secretariat. For the purposes of these Regulations, the expressions “United Nations Secretariat”, “staff members” or “staff” shall refer to all the staff members of the Secretariat, within the meaning of Article 97 of the Charter of the United Nations, whose employment and contractual relationship are defined by a letter of appointment subject to regulations promulgated by the General Assembly pursuant to Article 101, paragraph 1, of the Charter. The Secretary-General, as the chief administrative officer, shall provide and enforce such staff rules consistent with these principles as he or she considers necessary.

Article I

Duties, obligations and privileges

Regulation 1.1

Status of staff

(a) Staff members are international civil servants. Their responsibilities as staff members are not national but exclusively international;

(b) Staff members shall make the following written declaration witnessed by the Secretary-General or his or her authorized representative:

“I solemnly declare and promise to exercise in all loyalty, discretion and conscience the functions entrusted to me as an international civil servant of the United Nations, to discharge these functions and regulate my conduct with the interests of the United Nations only in view, and not to seek or accept instructions in regard to the performance of my duties from any Government or other source external to the Organization.

“I also solemnly declare and promise to respect the obligations incumbent upon me as set out in the Staff Regulations and Rules.”

(c) The Secretary-General shall ensure that the rights and duties of staff members, as set out in the Charter and the Staff Regulations and Rules and in the relevant resolutions and decisions of the General Assembly, are respected;

(d) The Secretary-General shall seek to ensure that the paramount consideration in the determination of the conditions of service shall be the necessity of securing staff of the highest standards of efficiency, competence and integrity;

(e) The Staff Regulations apply to all staff at all levels, including staff of the separately funded organs, holding appointments under the Staff Rules;

(f) The privileges and immunities enjoyed by the United Nations by virtue of Article 105 of the Charter are conferred in the interests of the Organization. These privileges and immunities furnish no excuse to the staff members who are covered by them to fail to observe laws and police regulations of the State in which they are located, nor do they furnish an excuse for non-performance of their private obligations. In any case where an issue arises regarding the application of these privileges and immunities, the staff member shall immediately report the matter to the Secretary-General, who alone may decide whether such privileges and immunities exist and whether they shall be waived in accordance with the relevant instruments.

2.1. GOOGLE TRANSLATE

Birleşmiş Milletler Personel Yönetmeliği¹

Kapsam ve amaç²

³Personel Yönetmeliği, hizmetin temel koşullarını ve Birleşmiş Milletler Sekreterliği'nin⁴ temel hak, görev ve yükümlülüklerini kapsar. Sekreterliğin personel alımı ve yönetimi için insan kaynakları politikasının geniş ilkelerini temsil ederler⁵. Bu Tüzüğün amaçları doğrultusunda, "Birleşmiş Milletler

¹ Accuracy-mechanical-other (should be bold)

² Accuracy-mechanical-other (should be bold and indented)

³ Accuracy-mechanical-other (should be indented)

⁴ Fluency-orthography-punctuation (apostrophe should be removed)

⁵ Fluency-grammar-word form (temsil eder)

Sekreterliği", "personel"⁶ veya "personel"⁷ ifadeleri, Birleşmiş Milletler Şartı'nın 97. Maddesi⁸ anlamında Sekreterliğin tüm personelini ifade eder.⁹ ¹⁰¹¹ve¹²¹³ sözleşme ilişkisi¹⁴, Şart'ın 101. maddesinin 1. fıkrası uyarınca Genel Kurul tarafından çıkarılan düzenlemelere¹⁵ tabi olarak bir atama mektubu ile tanımlanır. Genel Sekreter, idari baş görevli sıfatıyla, gerekli gördüğü takdirde, bu ilkelere uygun kadro kurallarını sağlar ve uygular.¹⁶

Madde I¹⁷

Görevler, yükümlülükler ve ayrıcalıklar¹⁸

Yönetmelik 1.1¹⁹

Personel²⁰ durumu²¹

²²(a) Personel, uluslararası memurlardır²³. Personel olarak sorumlulukları ulusal değil, münhasıran uluslararasıdır;

²⁴(b) Personel üyeleri²⁵, Genel Sekreter veya yetkili temsilcisinin şahitliğinde aşağıdaki yazılı beyanı yapacaklardır²⁶:

²⁷“Birleşmiş Milletlerin uluslararası bir memuru olarak bana emanet edilen görevleri tüm sadakat, sağduyu ve vicdanla yerine getireceğimi, bu işlevleri yerine getireceğimi²⁸²⁹ ve davranışlarımı yalnızca Birleşmiş Milletlerin

⁶ Accuracy-mistranslation-other (both “staff members” and “staff” can be translated as “personel” but it creates repetition. Therefore one of them can be omitted or translated as “eleman” or “çalışan” throughout the text)

⁷ Fluency-grammar-extra word (repetition)

⁸ Fluency-orthography-capitalization (maddesi)

⁹ Accuracy-mechanical-punctuation (no full-point here in the ST)

¹⁰ Accuracy-omission (whose)

¹¹ Accuracy-omission (employment)

¹² Fluency-orthography-capitalization

¹³ Fluency-grammar-other (Türkçede cümleler “ve” ile başlamaz)

¹⁴ Fluency-grammar-missing word (kimin sözleşme ilişkisi)

¹⁵ Accuracy-mistranslation-WSD (yönetmeliklere)

¹⁶ Accuracy-mechanical-other (paragraph format: the whole should be indented from both sides and justified)

¹⁷ Accuracy-mechanical-other (should be bold)

¹⁸ Accuracy-mechanical-other (should be bold)

¹⁹ Accuracy-mechanical-other (should be bold and indented)

²⁰ Accuracy-omission (of is omitted therefore the TT means something else)

²¹ Accuracy-mechanical-other (should be bold indented)

²² Accuracy-mechanical-other (should be indented)

²³ Fluency-grammar-word form (memurdur-topluluk isimleri özneyse yüklem tekil olur)

²⁴ Accuracy-mechanical-other (should be indented)

²⁵ Fluency-lexicon-lexical choice (should be only “personel”)

²⁶ Fluency-grammar-word form (yapacaktır)

²⁷ Accuracy-mechanical-other (should be indented)

²⁸ Fluency-grammar-extra word (creates a repetition)

²⁹ Accuracy-mistranslation-other (“bu işlevleri yerine getireceğimi” should also be modulated by “yalnızca Birleşmiş Milletlerin çıkarları doğrultusunda”)

çıkarları doğrultusunda düzenleyeceğimi beyan ve taahhüt ederim³⁰ ve Görevlerimin³¹ yerine getirilmesiyle ilgili olarak herhangi bir Hükümetten veya Örgüt dışındaki başka bir kaynaktan talimat istememek³² veya kabul etmemek³³³⁴

³⁵“Ayrıca, Personel Yönetmeliği ve Kurallarında³⁶ belirtilen üzerime düşen yükümlülükler uyacağımı da ciddiyetle³⁷³⁸ beyan ve taahhüt ederim.”

³⁹(c) Genel Sekreter, Tüzükte⁴⁰ ve⁴¹ Personel Tüzüğü⁴² ve Kurallarında⁴³ ve Genel Kurulun ilgili karar ve kararlarında⁴⁴⁴⁵ belirtilen personel üyelerinin⁴⁶ hak ve görevlerine uyulmasını sağlar;

⁴⁷(d) Genel Sekreter, hizmet koşullarının belirlenmesinde en önemli hususun, personelin en yüksek verimlilik, yeterlilik ve dürüstlük standartlarına sahip olmasının gerekliliği olmasını sağlamaya çalışacaktır⁴⁸;

⁴⁹(e) Personel Yönetmeliği, ayrı olarak finanse edilen organların personeli de dahil⁵⁰ olmak üzere, Personel Kurallarına göre atama yapan⁵¹ tüm seviyelerdeki tüm personel için geçerlidir;

⁵²(f) Birleşmiş Milletler tarafından Şart'ın 105. Maddesi⁵³ uyarınca yararlanılan ayrıcalıklar ve dokunulmazlıklar, Örgüt'ün⁵⁴ çıkarları için verilmiştir. Bu ayrıcalık ve dokunulmazlıklar, kapsamına giren personele, bulundukları Devletin kanunlarına ve polis düzenlemelerine⁵⁵ uymamaları için bir mazeret oluşturmaz ve özel yükümlülüklerini yerine getirmemeleri için bir mazeret oluşturmaz. Bu ayrıcalık ve dokunulmazlıkların uygulanmasına ilişkin herhangi bir sorun ortaya çıktığı takdirde, personel,⁵⁶

³⁰ Accuracy-other (“beyan ve taahhüt ederim” should be at the end of the sentence)

³¹ Accuracy-mechanical-capitalization (görevlerimin)

³² Fluency-grammar-word form (istemeyeceğimi)

³³ Fluency-grammar-word form (kabul etmeyeceğimi)

³⁴ Fluency-grammar-word order (beyan ve taahhüt ederim en sonda olmalı)

³⁵ Accuracy-mechanical-other (should be indented)

³⁶ Fluency-orthography-punctuation (Kuralları'nda)

³⁷ Fluency-lexicon-lexical choice (ciddiyetle sounds odd, unnecessary)

³⁸ Accuracy-mistranslation-other (should be omitted)

³⁹ Accuracy-mechanical-other (should be indented)

⁴⁰ Accuracy-mistranslation-WSD (BM Şartı'nda)

⁴¹ Fluency-other (too many use of “ve”)

⁴² Accuracy-mistranslation-WSD (Title of this document is “Staff Regulations” and it is previously translated as “Personel Yönetmeliği”. Therefore, using “tüzük” for “regulations” creates inconsistency.)

⁴³ Fluency-orthography-punctuation (Kuralları'nda)

⁴⁴ Fluency-lexicon-lexical choice (repetition)

⁴⁵ Accuracy-mistranslation-WSD (karar ve hükümlerinde)

⁴⁶ Fluency-lexicon-lexical choice (personelin)

⁴⁷ Accuracy-mechanical-other (should be indented)

⁴⁸ Fluency-other (cümlede genel bir akıcılık sorunu var)

⁴⁹ Accuracy-mechanical-other (should be indented)

⁵⁰ Fluency-orthography-spelling-diacritics (dâhil)

⁵¹ Fluency-grammar-word form (yapılan)

⁵² Accuracy-mechanical-other (should be indented)

⁵³ Fluency-orthography-capitalization (maddesi)

⁵⁴ Fluency-orthography-punctuation (Örgütün)

⁵⁵ Accuracy-mistranslation-WSD (yönetmeliklere)

⁵⁶ Fluency-orthography-punctuation (unnecessary coma)

durumu derhal⁵⁷ Genel Sekretere⁵⁸ bildirir;⁵⁹ ⁶⁰söz konusu ayrıcalık ve dokunulmazlıkların mevcut olup olmadığına ve bu ayrıcalık⁶¹ ve bağışıklıklardan^{62,63} feragat edilip edilmeyeceğine tek başına karar verebilir^{64,65}.⁶⁶ ⁶⁷İlgili⁶⁸ araçlar^{69,70}.

2.1.1 Analysis of Google Translate

Fluency Errors: 33

1. Grammar: 14
 - a. Multi-word Syntax: 0
 - b. Word Form: 6
 - c. Word Order: 1
 - d. Extra word: 3
 - e. Missing Word: 2
 - f. Other: 2
2. Lexicon: 5
 - a. Non-Existing: 0
 - b. Lexical Choice: 5
3. Orthography: 12
 - a. Spelling: 2
 - b. Capitalization: 4
 - c. Punctuation: 6
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 2

Accuracy Errors: 36

1. Addition: 2
2. Omission: 5
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 9

⁵⁷ Fluency-orthography-spelling (diacritics, derhâl)

⁵⁸ Fluency-orthography-punctuation (there must be apostrophe before the suffix, Genel Sekreter'e)

⁵⁹ Accuracy-mechanical-punctuation (not in the ST)

⁶⁰ Accuracy-omission (who is omitted, therefore the sentence is mistranslated)

⁶¹ accuracy-addition (they)

⁶² Fluency-lexicon-lexical choice (out of context)

⁶³ Accuracy-addition (they)

⁶⁴ Fluency-grammar-missing word (özne eksik-kim tek başına karar verebilir?)

⁶⁵ Fluency-Grammar-other (this sentece should refer to the Genel Sekreter)

⁶⁶ Accuracy-mechanical-punctuation (there is no full stop here in the ST)

⁶⁷ Accuracy-omission (in accordance with)

⁶⁸ fluency-orthography-capitalization (İlgili)

⁶⁹ Fluency-grammar-extra word (ilgili araçlar seems irrelevant)

⁷⁰ Accuracy-mistranslation-WSD (belgeler)

- a. MWE: 0
- b. POS: 0
- c. WSD: 6
- d. Semantically Unrelated: 0
- e. Other: 3

6. Mechanical: 20

- a. Capitalization: 1
- b. Punctuation: 3
- c. Other: 16

7. Other: 1



2.2. REVERSO

Birleşmiş Milletler personel¹² Düzenlemeleri³⁴

Kapsam ve amaç⁵

⁶Personel yönetmelikleri⁷⁸, Birleşmiş Milletler Sekreterliğinin temel hizmet koşullarını ve temel haklarını, görevlerini ve yükümlülüklerini bünyesinde barındırıyor⁹. Sekreteryaya¹⁰¹¹¹²nın¹³ personel ve idaresi için insan kaynakları politikasının geniş prensiplerini temsil ederler¹⁴. Bu düzenlemelerin¹⁵¹⁶ amaçları doğrultusunda “Birleşmiş Milletler Sekreterliği”, “personel”¹⁷ veya “personel”¹⁸ ifadeleri Birleşmiş Milletler Tüzüğü’nün¹⁹ 97. Maddesi²⁰ çerçevesinde Sekreteryaya’nın²¹²²²³ tüm üyelerini ifade edecektir. ²⁴²⁵²⁶İstihdam ve akdi ilişkisi, Tüzüğün²⁷²⁸ 101. Maddesi²⁹, 1. Fıkrası³⁰ uyarınca Genel Kurul tarafından ilan edilen düzenlemelere³¹ tabi bir atama mektubu ile tanımlanır. Genel Sekreter, genel

¹ Fluency-orthography-capitalization (Personel)

² Accuracy-mechanical-capitalization (Personel)

³ Accuracy-mistranslation-WSD (Yönetmeliği)

⁴ Accuracy-mechanical-other (should be bold)

⁵ Accuracy-mechanical-other (should be bold and indented)

⁶ Accuracy-mechanical-other (should be indented)

⁷ Accuracy-mechanical-capitalization (Yönetmeliği)

⁸ Fluency-grammar-word form (Yönetmeliği)

⁹ Fluency-lexicon-lexical choice (“bünyesinde barındırmak” can be used for organisations and their subbranches, but here “içerir” would be better)

¹⁰ Fluency-orthography-punctuation (no apostrophe)

¹¹ Fluency-orthography-spelling (Sekreteryaya)

¹² Fluency-lexicon-lexical choice (Secretariat is both translated as Sekreterlik and Sekretarya, inconsistency)

¹³ Fluency-orthography-punctuation (no apostrophe, Sekreteryanın)

¹⁴ Fluency-grammar-word form (temsil eder)

¹⁵ Accuracy-mistranslation-WSD (Yönetmeliğin)

¹⁶ Accuracy-mechanical-capitalization (first letter capitalized in the ST)

¹⁷ Accuracy-mistranslation-other (both “staff members” and “staff” can be translated as “personel” but it creates repetition. Therefore one of them can be omitted or translated as “eleman” throughout the text)

¹⁸ Fluency-grammar-extra word (repetition)

¹⁹ Accuracy-mistranslation-WSD (Şartı’nın)

²⁰ Fluency-orthography-capitalization (maddesi)

²¹ Fluency-orthography-spelling (Sekreteryaya)

²² Fluency-orthography-punctuation (no apostrophe)

²³ Fluency-lexicon-lexical choice (Secretariat is both translated as Sekreterlik and Sekretarya, inconsistency)

²⁴ Accuracy-mechanical-other (this is not a separate sentence)

²⁵ Fluency-grammar-missing word (whose?)

²⁶ Accuracy-omission (whose is omitted)

²⁷ Fluency-orthography-punctuation (Tüzük’ün)

²⁸ Accuracy-mistranslation-WSD (Şart’ın)

²⁹ Fluency-orthography-capitalization (maddesi)

³⁰ Fluency-orthography-capitalization (fıkrası)

³¹ Accuracy-mistranslation-WSD (yönetmeliklere)

müdür³² olarak, gerekli gördüğü şekilde bu ilkelere uygun personel kuralları³³ sağlayacak³⁴ ve uygulayacak³⁵.

Madde I³⁶

Görevler, Yükümlülükler³⁷ ve ayrıcalıklar³⁸

³⁹Düzenleme⁴⁰ 1.1

Personelin durumu⁴¹ ⁴²(A⁴³) personel⁴⁴, uluslararası memurlardır⁴⁵. Personel olarak sorumlulukları ulusal değil, sadece uluslararası⁴⁶⁴⁷;

⁴⁸(B⁴⁹) personel⁵⁰ üyeleri⁵¹, Genel Sekreterin⁵² veya yetkili temsilcisinin şahitlik ettiği aşağıdaki yazılı beyanda bulunacaktır:

⁵³“Birleşmiş Milletler’in⁵⁴ uluslararası bir kamu görevlisi⁵⁵ olarak bana verilen fonksiyonları⁵⁶, bu fonksiyonları⁵⁷ taburcu etme⁵⁸⁵⁹ ve yürütmemi⁶⁰ yalnızca Birleşmiş Milletler’in⁶¹ çıkarlarına göre düzenleme konusunda tüm sadakat, takdir ve vicdanda bulunmayı⁶² beyan ve vaat ediyorum⁶³, ⁶⁴Ve⁶⁵ Kurum⁶⁶ dışındaki herhangi

³² Accuracy-mistranslation-WSD (translating “the chief administrative officer” as “genel müdür” contradicts with the title “Genel Sekreter”)

³³ Fluency-grammar-word form (kurallarını)

³⁴ Fluency-grammar-word form (sağlayacaktır)

³⁵ Fluency-grammar-word form (uygulayacaktır)

³⁶ Accuracy-mechanical-other (should be bold)

³⁷ Accuracy-mechanical-capitalization (yükümlülükler)

³⁸ Accuracy-mechanical-other (should be bold)

³⁹ Accuracy-mechanical-other (should be bold and indented)

⁴⁰ Accuracy-mistranslation-WSD (Yönetmelik)

⁴¹ Accuracy-mechanical-other (should be bold and indented)

⁴² Accuracy-mechanical-other (should be a separate sentence)

⁴³ Accuracy-mechanical-capitalization (a)

⁴⁴ Accuracy-mechanical-capitalization (Personel)

⁴⁵ Fluency-grammar-word form (memurdur)

⁴⁶ Fluency-grammar-missing word (no verb in the sentence)

⁴⁷ Fluency-grammar-word form (uluslararasıdır)

⁴⁸ Accuracy-mechanical-other (should be indented)

⁴⁹ Accuracy-mechanical-capitalization (b)

⁵⁰ Accuracy-mechanical-capitalization (Personel)

⁵¹ Fluency-lexicon-lexical choice (should be only “personel”)

⁵² Fluency-orthography-punctuation (Genel Sekreter’in)

⁵³ Accuracy-mechanical-other (should be indented)

⁵⁴ Fluency-orthography-punctuation (no apostrophe)

⁵⁵ Accuracy-mistranslation-WSD (translated as “memur” previously)

⁵⁶ Accuracy-omission (exercise is missing)

⁵⁷ Fluency-grammar-extra word (repetition)

⁵⁸ Fluency-lexicon-lexical choice (taburcu etme is irrelevant)

⁵⁹ Accuracy-mistranslation-WSD (yerine getime)

⁶⁰ Accuracy-mistranslation-WSD (davranışlarımı)

⁶¹ Fluency-orthography-punctuation (no apostrophe)

⁶² Fluency-lexicon-lexical choice (vicdanda bulunmayı does not fit here. Might be “vicdanımla beyan ve vaat”)

⁶³ Fluency-grammar-word form (ederim)

⁶⁴ Fluency-orthography-punctuation (no comma)

⁶⁵ Fluency-orthography-capitalization (ve)

⁶⁶ Accuracy-mistranslation-wsd (oranizasyon)

bir devlet⁶⁷ veya başka kaynaktan görevimin performansı⁶⁸ ile ilgili talimatlar aramamak⁶⁹ veya kabul etmemek⁷⁰1.

72“aynı⁷³ zamanda personel⁷⁴ Düzenlemeleri⁷⁵ ve Kurallarında⁷⁶ belirtildiği gibi benim üzerimde bulunan yükümlülükler saygı duymayı beyan ve vaat ediyorum⁷⁷.”
78(c⁷⁹) Genel Sekreter, Tüzük⁸⁰ ve Kurul⁸¹ ve Kurallarında⁸² ve⁸³ Genel Kurul'un⁸⁴ ilgili kararlarında ve kararlarında⁸⁵ belirtilen personel üyelerinin⁸⁷ haklarına ve görevlerine uyulmasını sağlayacaktır;
88(D⁸⁹) Genel Sekreter, hizmet koşullarının belirlenmesinde en önemli hususun, en yüksek verimlilik, yetkinlik ve dürüstlük standartlarına sahip personelin⁹⁰ güvenliğini⁹¹ sağlamak⁹² için gerekli olmasını⁹³ sağlamaya çalışmalıdır⁹⁴;
95(E⁹⁶) personel⁹⁷ yönetmelikleri⁹⁸, ayrı olarak finanse edilen organların personeli, personel Kuralları kapsamında randevu almak⁹⁹100 dahil¹⁰¹ olmak üzere¹⁰² tüm seviyelerdeki personel için geçerlidir;

67 Accuracy-mechanical-capitalization (Devlet)

68 Accuracy-mistranslation-WSD (yerine getirilişi/icrası)

69 Fluency-grammar-word form (aramayacağımı)

70 Fluency-grammar-word form (kabul etmeyeceğimi)

71 Fluency-grammar-word order (beyan ve vaat ederim en sonda olmalı)

72 Accuracy-mechanical-other (should be indented)

73 Fluency-orthography-capitalization (Aynı)

74 Fluency-orthography-capitalization (Personel, based on the capitalized first letters of the next two words)

75 Accuracy-mistranslation-WSD (Yönetmelikleri)

76 Fluency-orthography-punctuation (Kuralları'nda)

77 Fluency-grammar-word form (ederim)

78 Fluency-other (another article, should be a separate sentence)

79 Fluency-orthography-capitalization (all other articles are capitalized, this one is not)

80 Accuracy-mistranslation-wsd (Şart)

81 Accuracy-mistranslation-SU (Personel Yönetmeliği)

82 Fluency-orthography-punctuation (Kuralları'nda)

83 Fluency-grammar-extra word (too many “ve”, commas should be used)

84 Fluency-orthography-punctuation (no apostrophe)

85 Fluency-grammar-extra word (repetition)

86 Accuracy-mistranslation-WSD (karar ve hükümlerinde)

87 Fluency-lexicon-lexical choice (should be only “personel”)

88 Accuracy-mechanical-other (should be indented)

89 Accuracy-mechanical-capitalization (d)

90 Accuracy-mistranslation-WSD (not “...standartlarına sahip personelin”, “personelin ... standartlarına sahip olması)

91 Fluency-lexicon-lexical choice (sound odd)

92 Accuracy-mistranslation-WSD (sağlanan şey personel güvenliği değil, personelin en yüksek ... standartlarına sahip olması)

93 Fluency-grammar-missing word (neyin gerekli olmasını?)

94 Accuracy-mistranslation-WSD (shall, should be çalışacaktır)

95 Accuracy-mechanical-other (should be indented)

96 Accuracy-mechanical-capitalization (e)

97 Accuracy-mechanical-capitalization (Personel)

98 Accuracy-mechanical-capitalization (Yönetmelikleri)

99 Fluency-lexicon-lexical choice (randevu almak does not fit here)

100 Accuracy-mistranslation-WSD (atama yapan)

101 Fluency-orthography-spelling (diacritics- dâhil)

102 Fluency-grammar-word order (“dahil olmak üzere” should not refer to “...randevu almak”, makes no sense. Instead, “ayrı olarak...personeli” might precede it.)

¹⁰³(F¹⁰⁴) Tüzüğün¹⁰⁵ 105. Maddesi¹⁰⁶ ile Birleşmiş Milletler'in¹⁰⁷ sahip olduğu imtiyazlar ve dokunulmazlıklar, örgütün çıkarları doğrultusunda hareket edilir¹⁰⁸¹⁰⁹. Bu imtiyazlar ve bağışıklık¹¹⁰¹¹¹, kendilerinin¹¹² kapsadığı personelin bulunduğu Devletin yasa ve polis düzenlemelerini gözetmemesi veya özel yükümlülüklerinin¹¹³ yerine getirilmemesi¹¹⁴ için bir mazeret getirmemeleri için bahane bırakmamaları¹¹⁵ anlamına da gelmezler¹¹⁶¹¹⁷. Bu imtiyazların ve bağışıklıkların¹¹⁸¹¹⁹ uygulanmasına ilişkin bir sorunun ortaya çıktığı her durumda, personel konuyu derhal¹²⁰ Genel Sekretere¹²¹ bildireceklerdir¹²².¹²³ ¹²⁴Ancak¹²⁵ bu tür imtiyazların ve bağışıklıkların¹²⁶ var olup olmadığına ve ilgili araçlara¹²⁷ göre feragat edilip edilmeyeceğine tek başına karar verebilirler¹²⁸.¹²⁹

2.2.1 Analysis of Reverso

Fluency Errors: 68

1. Grammar: 26

- a. Multi-word Syntax: 0
- b. Word Form: 15
- c. Word Order: 2
- d. Extra word: 5

¹⁰³ Accuracy-mechanical-other (should be indented)

¹⁰⁴ Accuracy-mechanical-capitalization (f)

¹⁰⁵ Fluency-orthography-punctuation (Tüzük'ün)

¹⁰⁶ Fluency-orthography-capitalization (maddesi)

¹⁰⁷ Fluency-orthography-punctuation (no apostrophe)

¹⁰⁸ Fluency-other (two parts of the sentence are not coherent)

¹⁰⁹ Accuracy-mistranslation-SU (verilmiştir)

¹¹⁰ Fluency-lexicon-lexical choice (does not fit the context)

¹¹¹ Accuracy-mistranslation-WSD (dokunulmazlıklar)

¹¹² Fluency-grammar-extra word (unnecessary)

¹¹³ Fluency-grammar-word form (yükümlülüklerini)

¹¹⁴ Fluency-grammar-word form (getirmemeleri. Should be active, otherwise a disagreement occurs with the subject personelin)

¹¹⁵ Accuracy-addition (repetition of a similar meaning)

¹¹⁶ Fluency-multiple errors (Several errors obscure the meaning of the sentence, therefore cannot be annotated separately to correct the sentence.)

¹¹⁷ Accuracy-other (sentence is too complicated, lacks meaning. should end with "mazeret oluşturmazlar")

¹¹⁸ Fluency-lexicon-lexical choice (does not fit the context)

¹¹⁹ Accuracy-mistranslation-WSD (dokunulmazlıkların)

¹²⁰ Fluency-orthography-spelling (diacritics - derhâl)

¹²¹ Fluency-orthography-punctuation (Genel Sekreter'e)

¹²² Fluency-grammar-word form (bildirecektir)

¹²³ Accuracy-mechanical-punctuation (no full-point here in the ST)

¹²⁴ Fluency-grammar-missing word (kim tek başına karar verebilir? Genel Sekreter mi personel mi? Özne eksik)

¹²⁵ Accuracy-addition (No "ancak" in the ST)

¹²⁶ Fluency-lexicon-lexical choice (dokunulmazlıkların)

¹²⁷ Accuracy-mistranslation-WSD (belge/evrak)

¹²⁸ Fluency-grammar-word form (verebilir)

¹²⁹ Accuracy-mechanical-other (paragraph format: the whole should be indented from both sides and justified)

- e. Missing Word: 4
 - f. Other: 0
- 2. Lexicon: 12
 - a. Non-Existing: 0
 - b. Lexical Choice: 12
- 3. Orthography: 27
 - a. Spelling: 4
 - b. Capitalization: 9
 - c. Punctuation: 14
 - d. Other: 0
- 4. Multiple Errors: 1
- 5. Other: 2

Accuracy Errors: 61

- 1. Addition: 2
- 2. Omission: 2
- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 25
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 22
 - d. Partial Translation: 0
 - e. Semantically Unrelated: 2
 - f. Other: 1
- 6. Mechanical: 31
 - d. Capitalization: 14
 - e. Punctuation: 1
 - f. Other: 16
- 7. Other: 1

2.3. YANDEX TRANSLATE

Birleşmiş Milletler personel¹ Yönetmeliği²

3

Kapsam ve amaç⁴

5

⁶Personel Yönetmeliği, temel hizmet koşullarını ve Birleşmiş Milletler Sekreterliği'nin⁷ temel hak, görev ve yükümlülüklerini somutlaştırmaktadır⁸⁹. Sekreteryanın¹⁰ personel ve yönetimi için İnsan¹¹ Kaynakları¹² politikasının geniş ilkelerini temsil ederler¹³. Bu düzenlemelerin¹⁴¹⁵ amaçları doğrultusunda, “Birleşmiş Milletler Sekreterliği”, “personel üyeleri¹⁶” veya “personel” ifadeleri, Genel Kurul tarafından Tüzüğün¹⁷¹⁸ 101.maddesinin¹⁹ 1. fıkrası uyarınca yayınlanan düzenlemelere tabi bir atama mektubu ile tanımlanan²⁰²¹ Birleşmiş Milletler Tüzüğünün²²²³ 97. maddesi anlamında Sekreteryanın²⁴ tüm personelini ifade eder²⁵. Genel Sekreter, baş idari görevli olarak, gerekli gördüğü şekilde bu ilkelere uygun personel kurallarını sağlar ve uygular.

Madde I²⁶

¹ Fluency-orthography-capitalization (Personel)

² Accuracy-mechanical-other (should be bold)

³ Accuracy-mechanical-other (too much space)

⁴ Accuracy-mechanical-other (should be bold)

⁵ Accuracy-mechanical-other (too much space)

⁶ Accuracy-mechanical-other (the paragraph should be indented)

⁷ Fluency-orthography-punctuation (apostrophe should be removed)

⁸ Fluency-lexicon-lexical choice (out of context)

⁹ Accuracy-mistranslation-WSD (kapsar/içerir)

¹⁰ Fluency-lexicon-lexical choice (Secretariat is translated as Sekreterlik and Sekretarya, inconsistency)

¹¹ Accuracy-mechanical-capitalization (insan)

¹² Accuracy-mechanical-capitalization (kaynakları)

¹³ Fluency-grammar-word form (temsil eder)

¹⁴ Accuracy-mechanical-capitalization (first letter is capitalized in the ST)

¹⁵ Accuracy-mistranslation-WSD (Yönetmeliğin)

¹⁶ Fluency-lexicon-lexical choice (çalışan, eleman)

¹⁷ Fluency-orthography-punctuation (Tüzük'ün)

¹⁸ Accuracy-mistranslation-WSD (Şart'ın, Antlaşma'nın)

¹⁹ Fluency-orthography-punctuation (should be a space after the dot)

²⁰ Fluency-grammar-other (atama mektubu ile tanımlanan BM Tüzüğü olamaz)

²¹ Accuracy-other (what is defined by the letter of appointment is employment and contractual relationship of the UN employees, not the UN Charter)

²² Fluency-orthography-punctuation (Tüzüğü'nün)

²³ Accuracy-mistranslation-wsd (Şartı'nın/Antlaşması'nın)

²⁴ Accuracy-other (Secretariat is translated as Sekreterlik and Sekretarya, inconsistency)

²⁵ Accuracy-omission (“whose employment and contractual relationship” is omitted)

²⁶ Accuracy-mechanical-other (should be bold)

²⁷Görevleri²⁸, yükümlülükleri²⁹ ve yetkileri³⁰³¹

32

Yönetmelik 1.1³³

³⁴Personel³⁵ durumu³⁶

(a) çalışanlar³⁷³⁸ uluslararası memurlardır. Personel olarak sorumlulukları ulusal değil, yalnızca uluslararasıdır;

(b) personel³⁹, Genel Sekreter veya yetkili temsilcisi tarafından tanık olunan⁴⁰⁴¹ aşağıdaki yazılı beyanı yapar:

“Birleşmiş Milletler'in⁴² uluslararası bir memuru olarak bana emanet edilen işlevleri tüm sadakat, takdir yetkisi⁴³⁴⁴ ve vicdanla⁴⁵ yerine getirmeyi, bu işlevleri yerine getirmeyi⁴⁶ ve davranışlarımı yalnızca Birleşmiş Milletler'in⁴⁷ çıkarları doğrultusunda düzenlemeyi⁴⁸ ve görevlerimin yerine getirilmesiyle ilgili⁴⁹ talimatları aramamayı⁵⁰ veya kabul etmemeyi⁵¹ taahhüt ediyorum⁵².

“Aynı zamanda dini törenle⁵³⁵⁴ ve Personel Yönetmeliği ve Kuralları⁵⁵ belirlenmiş olarak üzerime düşen yükümlülükleri⁵⁶ saygı sözü⁵⁷⁵⁸.”

²⁷ Accuracy-addition (null subject is added)

²⁸ Accuracy-mistranslation-other (Görevler)

²⁹ Accuracy-mistranslation-other (Yükümlülükler)

³⁰ Accuracy-mistranslation-WSD (İmtayazlar/Ayrıcalıklar)

³¹ Accuracy-mechanical-other (Should be bold)

³² Accuracy-mechanical-other (spaced too much)

³³ Accuracy-mechanical-other (should be bold)

³⁴ Accuracy-mechanical-other (should be indented)

³⁵ Fluency-grammar-word form (Personelin)

³⁶ Accuracy-mechanical-other (should be bold)

³⁷ Accuracy-mechanical-capitalization (Çalışanlar)

³⁸ Accuracy-other (in other sentences, it is translated as “personel”, creates inconsistency)

³⁹ Accuracy-mechanical-capitalization (Personel)

⁴⁰ Fluency-lexicon-lexical choice (tanık olunan sounds odd)

⁴¹ Accuracy-mistranslation-WSD (...yetkili temsilcisi şahitliğinde aşağıdaki...)

⁴² Fluency-orthography-punctuation (no apostrophe)

⁴³ Fluency-lexicon-lexical choice (takdir yetkisi is odd)

⁴⁴ Accuracy-mistranslation-WSD (sağduyu)

⁴⁵ Fluency-grammar-word form (vicdanımla)

⁴⁶ Fluency-grammar-extra word (repeats the former sentence)

⁴⁷ Fluency-orthography-punctuation (no apostrophe)

⁴⁸ Accuracy-other (word order is wrong, it should be “yalnızca Birleşmiş Milletlerin çıkarlarını gözeterek bu işlevleri yerine getirmeyi ve davranışlarımı düzenlemeyi...)

⁴⁹ Accuracy-omission (“from any Government or other external to the Organization” is omitted)

⁵⁰ Fluency-other (not clear, these talimatlar can com from the UN itself)

⁵¹ Fluency-other (not clear, these talimatlar can come from the UN)

⁵² Accuracy-omission (declare)

⁵³ Fluency-lexicon-lexical choice (BM personel yükümlülükleri dini törenle belirleniyor olamaz)

⁵⁴ Accuracy-mistranslation-WSD (solemnly is mistranslated)

⁵⁵ Fluency-grammar-word form (Kurallarıyla)

⁵⁶ Accuracy-omission (respect is omitted)

⁵⁷ Fluency-grammar-missing words (no verb)

⁵⁸ Accuracy-omission (declare is omitted)

(c) Genel Sekreter, tüzükte⁵⁹ ve personel⁶² Yönetmeliklerinde⁶³ ve Kurallarında⁶⁴ ve Genel Kurulun ilgili kararlarında ve kararlarında⁶⁵ belirtilen personelin hak ve görevlerine saygı gösterilmesini sağlar;

(d) Genel Sekreter, hizmet koşullarının belirlenmesinde en önemli hususun, en yüksek verimlilik, yetkinlik ve dürüstlük standartlarına sahip personelin güvence altına alınması⁶⁷ gerekliliği olmasını sağlamaya çalışacaktır;

(e) personel⁶⁸ Yönetmelikleri, ayrı olarak finanse edilen organların personeli de dahil⁶⁹ olmak üzere, personel⁷⁰ kurallarına⁷¹ göre atamalar yapan⁷³ her seviyedeki tüm personel için geçerlidir;

(f) Birleşmiş Milletler'in⁷⁵ Tüzüğü'nün⁷⁶ 105.maddesi⁷⁸ uyarınca sahip olduğu ayrıcalıklar ve dokunulmazlıklar kuruluşun çıkarlarına⁷⁹ verilir. Bu ayrıcalıklar ve dokunulmazlıklar, kapsadıkları personele, bulundukları Devletin yasalarına ve polis düzenlemelerine uymamaları için bir mazeret sunmaz⁸⁰ ve özel yükümlülüklerini yerine getirmemeleri için bir mazeret sunmaz. Bu ayrıcalıkların ve dokunulmazlıkların uygulanmasına ilişkin bir sorunun ortaya çıkması durumunda, personel konuyu derhal Genel Sekretere⁸¹ rapor eder ve⁸² bu ayrıcalıkların ve dokunulmazlıkların var olup olmadığına ve ilgili araçlara⁸³ uygun olarak⁸⁴ feragat edilip edilmeyeceğine tek başına karar verebilir.^{85, 86}

⁵⁹ Accuracy-mechanical-capitalization (Tüzük'te)

⁶⁰ Fluency-orthography-punctuation (there should be an apostrophe, Tüzük'te)

⁶¹ Accuracy-mistranslation-WSD (Şart'ta/Antlaşma'da)

⁶² Accuracy-mechanical-capitalization (Personel)

⁶³ Fluency-orthography-punctuation (Yönetmelikleri'nde)

⁶⁴ Fluency-orthography-punctuation (Kuralları'nda)

⁶⁵ Fluency-grammar-extra word (repetition)

⁶⁶ Accuracy-mistranslation-WSD (karar ve hükümlerinde)

⁶⁷ Accuracy-mistranslation-WSD (in this case, secure should be translated as istihdam edilmesi)

⁶⁸ Accuracy-mechanical-capitalization (Personel)

⁶⁹ Fluency-orthography-spelling (dahil)

⁷⁰ Accuracy-mechanical-capitalization (Personel)

⁷¹ Accuracy-mechanical-capitalization (Kuralları'na)

⁷² Accuracy-mechanical-punctuation (apostrophe)

⁷³ Fluency-other (atama yapan personel olamaz)

⁷⁴ Accuracy-other (...ayrı olarak finanse edilip Personel Kurallarına göre atama yapan organların personeli de...)

⁷⁵ Fluency-orthography-punctuation (Birleşmiş Milletlerin)

⁷⁶ Fluency-orthography-punctuation (Tüzük'ün)

⁷⁷ Accuracy-mistranslation-WSD (Şart'ın/Antlaşma'nın)

⁷⁸ Fluency-orthography-punctuation (there should be a space after the dot)

⁷⁹ Fluency-grammar-missing word (çıkarları doğrultusunda/çıkarlarına yönelik)

⁸⁰ Fluency-grammar-extra word (repetition - "için bir mazeret sunmaz" can be omitted)

⁸¹ Fluency-orthography-punctuation (Genel Sekreter'e)

⁸² Accuracy-omission (who is omitted, should be "...rapor eder ve Genel Sekreter...)

⁸³ Accuracy-mistranslation-WSD (belgeler)

⁸⁴ Accuracy-mistranslation-WSD (gereğince)

⁸⁵ Fluency-grammar-missing words (who can decide? here, it means the personnel can. However, it cannot be right)

⁸⁶ Accuracy-mechanical-other (paragraph format: the whole text should be indented from both sides and justified)

2.3.1 Analysis of Yandex Translate

Fluency Errors: 35

1. Grammar: 11
 - a. Multi-word Syntax: 0
 - b. Word Form: 4
 - c. Word Order: 0
 - d. Extra word: 3
 - e. Missing Word: 3
 - f. Other: 1
2. Lexicon: 6
 - a. Non-Existing: 0
 - b. Lexical Choice: 6
3. Orthography: 15
 - a. Spelling: 1
 - b. Capitalization: 1
 - c. Punctuation: 13
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 3

Accuracy Errors: 51

1. Addition: 1
2. Omission: 6
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 16
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 14
 - d. Semantically Unrelated: 0
 - e. Other: 2
6. Mechanical: 23
 - a. Capitalization: 10
 - b. Punctuation: 1
 - c. Other: 12
7. Other: 5

2.4. BING TRANSLATOR

Birleşmiş Milletler Personel Yönetmeliği¹

²Kapsam ve amaç

³Personel Yönetmeliği, birleşmiş⁴ milletler⁵ sekreterliğinin⁶ temel hizmet koşullarını ve temel hak, görev ve yükümlülüklerini somutlaştırmamaktadır⁷⁸⁹¹⁰. Sekreterliğin kadro¹¹ ve idaresi için insan kaynakları politikasının geniş ilkelerini temsil ederler¹². Bu Düzenlemelerin¹³ amaçları doğrultusunda, "Birleşmiş Milletler Sekreterliği", "personel" veya "personel"¹⁴¹⁵ ifadeleri, ¹⁶101. madde¹⁷ uyarınca Genel Kurul tarafından çıkarılan düzenlemelere¹⁸ tabi bir atama mektubu ile tanımlanan¹⁹²⁰ Birleşmiş Milletler Şartı'nın 97. maddesi anlamı dahilinde²¹²², Sekreteryası'nın²³²⁴²⁵ tüm personeline atıfta bulunacaktır²⁶. ²⁷ Fıkra 1²⁸, Tüzüğün²⁹³⁰³¹. Genel Sekreter, baş idari sorumlu olarak, bu ilkelere uygun olarak bu tür personel kurallarını gerekli gördüğü şekilde sağlayacak ve uygulayacaktır.

¹ Accuracy-mechanical-other (should be bold)

² Accuracy-mechanical-other (should be bold and indented)

³ Accuracy-mechanical-other (should be indented)

⁴ Fluency-orthography-capitalization (Birleşmiş)

⁵ Fluency-orthography-capitalization (Milletler)

⁶ Fluency-orthography-capitalization (Sekreterliğinin)

⁷ Fluency-lexicon-lexical choice (does not fit the context)

⁸ Fluency-grammar-word form (should not be negative, somutlaştırmaktadır)

⁹ Accuracy-addition (added negator)

¹⁰ Accuracy-mistranslation-WSD (kapsar)

¹¹ Accuracy-mistranslation-WSD (istihdam)

¹² Fluency-grammar-word form (temsil eder)

¹³ Accuracy-mistranslation-WSD (previously translated as Yönetmelik)

¹⁴ Fluency-grammar-extra word (repetition)

¹⁵ Accuracy-mistranslation-other (both "staff members" and "staff" can be translated as "personel" but it creates repetition. Therefore one of them can be omitted or translated as "eleman" throughout the text)

¹⁶ Accuracy-Omission ("whose employment and contractual relationship" is omitted, "istihdam ve sözleşme ilişkileri")

¹⁷ Accuracy-mistranslation-other (101. maddenin)

¹⁸ Accuracy-mistranslation-WSD (previously translated as Yönetmelik, creates inconsistency)

¹⁹ Fluency-other (atama mektubu ile tanımlanan Birleşmiş Milletler Şartı olamaz)

²⁰ Accuracy-other (starting after "...ifadeleri" and ending here, this sentence should be after "Sekreteryanın")

²¹ Accuracy-mistranslation-WSD (kapsamında)

²² Accuracy-other ("Birleşmiş Milletler Şartı'nın 97. maddesi kapsamında," should be after "ifadeleri")

²³ Fluency-orthography-spelling (Sekreterya)

²⁴ Fluency-orthography-punctuation (no apostrophe)

²⁵ Fluency-lexicon-lexical choice (Secretariat is translated as Sekreterlik and Sekreterya, inconsistency)

²⁶ Fluency-lexicon-lexical choice (ifade eder, kasteder would be better)

²⁷ Fluency-orthography-punctuation (unnecessary comma)

²⁸ Accuracy-other (should be 1. fıkrası and after 101. maddenin)

²⁹ Fluency-grammar-extra word (this sentence is irrelevant)

³⁰ Accuracy-mistranslation-WSD (Şart'ın/Antlaşma'nın)

³¹ Accuracy-other (should be before 101. maddenin)

Madde I³²

Görev, yükümlülük ve ayrıcalıklar³³

Yönetmelik 1.1³⁴

Personelin durumu³⁵

³⁶(a) Personel uluslararası memurdur. Personel olarak sorumlulukları ulusal değil, sadece uluslararasıdır;

(b) Personel, Genel Sekreter veya yetkili temsilcisinin tanık olduğu³⁷ aşağıdaki yazılı bildirimi yapar:

"Birleşmiş Milletler'in uluslararası bir devlet³⁸ memuru olarak bana emanet edilen işlevleri tüm sadakat, sağduyu ve vicdanen³⁹ yerine getireceğimi, bu işlevleri boşa çıkarıp⁴⁰ davranışlarımı sadece Görüş⁴² alanında⁴³ Birleşmiş Milletler'in⁴⁵ çıkarları doğrultusunda düzenleyeceğimi⁴⁶ ve Görevlerimin⁴⁷ yerine getirilmesiyle ilgili talimatları Herhangi⁴⁸ bir Hükümetten veya Kuruluş dışında başka bir kaynaktan aramamaya veya kabul etmemeye ⁴⁹söz veriyorum⁵⁰.

"Ayrıca, Personel Yönetmeliği ve Kuralları'nda belirtildiği gibi, üzerimdeki yükümlülüklerle saygı göstermeyi⁵¹ de şiddetle⁵² beyan ve söz veriyorum⁵⁴."

(c) Genel Sekreter, Tüzük⁵⁵ ve Kadro⁵⁶ Yönetmeliği ve Kuralları ile Genel Kurulun ilgili karar ve kararlarında⁵⁷ belirtilen kadro üyelerinin hak ve görevlerine uyulmasını sağlar;

³² Accuracy-mechanical-other (should be bold)

³³ Accuracy-mechanical-other (should be bold)

³⁴ Accuracy-mechanical-other (should be bold and indented)

³⁵ Accuracy-mechanical-other (should be bold and indented)

³⁶ Accuracy-mechanical-other (should be indented)

³⁷ Fluency-lexicon-lexical choice (şahitliğinde)

³⁸ Fluency-lexicon-lexical choice (devlet should be omitted)

³⁹ Fluency-grammar-word form (vicdanımla)

⁴⁰ Fluency-lexicon-lexical choice (this cannot be right, there must a mistranslation)

⁴¹ Accuracy-mistranslation-WSD (yerine getirip)

⁴² Fluency-orthography-capitalization (görüş)

⁴³ Fluency-lexicon-lexical choice (does not make any sense)

⁴⁴ Accuracy-mistranslation-WSD (göz önüne alarak)

⁴⁵ Fluency-orthography-punctuation (no apostrophe)

⁴⁶ Fluency-grammar-word form (the verb is "söz veriyorum", it should be düzenleyeceğime)

⁴⁷ Accuracy-mechanical-capitalization (görevlerimin)

⁴⁸ Accuracy-mechanical-capitalization (herhangi)

⁴⁹ Accuracy-omission (declare)

⁵⁰ Fluency-grammar-word form (söz veririm)

⁵¹ Fluency-grammar-word form (saygı göstermeyi does not match with the verbs of the sentence. it should be "göstereceğimi")

⁵² Fluency-lexicon-lexical choice (şiddetle does not fit here)

⁵³ Accuracy-mistranslation-other (should be omitted)

⁵⁴ Fluency-lexicon-lexical choice ("veriyorum" cannot be used for "beyan", therefore it should be "beyan ve taahhüt ederim")

⁵⁵ Accuracy-mistranslation-WSD (Şart/Antlaşma)

⁵⁶ Accuracy-mistranslation-WSD (Personel)

⁵⁷ Fluency-grammar-extra word (repetition)

⁵⁸ Accuracy-mistranslation-WSD (karar ve hükümlerinde)

(d) Genel Sekreter, hizmet koşullarının belirlenmesinde en önemli hususun, en yüksek verimlilik, yetkinlik ve bütünlük⁵⁹ standartlarında⁶⁰ personelin güvenliğini sağlamasının⁶¹ gerekliliği olmasını sağlamaya çalışacaktır;

(e) Kadro⁶² Yönetmeliği, ayrı olarak finanse edilen organların personeli de dahil⁶³ olmak üzere, Personel Kuralları kapsamında atamalar yapmak da dahil olmak üzere⁶⁴ her düzeydeki tüm personel için geçerlidir;

(f) Tüzüğün⁶⁷ 105 inci⁶⁹ maddesi gereği Birleşmiş Milletler tarafından yararlandırılan⁷⁰ ayrıcalıklar ve dokunulmazlıklar Kuruluşun⁷¹ çıkarları doğrultusunda verilir. Bu ayrıcalıklar ve dokunulmazlıklar, kapsamına giren personele bulundukları Devletin yasalarına ve polis yönetmeliklerine uymamaları için hiçbir mazeret sunmadıkları gibi, özel yükümlülüklerinin yerine getirilmemesi için de bir bahane sunmaz. Bu ayrıcalık ve dokunulmazlıkların uygulanmasına ilişkin bir hususun ortaya çıktığı her durumda, personel, bu ayrıcalık ve dokunulmazlıkların var olup olmadığına ve ilgili araçlara⁷² uygun olarak feragat edilip edilmeyeceğine tek başına karar verebilecek olan konuyu derhal Genel Sekretere⁷³ bildirecektir^{74,75}.

2.4.1. Analysis of Bing Translator

Fluency Errors: 34

1. Grammar: 12

- a. Multi-word Syntax: 0
- b. Word Form: 7
- c. Word Order: 1
- d. Extra word: 4
- e. Missing Word: 0
- f. Other: 0

2. Lexicon: 9

- a. Non-Existing: 0

⁵⁹ Accuracy-mistranslation-WSD (dürüstlük)

⁶⁰ Fluency-grammar-word form (standartlarındaki)

⁶¹ Accuracy-mistranslation-WSD (in this case, secure should be translated as istihdam edilmesi)

⁶² Accuracy-mistranslation-WSD (Personel)

⁶³ Fluency-orthography-spelling (diacritics, dâhil)

⁶⁴ Fluency-grammar-extra word (creates a unnecessary repetition in the sentence)

⁶⁵ Accuracy-addition (the second “dahil olmak üzere” is added to the TT)

⁶⁶ Accuracy-other (“Personel kurallarına göre atama yapan” should come before and modify “ayrı olarak finanse edilen organlar”)

⁶⁷ Fluency-orthography-punctuation (Tüzük’ün)

⁶⁸ Accuracy-mistranslation-WSD (Şart’ın/Antlaşma’nın)

⁶⁹ Fluency-orthography-punctuation (105’inci, but better 105.)

⁷⁰ Accuracy-other (Birleşmiş Milletlerin yararlandığı/sahip olduğu ayrıcalıklar)

⁷¹ Accuracy-mistranslation-WSD (Örgütün)

⁷² Accuracy-mistranslation-WSD (belgelere)

⁷³ Fluency-orthography-punctuation (Genel Sekreter’e)

⁷⁴ Fluency-grammar-word order ([...]tek başına karar verebilecek olan Genel Sekretere konuyu derhal bildirecektir.)

⁷⁵ Accuracy-mechanical-other (paragraph format: the whole text should be indented from both sides and justified)

- b. Lexical Choice: 9
- 3. Orthography: 12
 - a. Spelling: 2
 - b. Capitalization: 4
 - c. Punctuation: 6
 - d. Other: 0
- 4. Multiple Errors: 0
- 5. Other: 1

Accuracy Errors: 41

- 1. Addition: 2
- 2. Omission: 2
- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 20
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 17
 - d. Semantically Unrelated: 0
 - e. Other: 3
- 6. Mechanical: 11
 - a. Capitalization: 2
 - b. Punctuation: 0
 - c. Other: 9
- 7. Other: 6

2.5. WATSON TRANSLATOR

Birleşmiş Milletlerin¹ Personel Yönetmeliği²

3

Kapsam ve amaç⁴

5

Personel Yönetmeliği, Birleşmiş Milletler Sekreterliği 'nin^{67 8} temel hak, görev ve yükümlülükleri⁹ ile temel hak, görev ve yükümlülükleri¹⁰ somutlamıştır¹¹¹²¹³. Bunlar¹⁴, Secretariat 'ın¹⁵¹⁶¹⁷ kadro¹⁸ ve idaresi için insan kaynakları politikasının geniş esaslarını temsil eder. Bu yönetmeliklerin¹⁹ amaçları doğrultusunda, "Birleşmiş Milletler Sekreterliği", "personel üyeleri"²⁰ veya "personel" ifadeleri, Birleşmiş Milletler Bildirgesi 'nin²¹²² 97. maddesi uyarınca²³, istihdam ve sözleşme ilişkisi, Genel Kurulun²⁴ Madde 101²⁵, paragraf 1²⁶, Tüzükün²⁷²⁸ 1. fıkrası uyarınca belirlenmiş^{29 30} bir atama mektubu ile tanımlandığı bir

¹ Fluency-grammar-word form (Milletler)

² Accuracy-mechanical-other (should be bold)

³ Accuracy-mechanical-other (too much spaced)

⁴ Accuracy-mechanical-other (should be bold)

⁵ Accuracy-mechanical-other (too much spaced)

⁶ Fluency-orthography-punctuation (no space before apostrophe)

⁷ Fluency-orthography-punctuation (no apostrophe)

⁸ Accuracy-omission (the fundamental conditions of service)

⁹ Fluency-grammar-word form (yükümlülüklerini)

¹⁰ Fluency-grammar-extra word-repetition

¹¹ Fluency-grammar-word form (does not agree with the subject, should be somutlaştırır)

¹² Fluency-lexicon-lexical choice (does not fit here)

¹³ Accuracy-mistranslation-WSD (kapsar)

¹⁴ Fluency-lexicon-lexical choice (Since it is plural, "Bunlar" cannot refer to Personel Yönetmeliği. It should be omitted)

¹⁵ Fluency-lexicon-non-existing or foreign word

¹⁶ Fluency-orthography-punctuation (no space before apostrophe)

¹⁷ Accuracy-untranslated

¹⁸ Accuracy-mistranslation-WSD (istihdam)

¹⁹ Accuracy-mechanical-capitalization (Yönetmelik'in)

²⁰ Fluency-lexicon-lexical choice (çalışan, eleman)

²¹ Fluency-orthography-punctuation (no space before apostrophe)

²² Accuracy-mistranslation-WSD (Şartı'nın/Antlaşması'nın)

²³ Accuracy-mistranslation-SU (kapsamında)

²⁴ Accuracy-omission (by is omitted, therefore mistranslated. Should be "Genel Kurul tarafından")

²⁵ Fluency-orthography-other (101. maddesinin)

²⁶ Accuracy-addition (paragraph 1 has been translated as 1. fıkrası)

²⁷ Fluency-orthography-punctuation (Tüzük'ün)

²⁸ Accuracy-mistranslation-WSD (Şart'ın/Antlaşma'nın)

²⁹ Accuracy-mistranslation-SU (yayınlanan)

³⁰ Accuracy-omission ("subject to regularions" is omitted)

mektup atanarak³¹,³² Sekreterliğin tüm personel üyelerine atıfta bulunur³³³⁴. Genel Sekreter, baş idari subay³⁵³⁶ olarak, gerekli gördüğü gibi bu ilkelere uygun personel kurallarını sağlayacak ve uygulayacaktır.³⁷

Madde I³⁸ Görevleri³⁹, yükümlülükler ve ayrıcalıklar⁴⁰

41

Düzenleme⁴² 1.1⁴³ Personel⁴⁴ Durumu⁴⁵⁴⁶

(a) Genelkurmay⁴⁷⁴⁸ üyeleri, uluslararası memurlardır. Personelin⁴⁹ personel olarak sorumlulukları ulusal değil, sadece uluslararası değildir.⁵⁰⁵¹,⁵²

(b) Genelkurmay⁵³⁵⁴ üyeleri, Genel Sekreter veya onun yetkili temsilcisi tarafından bizzat tanık olunan aşağıdaki yazılı bildirgeyi hazırlamayacaktır⁵⁵:

"⁵⁶Birleşmiş Milletlerin uluslararası bir kamu görevlisi⁵⁷ olarak bana emanet edilen işlevleri,⁵⁸⁵⁹takdiri⁶⁰ ve vicdanını⁶¹⁶², bu işlevleri yerine

³¹ Fluency-grammar-extra word ("bir atama mektubu" and "bir mektup atanarak" create a repetition)

³² Accuracy-other (should be repahaced as "[...] Genel Kurul tarafından Şart'ın 101. maddesinin 1. fıkrası uyarınca yayınlanan yönetmeliklere tabi bir atama mektubuyla tanımlanan Sekreterliğin tüm [...])

³³ Accuracy-mistranslation-WSD (ifade eder)

³⁴ Fluency-multiple (the sentence should be rephrased but it is not possible without the ST)

³⁵ Fluency-lexicon-lexical choice (subay does not fit here)

³⁶ Accuracy-mistranslation-WSD (memur)

³⁷ Accuracy-mechanical-other (paragraph formatting is required: the whole text should be indented from both sides and justified)

³⁸ Accuracy-mechanical-other (should be bold)

³⁹ Fluency-grammar-word form (Görevler)

⁴⁰ Accuracy-mechanical-other (Görevler, yükümlülükler ve ayrıcalıklar should be bold and on the next line)

⁴¹ Accuracy-mechanical-other (too much spaced)

⁴² Accuracy-mistranslation-WSD (Yönetmelik)

⁴³ Accuracy-mechanical-other (should be bold)

⁴⁴ Fluency-grammar-word form (Personelin)

⁴⁵ Accuracy-mechanical-capitalization (durumu)

⁴⁶ Accuracy-mechanical-other (Personelin durumu should be bold and on the next line)

⁴⁷ Fluency-lexicon-lexical choice (Does not fit the context)

⁴⁸ Accuracy-mistranslation-WSD (Personel)

⁴⁹ Accuracy-addition

⁵⁰ Fluency-other (this means the responsibilities are neither national nor international. One of them must be mistranslated)

⁵¹ Accuracy-mistranslation-other (semantically, the opposite. "uluslararasıdır")

⁵² Accuracy-mechanical-other (paragraph formatting is required)

⁵³ Fluency-lexicon-lexical choice (Does not fit the context)

⁵⁴ Accuracy-mistranslation-WSD (Personel)

⁵⁵ Fluency-grammar-word form (it cannot be a negative sentence, should be "hazırlayacaktır")

⁵⁶ Fluency-orthography-punctuation (no space after the quotation mark)

⁵⁷ Fluency-lexicon-lexical choice ("kamu" should be omitted)

⁵⁸ Accuracy-omission (all is omitted)

⁵⁹ Accuracy-omission (loyalty is omitted)

⁶⁰ Accuracy-mistranslation-WSD (sağduyu)

⁶¹ Fluency-other (Vicdan BM tarafından emanet edilmiş olamaz)

⁶² Accuracy-other (vicdanımla)

getirebilmek⁶³ ve Birleşmiş Milletler 'in⁶⁴ çıkarlarını sadece görünümde⁶⁵⁶⁶ yerine getirebilmek için⁶⁷, tüm⁶⁸ hükümetten⁶⁹ veya diğer kaynaklardan Organizasyona olan⁷⁰ görevlerimin performansı ile ilgili talimatları aramamak⁷¹ veya kabul etmemek⁷² için⁷³ resmi olarak ilan ediyorum⁷⁴ ve söz veriyorum^{75 76}

"Ayrıca, Personel Yönetmeliği ve Kuralları 'nda^{77 78} bana bağlı olarak⁷⁹ görevdeki⁸⁰ yükümlülüklerime saygı duyacağım⁸¹ şekilde⁸² resmi olarak ilan ediyorum⁸³⁸⁴."

(c) Genel Sekreter, Tüzük⁸⁵ ve Personel Yönetmeliği ve Kuralları 'nda⁸⁶ ve Genel Kurul 'un⁸⁷ ilgili kararlarında ve kararlarında⁸⁸⁸⁹ yer alan, personel üyelerinin hak ve görevlerine saygı gösterilmesini sağlayacaktır;

(d) Genel Sekreter, hizmet koşullarının belirlenmesinde, verimliliğin, yetkinlik ve bütünlüğün⁹⁰ en yüksek standartlarının⁹¹ güvence altına alınmasının⁹²⁹³ gerekliliği olacak şekilde⁹⁴, söz konularının dikkate alınması⁹⁵ halinde^{96, 9798}

⁶³ Accuracy-other (yerine getireceğimi)

⁶⁴ Fluency-orthography-punctuation (no apostrophe)

⁶⁵ Fluency-lexicon-lexical choice ("görünümde" creates a negative comment)

⁶⁶ Accuracy-mistranslation-SU (sadece Birleşmiş Milletlerin çıkarlarını gözeterek)

⁶⁷ Accuracy-omission (and regulate my conduct is omitted)

⁶⁸ Accuracy-mistranslation-WSD (hiçbir/herhangi bir)

⁶⁹ Fluency-grammar-word form (tüm hükümetlerden)

⁷⁰ Accuracy-other (rephrased as "[...] veya Organizasyon dışı diğer kaynaklardan")

⁷¹ Fluency-grammar-word form (aramayacağımı)

⁷² Fluency-grammar-word form (etmeyeceğimi)

⁷³ Fluency-grammar-extra word (should be omitted)

⁷⁴ Fluency-grammar-word form (ilan eder)

⁷⁵ Fluency-grammar-word form (söz veririm)

⁷⁶ Fluency-multiple (the sentence should be rephrased but it is not possible without the ST)

⁷⁷ Fluency-orthography-punctuation (no space before the apostrophe)

⁷⁸ Accuracy-omission (as set out)

⁷⁹ Fluency-grammar-word form (bağlı olan)

⁸⁰ Accuracy-addition (görevdeki is added)

⁸¹ Fluency-grammar-word form (saygı duyacağımı)

⁸² Fluency-grammar-extra word (şekilde should be omitted)

⁸³ Fluency-grammar-word form (ederim)

⁸⁴ Accuracy-omission (promise)

⁸⁵ Accuracy-mistranslation-WSD (Şart/Antlaşma)

⁸⁶ Fluency-orthography-punctuation (no space before the apostrophe)

⁸⁷ Fluency-orthography-punctuation (no apostrophe)

⁸⁸ Fluency-grammar-extra word (repetition)

⁸⁹ Accuracy-mistranslation-WSD (karar ve hükümlerinde)

⁹⁰ Accuracy-mistranslation-WSD (dürüstlük)

⁹¹ Accuracy-omission (staff)

⁹² Accuracy-other (what should be secured is not the standards but the staff)

⁹³ Accuracy-mistranslation-WSD (in this case, secure should be translated as istihdam edilmesi)

⁹⁴ Accuracy-mistranslation-POS ("shall be" should be the verb of the sentence)

⁹⁵ Accuracy-mistranslation-WSD (en önemli hususun)

⁹⁶ Accuracy-addition (halinde is added)

⁹⁷ Fluency-grammar-missing word (there should be a verb)

⁹⁸ Accuracy-omission (paramount)

(e) Personel ⁹⁹düzenlemeleri¹⁰⁰, ayrı olarak finanse edilen organların personeli de dahil¹⁰¹ olmak üzere tüm seviyelerdeki tüm personele uygulanır, personel¹⁰² kuralları¹⁰³ uyarınca randevuları¹⁰⁴¹⁰⁵ da içerir¹⁰⁶¹⁰⁷.

(f) Sözleşmenin¹⁰⁸¹⁰⁹ 105. maddesi ile Birleşmiş Milletler tarafından beğenilmekte olan¹¹⁰¹¹¹ ayrıcalıklar ve dokunulmazlıklar, Organizasyonun çıkarlarına katılır¹¹². Bu ayrıcalıklar ve dokunulmazlıklar, kendilerine¹¹³ ait oldukları¹¹⁴ devletin yasa ve polis yönetmeliklerini göz önünde bulunmaması¹¹⁵ ve özel yükümlülüklerini yerine getirmemeleri için bir mazeret uymamaları için, bu ayrıcalıkların hiçbir mazereti yok¹¹⁶¹¹⁷. Bu ayrıcalıkların ve dokunulmazlıkların uygulanmasıyla ilgili olarak bir sorun ortaya çıksa da¹¹⁸, personel derhal¹¹⁹ meseleyi Genel Sekreter 'e¹²⁰ bildirecektir, ¹²¹bu tür ayrıcalıkların ve ayrıcalıkların¹²²¹²³ var olup olmadığına ve ilgili araçlara¹²⁴ uygun olarak feragat edilip edilemeyeceğine karar verebilir¹²⁵.

2.5.1. Analysis of Watson Translator

Fluency Errors: 57

1. Grammar: 24

⁹⁹ Accuracy-mechanical-capitalization (Yönetmeliği)

¹⁰⁰ Fluency-lexicon-lexical choice (so far, we have not encountered “personel düzenlemeleri”, it must be “personel yönetmeliği”)

¹⁰¹ Fluency-orthography-spelling-diacritics (dahil)

¹⁰² Accuracy-mechanical-capitalization (Personel)

¹⁰³ Accuracy-mechanical-capitalization (Kuralları)

¹⁰⁴ Fluency-lexicon-lexical choice (randevu sounds odd, the sentence only states that the staff regulations apply to all personnel. This information seems irrelevant)

¹⁰⁵ Accuracy-mistranslation-wsd (atama)

¹⁰⁶ Accuracy-mistranslation-SU (holding appointments=atama yapılan)

¹⁰⁷ Accuracy-other (“personel kuralları uyarınca atama yapılan” should be between “dahil olmak üzere” and “tüm seviyelerdeki”)

¹⁰⁸ Fluency-orthography-punctuation (Sözleşme’nin)

¹⁰⁹ Accuracy-mistranslation-WSD (Şart’ın/Antlaşma’nın)

¹¹⁰ Fluency-lexicon-lexical choice (beğenilmekte olan does not fit here)

¹¹¹ Accuracy-mistranslation-WSD (Birleşmiş Milletlerin *sahip olduğu*)

¹¹² Accuracy-mistranslation-SU (çıkarları doğrultusunda *verilir*)

¹¹³ Fluency-grammar-missing word (who are they? no subject)

¹¹⁴ Accuracy-mistranslation-SU (bulundukları)

¹¹⁵ Fluency-grammar-word form (does not conform with “getirmemeleri”, should be bulundurmamaları)

¹¹⁶ Fluency-multiple errors (the sentence makes no sense, should be rephrased but it is not possible without the ST)

¹¹⁷ Accuracy-other (ST uses “furnish no excuse” twice, however, this causes a repetition in the TT due to misplacing them. Therefore one of the should be omitted: “[...] özel yükümlülüklerini yerine getirmemeleri için bir mazeret sunmaz.)

¹¹⁸ Fluency-other (“çıksa da” must be followed by a contrary statement, however, since that would not make any sense, it must be “çıkması durumunda”)

¹¹⁹ Fluency-orthography-spelling-diacritics (derhâl)

¹²⁰ Fluency-orthography-punctuation (no space before the apostrophe)

¹²¹ Accuracy-omission (who is omitted, therefore last part of the sentence is unclear)

¹²² Fluency-grammar-extra word (repetition)

¹²³ Accuracy-mistranslation-WSD (dokunulmazlıkların)

¹²⁴ Accuracy-mistranslation-WSD (belgelere)

¹²⁵ Fluency-grammar-missing word (Who can decide? Last part of the sentence needs a subject for clarification)

- a. Multi-word Syntax: 0
 - b. Word Form: 15
 - c. Word Order: 0
 - d. Extra word: 6
 - e. Missing Word: 3
 - f. Other: 0
- 2. Lexicon: 12
 - a. Non-Existing: 1
 - b. Lexical Choice: 11
- 3. Orthography: 15
 - a. Spelling: 2
 - b. Capitalization: 0
 - c. Punctuation: 12
 - d. Other: 1
- 4. Multiple Errors: 3
- 5. Other: 3

Accuracy Errors: 68

- 1. Addition: 4
- 2. Omission: 11
- 3. Untranslated: 1
- 4. DNT: 0
- 5. Mistranslation: 29
 - a. MWE: 0
 - b. POS: 1
 - c. WSD: 21
 - d. Semantically Unrelated: 6
 - e. Other: 1
- 6. Mechanical: 16
 - a. Capitalization: 5
 - b. Punctuation: 0
 - c. Other: 11
- 7. Other: 7

2.6. OVERALL ANALYSIS OF THE LEGAL TEXT

Fluency Errors: 227

- 1. Grammar: 87
 - a. Multi-word Syntax: 0
 - b. Word Form: 47
 - c. Word Order: 4
 - d. Extra word: 21
 - e. Missing Word: 12

- f. Other: 3
- 2. Lexicon: 44
 - a. Non-Existing: 1
 - b. Lexical Choice: 43
- 3. Orthography: 81
 - a. Spelling: 11
 - b. Capitalization: 18
 - c. Punctuation: 51
 - d. Other: 1
- 4. Multiple Errors: 4
- 5. Other: 11

Accuracy Errors: 258

- 1. Addition: 11
- 2. Omission: 26
- 3. Untranslated: 1
- 4. DNT: 0
- 5. Mistranslation: 99
 - a. MWE: 0
 - b. POS: 1
 - c. WSD: 80
 - d. Semantically Unrelated: 8
 - e. Other: 10
- 6. Mechanical: 101
 - a. Capitalization: 32
 - b. Punctuation: 5
 - c. Other: 64
- 7. Other: 20

3. SOURCE TEXT

1. Background

Coronavirus disease 2019 (COVID-19) is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a newly emergent coronavirus, that was first recognized in Wuhan, Hubei province, China, in December 2019. SARS-CoV-2 is a positive-sense single-stranded RNA virus that is contagious in humans. It is the successor to SARS-CoV-1, the strain that caused the 2002–2004 SARS outbreak. Epidemiology and virologic studies suggest that transmission mainly occurs from both symptomatic and asymptomatic people to others by close contact through respiratory droplets or by direct contact with infected persons, or by contact with contaminated objects and surfaces (2,3,4,5,6), or by aerosols, i.e. in enclosed spaces indoors, crowded and inadequately ventilated spaces, where infected persons spend long periods of time with others, which may include restaurants, choir practices, fitness classes, nightclubs, offices and places of worship (7), or during aerosol-generating procedures. Clinical and virologic studies that have collected repeated biological samples from confirmed patients demonstrate that shedding of SARS-CoV-2 is highest in the upper respiratory tract (URT) (nose and throat) early in the course of the disease (8,9,10), within the first 3 days from onset of symptoms (10,11,12,13). A study of 77 infector-infectee transmission pairs observed the highest viral load in throat swabs at the time of symptom onset, suggesting infectiousness peak on or before symptom onset with an estimated 44% (95% confidence interval, 30–57%) of onward infections happening during the pre-symptomatic phase of the index case (14). The incubation period for COVID-19, which is the time between exposure to the virus (becoming infected) and symptom onset, is, on average, 5–7 days, but can be up to 14 days. During this period, also known as the “presymptomatic” period, some infected persons can be contagious, from 1–3 days before symptom onset (12). It is important to recognize that presymptomatic transmission still requires the virus to be spread via infectious droplets or by direct or indirect contact with bodily fluids from an infected person. An asymptomatic case is a person infected with SARS-CoV-2 who does not develop symptoms (15,16). Among symptomatic patients, the duration of infectious virus shedding has been estimated at 8 days from the onset of any symptoms (17,18,19). The proportion of persons who become infected with SARS-CoV-2 and remain asymptomatic remains to be better understood, recent meta-analysis reported an overall estimate of 31%, from seven studies with predefined screened populations, prediction interval ranging between 26–37% (20). One systematic review of 79 studies found that 20% (17–25%) of people remained asymptomatic throughout the course of infection (20). Another systematic review, which included 13 studies considered to be at low risk of bias, estimated that 17% of cases remain asymptomatic (14–20%) (21). A further meta-analysis included 28 studies. There was wide variance between two general population studies with the proportion of asymptomatic infections at the time of testing being 20% and 75% respectively, in

contacts the proportion was 8.2–50% and 59% (49– 68%) of obstetric patients remained asymptomatic throughout whilst 54% (42%-65%) of nursing home residents were asymptomatic at testing of which 28% (13–50%) remained asymptomatic through follow-up (22).

3.1. GOOGLE TRANSLATE

1. Arkaplan¹²

Coronavirüs³ hastalığı 2019 (COVID-19), ilk olarak Aralık 2019'da Çin'in Hubei eyaleti Wuhan'da tanınan⁴ yeni ortaya çıkan bir koronavirüs olan şiddetli akut solunum sendromu⁵ koronavirüsü⁶ 2'den (SARS-CoV-2) kaynaklanır. SARS-CoV - 2⁷, insanlarda bulaşıcı olan pozitif anlamda⁸ tek sarmallı bir RNA virüsüdür. 2002–2004 SARS salgınına neden olan tür olan⁹ SARS-CoV-1'in halefidir¹⁰. Epidemiyoloji ve virolojik çalışmalar, ¹¹hem semptomatik hem de asemptomatik kişilerden başkalarına solunum damlacıkları yoluyla yakın temas veya enfekte kişilerle doğrudan temas veya kontamine nesneler ve yüzeyler ile temas yoluyla bulaşma¹² olduğunu göstermektedir¹³ (2,3,4,5,6) veya aerosoller yoluyla, yani kapalı alanlarda, kalabalık ve yetersiz havalandırılan, enfekte kişilerin başkalarıyla uzun süreler geçirdiği, restoranlar, koro uygulamaları¹⁴, fitness dersleri, gece kulüpleri, ofisler ve ibadethaneler de dahil¹⁵ (7), veya aerosol oluşturan prosedürler sırasında¹⁷. Doğrulanmış hastalardan tekrarlanan biyolojik örneklerin toplandığı klinik ve virolojik çalışmalar, SARS-CoV-2'nin yayılmasının¹⁸ hastalığın erken döneminde üst solunum yollarında (URT¹⁹) (burun ve boğaz) en yüksek olduğunu

¹ Fluency-orthography-spelling (Arka plan)

² Accuracy-mechanical-other (should be bold)

³ Fluency-lexicon-non-existing or foreign word (Koronavirüs)

⁴ Fluency-orthography-punctuation (there should be a comma)

⁵ Fluency-lexicon-lexical choice (şiddetli akut solunum yolu sendromu)

⁶ Fluency-grammar-word form (koronavirüs)

⁷ Fluency-orthography-punctuation (There should not be a space between “Cov” and “-2)

⁸ Fluency-lexicon-lexical choice (pozitif anlamı)

⁹ Fluency-other (although the repetition of “olan” cannot be categorized under grammatical errors, it disrupts the fluency of the sentence. Therefore the sentence can be rephrased as “2002–2004 SARS salgınına neden olan SARS-CoV-1'in halefidir”)

¹⁰ Fluency-lexicon-lexical choice (ardılıdır)

¹¹ Accuracy-omission (mainly is omitted)

¹² Accuracy-other (“bulaşma” should be at the beginning of the sentence, just after “epidemiyoloji ve virolojik çalışmalar”)

¹³ Accuracy-other (“olduğunu göstermektedir” should be at the end of the sentence)

¹⁴ Accuracy-mistranslation-WSD (provaları)

¹⁵ Fluency-orthography-spelling-diacritics (dâhil)

¹⁶ Accuracy-other (this part of the sentence should be rephrased as “[...] kapalı alanlarda, restoranlar, koro provaları [...] ibadethaneler de dâhil, enfekte kişilerin başkalarıyla uzun süreler geçirdiği kalabalık ve yetersiz havalandırılan alanlarda (7), [...]”)

¹⁷ Fluency-grammar-missing word (There should be a verb)

¹⁸ Accuracy-mistranslation-WSD (bulaşmasının)

¹⁹ Fluency-lexicon-foreign word

²⁰ Accuracy-untranslated (ÜSY)

göstermektedir (8,9,10).)²¹, semptomların başlangıcından itibaren ilk 3 gün içinde²² (10,11,12,13). 77 enfeksiyonlu²³-enfekte bulaşma çifti üzerinde yapılan bir çalışma, semptom başlangıcında boğaz sürüntülerinde²⁴ en yüksek viral yükü gözlemledi^{25,26}, bu da bulaşıcılığın semptom başlangıcında veya öncesinde, tahmini %44 (%95 güven aralığı, %30-57) ilerisi ile zirve yaptığını düşündürdü^{27,28}.²⁹ indeks³⁰ vakanın semptomatik öncesi³¹ evresinde meydana gelen ³²enfeksiyonlar ³³(14)^{34,35}. Virüse maruz kalma (enfekte olma) ile semptomların başlaması arasındaki süre olan COVID-19'un kuluçka süresi ortalama 5-7 gündür,³⁶ ancak 14 güne kadar çıkabilir. Presemptomatik dönem olarak da bilinen bu dönemde, bazı enfekte kişiler, semptomların başlamasından 1-3 gün önce bulaşıcı³⁷ olabilir (12). Presemptomatik bulaşmanın³⁸ hala³⁹ virüsün⁴⁰ bulaşıcı damlacıklar yoluyla veya enfekte bir kişiden⁴¹ vücut sıvılarıyla doğrudan veya dolaylı temas yoluyla yayılmasını⁴² gerektirdiğini bilmek⁴³ önemlidir. Asemptomatik bir vaka, semptom geliştirmeyen SARS-CoV-2 ile enfekte olan bir kişidir⁴⁴ (15,16). Semptomatik hastalar arasında, herhangi bir

²¹ Fluency-orthography-punctuation (this bracket does not have a correspondent one.)

²² Fluency-grammar-word order (“[...] virolojik çalışmalar, SARS-CoV-2’nin yayılmasının hastalığın en erken döneminde (8, 9, 10), semptomların başlangıcından itibaren ilk 3 gün içinde, üst solunum yollarında (ÜSY) (burun ve boğaz) en yüksek olduğunu göstermektedir (10, 11, 12, 13).”)

²³ Accuracy-mistranslation-WSD (bulaştırıcı)

²⁴ Fluency-grammar-word form (sürüntülerindeki)

²⁵ Fluency-grammar-word form (should be gözlemlemiştir in order to ensure the scientific register throughout the text)

²⁶ Fluency-grammar-word order ([...] boğaz sürüntülerindeki en yüksek viral yükü semptom başlangıcında gözlemlemiştir, [...])

²⁷ Fluency-grammar-word form (düşündürmüştür)

²⁸ Fluency-lexicon-lexical choice (düşündürdü is not suitable for the context, ileri sürmüştür)

²⁹ Accuracy-mechanical-punctuation (no dot in the ST)

³⁰ Fluency-orthography-capitalization (İndeks)

³¹ Accuracy-mistranslation-other (presemptomatik is preferred)

³² Accuracy-omission (onward is omitted)

³³ Fluency-grammar-missing word (no verbs)

³⁴ Fluency-other (The sentence should be restated referring to the ST)

³⁵ Accuracy-other (This sentence includes several fluency and accuracy errors. Therefore it should be restated as “77 bulaştırıcı-enfekte bulaşma çifti üzerinde yapılan bir çalışma, boğaz sürüntülerindeki en yüksek viral yükü semptom başlangıcında gözlemleyerek sonraki enfeksiyonların tahmini %44’ünün (%95 güven aralığı, %30-57), indeks vakanın presemptomatik evresinde meydana gelmesiyle birlikte bulaşıcılığın semptom başlangıcında veya öncesinde zirve yaptığını ileri sürmüştür (14).)”)

³⁶ Fluency-orthography-punctuation (no comma before a conjunction)

³⁷ Fluency-lexicon-lexical choice (According to this sentence, people are contagious, not the virus itself. “Bulaştırıcı” would be the right choice.)

³⁸ Fluency-grammar-word form (bulaşmada)

³⁹ Fluency-orthography-spelling-diacritics (hâlâ)

⁴⁰ Fluency-grammar-word order (virüsün hâlâ)

⁴¹ Fluency-grammar-word form (kişinin)

⁴² Fluency-grammar-word form (yayıldığını)

⁴³ Accuracy-mistranslation-WSD (farkında olmak)

⁴⁴ Accuracy-other (It should be the person who does not develop the symptoms, not the SARS-CoV-2. There the sentence should be restated as “Asemptomatik bir vaka, SARS-CoV-2 ile enfekte olup semptom geliştirmeyen kişidir.”)

semptomun başlangıcından itibaren enfeksiyöz⁴⁵ virüs bulaşma süresi 8 gün olarak tahmin edilmiştir⁴⁶ (17,18,19).

SARS-CoV-2 ile enfekte olan ve asemptomatik kalan kişilerin oranı daha iyi anlaşılmalıya devam ediyor^{47,48}, yakın tarihli meta-analiz, önceden tanımlanmış⁴⁹ taranmış popülasyonlara sahip yedi çalışmadan toplam %31'lik bir tahmin bildirdi⁵⁰, tahmin aralığı %26-37 arasında değişiyor⁵¹ (20). 79 çalışmanın sistematik bir incelemesi, insanların %20'sinin (%17-25) enfeksiyon seyri boyunca asemptomatik kaldığını buldu⁵² (20). Düşük kayırma⁵³ hatası riski altında olduğu düşünülen⁵⁴ 13 çalışmayı içeren başka bir sistematik derleme⁵⁵, vakaların %17'sinin asemptomatik kaldığını (%14-20) tahmin etmiştir (21). Bir başka meta-analiz 28 çalışmayı içeriyordu⁵⁶. Test sırasında asemptomatik enfeksiyonların oranı sırasıyla %20 ve %75 iken, iki genel popülasyon çalışması arasında geniş bir fark vardı⁵⁷, temaslılarda⁵⁸ oran %8.2-50 idi ve obstetrik hastaların %59'u (%49-68) kaldı^{59,60} baştan sona asemptomatik iken huzurevinde kalanların %54'ü (%42-65) testte asemptomatikti ve bunların %28'i (%13-50) takip boyunca asemptomatik kaldı (22).⁶¹

3.1.1. Analysis of Google Translate

Fluency Errors: 41

1. Grammar: 21

- a. Multi-word Syntax: 1
- b. Word Form: 13
- c. Word Order: 4
- d. Extra word: 1
- e. Missing Word: 2
- f. Other: 0

2. Lexicon: 9

⁴⁵ Fluency-lexicon-lexical choice (enfeksiyöz is only used in disease names, should be bulaşıcı but can be omitted: [...] virüs bulaşma süresi [...])

⁴⁶ Fluency-grammar-word order (Semptomatik hastalar arasında, enfeksiyöz virüs bulaşma süresi herhangi bir semptomun başlangıcından itibaren 8 gün olarak tahmin edilmiştir.)

⁴⁷ Fluency-grammar-word form (devam etmektedir)

⁴⁸ Accuracy-mistranslation-MWE (daha iyi anlaşılması gerekiyor)

⁴⁹ Fluency-grammar-word form (tanımlanmış taranmış, both with the same suffix, distracts the fluency. Should be *tanımlanan*)

⁵⁰ Fluency-grammar-word form (bildirmiştir)

⁵¹ Fluency-grammar-word form (değişmektedir)

⁵² Fluency-grammar-word form (bulmuştur)

⁵³ Fluency-lexicon-lexical choice (yanlılık)

⁵⁴ Fluency-grammar-multi-word syntax (Yanlılık hatası riski düşük olduğu düşünülen)

⁵⁵ Accuracy-mistranslation-WSD (inceleme)

⁵⁶ Fluency-grammar-word form (içermekteydi)

⁵⁷ Accuracy-other (“iki genel popülasyon [...] bir fark vardı” should be at the beginning of the sentence)

⁵⁸ Accuracy-mistranslation-WSD (sonraki görüşmelerde)

⁵⁹ Fluency-grammar-extra word (seems unnecessary in this sentence)

⁶⁰ Accuracy-mistranslation-other (should be translated as “kalırken” and substitute “iken”, or omitted)

⁶¹ Fluency-other (the sentence is either too long or formed incorrectly because it is hard to read)

- a. Non-Existing: 2
 - b. Lexical Choice: 7
- 3. Orthography: 8
 - a. Spelling: 3
 - b. Capitalization: 1
 - c. Punctuation: 4
 - d. Other: 0
- 4. Multiple Errors: 0
- 5. Other: 3

Accuracy Errors: 20

- 1. Addition: 0
- 2. Omission: 2
- 3. Untranslated: 1
- 4. DNT: 0
- 5. Mistranslation: 9
 - a. MWE: 1
 - b. POS: 0
 - c. WSD: 6
 - d. Semantically Unrelated: 0
 - e. Other: 2
- 6. Mechanical: 2
 - a. Capitalization: 0
 - b. Punctuation: 1
 - c. Other: 1
- 7. Other: 6

3.2. REVERSO

1.Arka plan¹²

CoronaVirus³⁴⁵ Disease⁶⁷⁸ 2019 (COVID-19), ilk olarak Aralık 2019'te⁹ Çin'in Wuhan kentinde¹⁰ tanınan, yeni ortaya çıkan bir koroner virüs¹¹ olan şiddetli akut solunum sendromu¹² Coronavirus¹³¹⁴¹⁵ 2 (SARS-COV-2¹⁶) nedeniyle meydana geliyor¹⁷. SAR-COV-2¹⁸¹⁹, insanlarda bulaşıcı olan, pozitif-algılı²⁰ tek damarlı²¹ bir RNA virüsüdür. SARS-COV-1'in²² yerini alan²³ bu, 2002–2004 SARS salgınına neden olan gerilme²⁴²⁵ 26

Epidemiyoloji ve virolojik çalışmalar, genellikle hem semptomatik hem de asemptomatik insanlardan diğerlerine solunum damlacıkları yoluyla ²⁷veya enfekte kişilerle doğrudan temas veya kontamine olmuş nesne ve yüzeylerle temas yoluyla iletiliğini²⁸ göstermektedir²⁹³⁰ (2,3, 4,5, 6)^{31, 32} ya da aerosoller, yani kapalı alanlarda, kalabalık ve yeterince havalandırılmayan alanlarda, virüslü kişilerin restoranlar, koro uygulamaları, fitness dersleri, gece kulüpleri, ofisler ve ibadethaneler (7) veya aerosol üretme prosedürleri gibi başkalarıyla uzun zaman geçirdiği yerlerde³³. Onaylanmış hastalardan tekrarlanan biyolojik numuneler

¹ Fluency-orthography-punctuation (there must be a space after the dot, “1. Arka plan”)

² Accuracy-mechanical-other (should be bold)

³ Fluency-lexicon-foreign word (Koronavirüs)

⁴ Accuracy-untranslated

⁵ accuracy-mechanical-capitalization

⁶ Fluency-lexicon-foreign word (hastalığı)

⁷ Accuracy-untranslated

⁸ Accuracy-mechanical-capitalization (first letter is capitalized)

⁹ Fluency-grammar-word form (2019'da)

¹⁰ Accuracy-omission (Hubei is omitted)

¹¹ Accuracy-mistranslation-SU (koronavirüs)

¹² Fluency-lexicon-lexical choice (şiddetli akut solunum yolu sendromu)

¹³ Fluency-lexicon-foreign word (koronavirüs)

¹⁴ Accuracy-untranslated

¹⁵ Accuracy-mechanical-capitalization (first letter is capitalized)

¹⁶ Fluency-orthography-capitalization (the “o” in SARS-CoV-2 should be written in lower case)

¹⁷ Fluency-grammar-word form (meydana gelmektedir)

¹⁸ Fluency-orthography-spelling (SARS-COV-2)

¹⁹ Fluency-orthography-capitalization (the “o” in SARS-CoV-2 should be written in lower case)

²⁰ Fluency-lexicon-lexical choice (pozitif anlamlı)

²¹ Fluency-lexicon-lexical choice (tek sarmallı)

²² Fluency-orthography-capitalization (the “o” in SARS-CoV-2 should be written in lower case)

²³ Accuracy-omission (“is” is omitted therefore mistranslated)

²⁴ Accuracy-mistranslation-WSD (tür)

²⁵ Fluency-multiple (lexical choices, missing verbs make it impossible to correct without the ST)

²⁶ Accuracy-other (the sentence should be rephrased as “2002-2004 SARS salgınına neden olan tür SARS-CoV-1'in yerini almıştır”)

²⁷ Accuracy-omission (“close contact” is omitted)

²⁸ Accuracy-mistranslation-WSD (should be “bulaşma” and at the “[...] bulaşmanın genellikle hem semptomatik [...]”)

²⁹ Fluency-grammar-missing word (neyin iletiliğini göstermektedir? missing object)

³⁰ Accuracy-other (“göstermektedir” should be at the end of the sentence to modify the whole sentence, not just the first part)

³¹ Fluency-orthography-punctuation (there should not be a space before the last number)

³² Fluency-orthography-punctuation (no comma before “ya da”)

³³ Fluency-grammar-missing word (there should be a verb)

toplayan klinik ve virolojik çalışmalar, semptomların (10,11,12,13) başlangıcından itibaren ilk 3 gün içinde, SARS-COV-2'nin³⁴ sicilinin³⁵ hastalık seyrinde (8,9, 10³⁶) en yüksek üst solunum yolu (URT³⁷³⁸) (burun ve boğaz) olduğunu göstermektedir³⁹. 77 enfektor⁴⁰⁴¹-enfekte te⁴² iletim⁴³ çiftinin üzerinde yapılan bir çalışmada, belirti başlangıç zamanında boğaz bezlerinde⁴⁴ en yüksek viral yük gözlemlendi⁴⁵⁴⁶ ve indeks vakasının⁴⁷ (14) semptom öncesi⁴⁸ aşamasında meydana gelen yaklaşık %44 (%95 güven aralığı, %30–57) onward⁴⁹⁵⁰ enfeksiyonların belirti başlangıcındaki veya öncesindeki enfeksiyöz⁵¹⁵² tepe noktası olduğu ortaya kondu⁵³⁵⁴⁵⁵. COVID-19 için inkübasyon süresi, virüse maruz kalma (virüs bulaşması) ve belirti başlangıcı arasındaki süredir⁵⁶, ortalama olarak 5–7 gündür ancak 14 güne kadar olabilir⁵⁷. “presmirotik”⁵⁸⁵⁹⁶⁰ dönem olarak da bilinen bu süre boyunca, bazı enfekte kişiler belirti başlangıcından 1 - 3⁶¹ gün önce bulaşıcı⁶² olabilir (12). Basınç yoluyla⁶³⁶⁴

³⁴ Fluency-orthography-capitalization (the “o” in SARS-CoV-2 should be written in lower case)

³⁵ Fluency-lexicon-lexical choice (sicil is not suitable for the context)

³⁶ Fluency-orthography-punctuation (there should not be a space before the last number)

³⁷ Fluency-lexicon-foreign word

³⁸ Accuracy-untranslated (ÜSY)

³⁹ Fluency-grammar-other (The sentence is wrong, probably missing some words, but it is hard to detect the issue without the ST)

⁴⁰ Fluency-lexicon-non-existing

⁴¹ Accuracy-mistranslation-other (“infector” is translated to a non-existing word)

⁴² Fluency-grammar-extra word

⁴³ Accuracy-mistranslation-WSD (bulaşma)

⁴⁴ Accuracy-mistranslation-WSD (sürüntülerinde)

⁴⁵ Fluency-grammar-word order (boğaz bezlerindeki en yüksek viral yük belirti başlangıç zamanında gözlemlenmiştir)

⁴⁶ Fluency-grammar-word form (should be gözlemlenmiştir in order to ensure the scientific register throughout the text)

⁴⁷ Fluency-grammar-word form (vakanın)

⁴⁸ Accuracy-mistranslation-other (Presemptomatik)

⁴⁹ Fluency-lexicon-foreign word

⁵⁰ Accuracy-untranslated

⁵¹ Fluency-lexicon-lexical choice (enfeksiyöz is only used in disease names)

⁵² Accuracy-mistranslation-other (bulaşıcılık)

⁵³ Accuracy-mistranslation-SU (ileri sürülmüştür)

⁵⁴ Fluency-other (second part of the sentence starting from “indeks vakasının” should be corrected through the ST)

⁵⁵ Accuracy-other (the sentence should be rephrased as “[...] viral yük gözlemlenmiştir ve semptom başlangıcında ya da öncesinde bulaşıcılığın zirve yaptığı, sonraki bulaşmaların tahmini %44’ünün (%95 güven aralığı, %30-57) indeks vakasının Presemptomatik döneminde gerçekleştiği ileri sürülmüştür.”)

⁵⁶ Accuracy-other (this relative clause should be at the beginning of the sentence in order not to create two separate sentences and alter the focus of the ST: “Virüse maruz kalma (virüs bulaşması) ve belirti başlangıcı arasındaki süre olan COVID-19 inkübasyon süresi, ortalama olarak 5–7 gündür ancak 14 güne kadar çıkabilir)

⁵⁷ Accuracy-mistranslation-MWE (çıkabilir)

⁵⁸ Fluency-orthography-capitalization (first letter must be capitalized)

⁵⁹ Fluency-lexicon-non-existing

⁶⁰ Accuracy-mistranslation-other (it is translated into a non-existing word, should be “Presemptomatik”)

⁶¹ Fluency-orthography-punctuation (no spaces before and after the hyphen)

⁶² Fluency-grammar-word form (bulaştırıcı)

⁶³ Fluency-lexicon-lexical choice (basınç yoluyla is not suitable for the context)

⁶⁴ Accuracy-mistranslation-SU (presemptomatik)

yapılan iletimin⁶⁵ virüsün bulaşıcı damlacıklar yoluyla yayılmasını⁶⁶ veya enfekte bir kişinin vücut sıvılarıyla doğrudan veya dolaylı olarak temas etmesini⁶⁷ gerektirdiğini anlamak⁶⁸ önemlidir⁶⁹. Asemptomatik vaka, semptomlar⁷⁰ geliştirmeyen SARS-COV-2⁷¹ enfeksiyonu olan kişidir (15,16). Semptomatik hastalar arasında, bulaşıcı virüsün yayılma süresi herhangi bir semptomun başlangıcından itibaren 8 gün olarak tahmin edilmektedir (17,18,19).

SARS-COV-2⁷² enfeksiyonu olan ve asemptomatik kalmaya devam eden kişilerin oranı daha iyi anlaşılacak üzere⁷³, son meta analiz önceden tanımlanmış taramalı⁷⁴⁷⁵ popülasyonlara sahip yedi tetkikten %31'lik bir⁷⁶ tahmin⁷⁷, tahmin aralığı %26 ile %37 (20)⁷⁸ arasında değişiyor⁷⁹⁸⁰. 79 araştırmanın sistematik bir incelemesinde, enfeksiyon boyunca insanların %20'sinin⁸¹ (%17-25) asemptomatik kaldığı ortaya kondu⁸² (20). Düşük önyargılı⁸³⁸⁴⁸⁵ olduğu düşünülen 13 çalışmayı içeren bir diğer sistematik inceleme de, vakaların %17'sinin⁸⁶ asemptomatik (%14-20) (21)⁸⁷ olduğu tahmininde bulunmuş⁸⁸. Başka bir meta analiz 28 etüt⁸⁹ içeriyordu⁹⁰. Test sırasında asemptomatik enfeksiyonların oranı sırasıyla %20 ve %75 olan iki genel nüfus çalışması arasında geniş⁹¹ bir farklılık vardı⁹², temas durumunda⁹³ oran %8.2-50 ve

⁶⁵ Accuracy-mistranslation-WSD (bulaşmanın)

⁶⁶ Accuracy-other ("spread" should be at "[...] doğrudan veya dolaylı olarak temas yoluyla yayılmasını [...])

⁶⁷ Accuracy-omission ("by" is omitted, therefore mistranslated. should be "temas yoluyla")

⁶⁸ Accuracy-mistranslation-WSD (bilmek)

⁶⁹ Accuracy-omission ("still" is omitted)

⁷⁰ Fluency-grammar-word form (semptom)

⁷¹ Fluency-orthography-capitalization (the "o" in SARS-CoV-2 should be written in lower case)

⁷² Fluency-orthography-capitalization (the "o" in SARS-CoV-2 should be written in lower case)

⁷³ Accuracy-mistranslation-WSD (daha iyi anlaşılması gerekiyor)

⁷⁴ Fluency-lexicon-lexical choice (taramalı is not suitable for the context)

⁷⁵ Accuracy-other (önceden tanımlanan taranmış popülasyonlara)

⁷⁶ Accuracy-omission ("overall" is omitted)

⁷⁷ Accuracy-omission ("reported" is omitted)

⁷⁸ Accuracy-other (this reference should be at the end of the sentence)

⁷⁹ Fluency-grammar-word form (değişmektedir)

⁸⁰ Fluency-other (the sentence has meaning issues, the ST needs to be checked for correction)

⁸¹ Fluency-orthography-spelling (%20'sinin)

⁸² Fluency-grammar-word form (konmuştur)

⁸³ Fluency-lexicon-lexical choice (önyargılı does not fit here)

⁸⁴ Accuracy-omission ("risk" is omitted)

⁸⁵ Accuracy-mistranslation-WSD (Yanlılık riski düşük)

⁸⁶ Fluency-orthography-spelling (%17'sinin)

⁸⁷ Accuracy-other (this reference should be at the end of the sentence)

⁸⁸ Fluency-grammar-word form (bulunmuştur)

⁸⁹ Fluency-lexicon-lexical choice (çalışma)

⁹⁰ Fluency-grammar-word form (içermekteydi)

⁹¹ Accuracy-mistranslation-WSD (too literal, "büyük bir farklılık")

⁹² Fluency-other (The sentence should begin with "İki genel nüfus çalışması arasında büyük bir farklılık vardı,")

⁹³ Accuracy-mistranslation-WSD ("temas durumunda" bears a different meaning in this context, should be "(sonraki) görüşmelerde")

%59'du (%49–68)⁹⁴ obstetrik hastaların oranı⁹⁵ boyunca⁹⁶ asemptomatik kalırken, bakımevi sakinlerinin %54'i⁹⁸ (%42-%65) asemptomatik olup⁹⁹, %28'i (%13–50) takip yoluyla¹⁰⁰ asemptomatik kalmıştır¹⁰¹ (22).¹⁰²¹⁰³

3.2.1. Analysis of Reverso

Fluency Errors: 54

1. Grammar: 15
 - a. Multi-word Syntax: 0
 - b. Word Form: 10
 - c. Word Order: 1
 - d. Extra word: 1
 - e. Missing Word: 2
 - f. Other: 1
2. Lexicon: 16
 - a. Non-Existing: 7
 - b. Lexical Choice: 9
3. Orthography: 16
 - a. Spelling: 4
 - b. Capitalization: 7
 - c. Punctuation: 5
 - d. Other: 0
4. Multiple Errors: 1
5. Other: 6

Accuracy Errors: 48

1. Addition: 1
2. Omission: 9
3. Untranslated: 5
4. DNT: 0
5. Mistranslation: 20
 - a. MWE: 1

⁹⁴ Accuracy-other (should be “[...] obstetrik hastaların %59'u (%49-68) baştan sona/çalışma boyunca asemptomatik kalırken[...])

⁹⁵ Accuracy-addition (“oranı” is added to the TT)

⁹⁶ Fluency-other (oranı boyunca sounds odd, boyunca should be somewhere else).

⁹⁷ Accuracy-mistranslation-WSD (baştan sona/çalışma boyunca)

⁹⁸ Fluency-orthography-spelling (%54'ü)

⁹⁹ Accuracy-omission (at testing)

¹⁰⁰ Accuracy-mistranslation-WSD (boyunca)

¹⁰¹ Fluency-other (takip yoluyla asemptomatik kalmak does not make any sense)

¹⁰² Fluency-other (the sentence is not clear, it requires checking the ST)

¹⁰³ Accuracy-other (%28'i (%13–50) takip yoluyla asemptomatik kalmıştır” means “28% of nursing home residents remained asymptomatic”, therefore it should be “bakımevi sakinlerinin %54'ü test esnasında asemptomatik iken bu hastaların da %28'i takip boyunca asemptomatik kalmıştır”)

- b. POS: 0
- c. WSD: 12
- d. Semantically Unrelated: 3
- e. Other: 4

6. Mechanical: 4

- a. Capitalization: 3
- b. Punctuation: 0
- c. Other: 1

7. Other: 10



3.3. YANDEX TRANSLATE

1. Arka plân¹²

Koronavirüs hastalığı 2019 (COVID-19), Aralık 2019'da Çin'in Hubei eyaletinin Wuhan kentinde ilk kez³ tanınan⁴ yeni ortaya çıkan bir koronavirüs olan ciddi⁵ akut solunum⁶ sendromu koronavirüs 2'den (SARS-CoV-2) kaynaklanmaktadır. SARS-CoV - 2⁷, insanlarda bulaşıcı olan pozitif anlamda⁸ tek iplikli bir RNA virüsüdür. 2002-2004 SARS salgınına neden olan suş olan⁹ SARS-CoV-1'in halefidir. İletim¹⁰ temelde¹¹ semptomatik ve asemptomatik insanların yakın temas ile başkalarına solunum damlacıkları yoluyla¹²¹³ enfekte kişi ile doğrudan temas ile veya oluşan epidemiyoloji ve ölümlerden¹⁴ sorumludur¹⁵ çalışmalar¹⁶¹⁷, veya (2,3,4,5,6)¹⁸ kirlenmiş¹⁹ nesneler ve yüzeyler ile temas veya aerosol²⁰ tarafından, kapalı alanlarda kapalı²¹, enfekte kişilerin veya aerosol üreten prosedürler sırasında²² (7)²³ ibadet restoranlar²⁴²⁵, koro uygulamaları²⁶, fitness dersleri, gece kulüpleri, ofisler ve yerler²⁷²⁸ de dahil²⁹ olabilir diğerleri ile uzun süre geçirmek nerede³⁰ kalabalık ve

¹ Fluency-orthography-spelling (diacritics, “Arka plan”)

² Accuracy-mechanical-other (should be bold)

³ Fluency-grammar-word order (“[...] ilk kez Aralık 2019'da [...]”)

⁴ Fluency-orthography-punctuation (there should be a comma here)

⁵ Fluency-lexicon-lexical choice (şiddetli)

⁶ Fluency-grammar-missing word (solunum yolu sendromu)

⁷ Fluency-orthography-punctuation (no spaces before and after the hyphen “SARS-CoV-2”)

⁸ Fluency-lexicon-lexical choice (pozitif anlamlı)

⁹ Fluency-other (“neden olan suş olan” creates a repetition and flaws the fluency, the sentence can be rephrased as “2002–2004 SARS salgınına neden olan SARS-CoV-1'in halefidir”)

¹⁰ Accuracy-mistranslation-WSD (Bulaşma)

¹¹ Accuracy-mistranslation-WSD (çoğunlukla/genellikle)

¹² Fluency-orthography-punctuation (there should be a comma here)

¹³ Accuracy-omission (“or” is omitted)

¹⁴ Accuracy-mistranslation-SU (“virologic” and “ölümler” are unrelated, should be virolojik)

¹⁵ Accuracy-mistranslation-SU (“suggest” and “sorumludur” are unrelated, should be ileri sürmektedir)

¹⁶ Fluency-other (çalışmalar epidemiyoloji ve ölümlerden sorumlu olamaz, does not make sense)

¹⁷ Accuracy-other (“[...] epidemiyoloji ve ölümlerden sorumludur çalışmalar [...]” should not be together and here. The sentence should start with “Epidemiyoloji ve virolojik (ölümlerden) çalışmalar [...]” and “ileri sürmektedir (sorumludur)” must be at the end of the sentence)

¹⁸ Accuracy-other (this reference should be after “kirlenmiş nesneler ve yüzeyler ile temas”)

¹⁹ Accuracy-mistranslation-WSD (kontamine)

²⁰ Accuracy-mistranslation-other (aerosoller, should be plural)

²¹ Accuracy-mistranslation-other (translating both “enclosed” and “indoors” as “kapalı” creates repetition, one can be omitted and translated “kapalı alanlarda”)

²² accuracy-other (should be at the end of the sentence)

²³ Accuracy-other (this reference is misplaced)

²⁴ Fluency-lexicon-lexical choice (ibadet restoranlar is meaningless)

²⁵ Accuracy-mistranslation-other (ibadethaneler, restoranlar)

²⁶ Accuracy-mistranslation-WSD (provaları)

²⁷ Fluency-grammar-missing word (nasıl yerler?)

²⁸ Accuracy-mistranslation-oter (“places of worship” is translated separately and placed in different position in the TT)

²⁹ Fluency-orthography-spelling (dâhil)

³⁰ Accuracy-mistranslation-WSD (where is a relative)

yeterli havalandırması olmayan³¹ alanlarda, yani³²³³³⁴³⁵. Doğrulanmış hastalardan tekrarlanan biyolojik örnekler toplayan klinik ve virolojik çalışmalar, SARS-CoV-2'nin dökülmesinin³⁶³⁷, semptomların başlangıcından sonraki ilk 3 gün içinde, hastalığın erken döneminde (8,9,10) üst solunum yollarında (URT³⁸³⁹) (burun ve Boğaz⁴⁰) en yüksek olduğunu göstermektedir (10,11,12,13). 77 antivirüs⁴¹⁴²⁴³ infectee⁴⁴⁴⁵ iletim⁴⁶ çiftleri bir çalışmada⁴⁷ semptom başlangıç zamanı boğaz bezlerden⁴⁸ yüksek⁴⁹ viral yük gözlenen, daha önce de⁵⁰ (14)⁵¹ dizin⁵² davanın⁵³⁵⁴ semptomatik⁵⁵ faz ön sırasında⁵⁶ gerçekleştiğini ileri enfeksiyonları (%95 güven aralığı, 30-57%⁵⁷) tahmini 44%⁵⁸ ile semptom başlangıcı veya infectiousness⁵⁹⁶⁰ düşündüren zirve⁶¹⁶²⁶³. Virüse maruz kalma (enfekte olma) ile semptom başlangıcı

³¹ Accuracy-mistranslation-other (yeterli havalandırılmayan alanlarda)

³² Fluency-other (cannot be here)

³³ Accuracy-other ("i.e." is wrongly sent to the end of the target sentence)

³⁴ Fluency-multiple (the sentence contain multiple errors that cannot be individually identified and it cannot be corrected without referring to the ST)

³⁵ Accuracy-other (the whole sentence needs to be restated "Epidemiyoloji ve virolojik çalışmalar, bulaşmanın çoğunlukla hem semptomatik hem de asemptomatik insanlardan başkalarına solunum damlacıkları yoluyla yakın temas ile, enfekte kişi ile doğrudan temas ile veya kontamine nesneler ve yüzeyler ile temas yoluyla (2,3,4,5,6) veya aerosoller yoluyla, yani restoranlar, koro provaları, fitness dersleri, gece kulüpleri, ofisler ve ibadethaneler de dâhil enfekte kişilerin başkalarıyla uzun süre geçirdiği kapalı alanlarda, kalabalık ve yeterli havalandırılmayan alanlarda (7) veya aerosol üreten prosedürler sırasında gerçekleştiğini ileri sürmektedir."

³⁶ Fluency-lexicon-lexical choice (dökülmesi does not fit here, need to check the source equivalent)

³⁷ Accuracy-mistranslation-wsd (bulaşmasının)

³⁸ Fluency-lexicon-foreign word

³⁹ Accuracy-untranslated (ÜSY)

⁴⁰ Fluency-orthography-capitalization (boğaz)

⁴¹ Fluency-lexicon-lexical choice (does not fit here)

⁴² Accuracy-mistranslation-SU (bulaştırıcı)

⁴³ Accuracy-mechanical-punctuation (hyphen is omitted)

⁴⁴ Fluency-lexicon-foreign word

⁴⁵ Accuracy-untranslated (enfekte)

⁴⁶ Accuracy-mistranslation-WSD (bulaşma)

⁴⁷ Accuracy-omission ("of" is omitted, therefore the sentence is mistranslated. Should be "[...] bulaşma çifti üzerinde yapılan bir çalışma [...])

⁴⁸ Fluency-grammar-word form (bezlerinde)

⁴⁹ Accuracy-mistranslation-WSD (en yüksek)

⁵⁰ Accuracy-mistranslation-WSD (before is mistranslated it should be "öncesinde")

⁵¹ Accuracy-other (this reference should be at the end of the sentence)

⁵² Accuracy-mistranslation-WSD (indeks)

⁵³ Fluency-lexicon-lexical choice (dava does not fit here)

⁵⁴ Accuracy-mistranslation-WSD (vakanın)

⁵⁵ Accuracy-other (semptomatik should not be compounded with "davanın")

⁵⁶ Accuracy-mistranslation-WSD (**pre**-semptomatik)

⁵⁷ Fluency-orthography-punctuation (% should be before the number, %30-57)

⁵⁸ Fluency-orthography-punctuation (% should be before the number, %44)

⁵⁹ Fluency-lexicon-foreign word

⁶⁰ Accuracy-untranslated

⁶¹ Fluency-grammar-missing word (verb of the sentence is missing)

⁶² Fluency-multiple (the sentence does not make any sense. It sound like it was translated word by word)

⁶³ Accuracy-other (the target sentence contains so many accuracy errors that it must be restated: "77 bulaştırıcı-enfekte bulaşma çifti üzerinde yapılan bir çalışma, boğaz sürüntülerindeki en yüksek viral yükü semptom başlangıcında gözlemleyerek sonraki enfeksiyonların tahmini %44'ünün (%95 güven

arasındaki süre olan COVID-19'un kuluçka süresi ortalama 5-7 gündür,⁶⁴ ancak 14 güne kadar çıkabilir. “Preseptomatik” dönem olarak da bilinen bu dönemde, bazı enfekte kişiler semptom başlangıcından 1-3 gün önce bulaşıcı⁶⁵ olabilir (12). Preseptomatik bulaşmanın hala virüsün bulaşıcı damlacıklar yoluyla veya enfekte bir kişiden⁶⁶ vücut sıvılarıyla doğrudan veya dolaylı temas yoluyla yayılmasını gerektirdiğini kabul etmek önemlidir. Aseptomatik bir⁶⁷ vaka, semptom geliştirmeyen SARS-CoV-2 ile enfekte olmuş bir⁶⁸ kişidir⁶⁹ (15,16). Semptomatik hastalar arasında, enfeksiyöz⁷⁰ virüs dökülme^{71,72} süresi, herhangi bir semptomun başlangıcından itibaren 8 gün olarak tahmin edilmiştir (17,18,19). SARS-CoV-2 ile enfekte olan ve aseptomatik kalan kişilerin oranı daha iyi anlaşılmalıya devam etmektedir⁷³, son meta-analiz, önceden tanımlanmış taranmış popülasyonları olan yedi çalışmadan %26-37 arasında değişen tahmin aralığından %31'lik genel bir tahmin bildirmiştir (20). 79 çalışmanın sistematik bir derlemesi, insanların %20'sinin (%17-25) enfeksiyon boyunca aseptomatik kaldığını göstermiştir (20). Önyargı⁷⁴ riski düşük olduğu düşünülen 13 çalışmayı içeren bir başka sistematik derleme, vakaların %17'sinin aseptomatik kaldığını (%14-20)⁷⁵ tahmin etmiştir⁷⁶ (21). Başka bir meta-analiz 28 çalışmayı içeriyordu⁷⁷. Test⁷⁸ sırasıyla %20 ve %75 durumda aseptomatik enfeksiyon oranı, iki genel nüfus sayım sonuçları arasında büyük sapma⁷⁹ oldu⁸⁰, rehber^{81,82} oranı huzurevi sakinleri (%42 -65%^{83,84}) iken %54 olan (13-50%⁸⁵) 28%⁸⁶ takip (22) kadar aseptomatik

aralığı, %30-57), indeks vakanın preseptomatik evresinde meydana gelmesiyle birlikte bulaşıcılığın semptom başlangıcında veya öncesinde zirve yaptığını ileri sürmüştür (14).”)

⁶⁴ Fluency-orthography-punctuation (no comma before the conjunction)

⁶⁵ Fluency-grammar-word form (bulaştırıcı)

⁶⁶ Fluency-grammar-word form (kişinin)

⁶⁷ Fluency-grammar-extra word (unnecessary)

⁶⁸ Fluency-grammar-extra word (unnecessary)

⁶⁹ Fluency-grammar-word order (Aseptomatik vaka, SARS-CoV-2 ile enfekte olup semptom geliştirmeyen kişidir)

⁷⁰ Fluency-lexicon-lexical choice (enfeksiyöz is only used in disease names, should be bulaşıcı but can be omitted: [...] virüs bulaşma süresi [...])

⁷¹ Fluency-lexicon-lexical choice (dökülme does not fit here, need to check the source equivalent)

⁷² Accuracy-mistranslation-WSD (bulaşma)

⁷³ Accuracy-mistranslation-MWE (daha iyi anlaşılması gerekiyor)

⁷⁴ Fluency-lexicon-lexical choice (yanlılık)

⁷⁵ Accuracy-other (should be between “tahmin etmiştir” and “(21)”)

⁷⁶ Fluency-lexicon-lexical choice (tahmin etmiştir is not used for the findings of a research, bulunmuştur)

⁷⁷ Fluency-grammar-word form (içermiştir/içermektedir)

⁷⁸ Accuracy-omission (“at the time of” is omitted)

⁷⁹ Accuracy-mistranslation-WSD (farklılık)

⁸⁰ Fluency-grammar-word form (olmuştur)

⁸¹ Fluency-lexicon-lexical choice (rehber does not fit here)

⁸² Accuracy-mistranslation (contacts is mistranslated, should be “(sonraki) görüşmelerde”)

⁸³ Fluency-orthography-punctuation (no space before the hyphen)

⁸⁴ Fluency-orthography-punctuation (% should be before the number %42-%65)

⁸⁵ Fluency-orthography-punctuation (% should be before the number, %13-50)

⁸⁶ Fluency-orthography-punctuation (% should be before the number, %28)

kalmıştır test de asemptomatik⁸⁷ boyunca asemptomatik⁸⁸ olarak⁸⁹ kaldı⁹⁰ obstetrik hastalarda (49– 68%⁹¹⁹²) 8.2–%50 ve %59 oldu⁹³⁹⁴⁹⁵.

3.3.1. Analysis of Yandex Translate

Fluency Errors: 51

1. Grammar: 15
 - a. Multi-word Syntax: 0
 - b. Word Form: 7
 - c. Word Order: 2
 - d. Extra word: 3
 - e. Missing Word: 3
 - f. Other: 0
2. Lexicon: 14
 - a. Non-Existing: 3
 - b. Lexical Choice: 11
3. Orthography: 15
 - a. Spelling: 2
 - b. Capitalization: 1
 - c. Punctuation: 12
 - d. Other: 0
4. Multiple Errors: 3
5. Other: 4

Accuracy Errors: 44

1. Addition: 0
2. Omission: 3
3. Untranslated: 3
4. DNT: 0
5. Mistranslation: 24
 - a. MWE: 1
 - b. POS: 0

⁸⁷ Accuracy-other (although sounds like a addition/repetition, the word is misplaced)

⁸⁸ Fluency-other (asemptomatik boyunca asemptomatik does not mean anything)

⁸⁹ Fluency-grammar-extra word (redundant, should be omitted: asemptomatik kaldı)

⁹⁰ Fluency-grammar-word form (kalmıştır)

⁹¹ Fluency-orthography-punctuation (no space after the dash)

⁹² Fluency-orthography-punctuation (% should be before the number %49-68)

⁹³ Fluency-grammar-word form (olmuştur)

⁹⁴ Fluency-multiple (too complicated and meaningless, need to check the ST)

⁹⁵ Accuracy-other (the sentence contains multiple errors, should be restated: “İki genel popülasyon çalışması arasında geniş bir fark vardı, test sırasında asemptomatik enfeksiyonların oranı sırasıyla %20 ve %75 iken, sonraki görüşmelerde oran %8.2-50 idi ve obstetrik hastaların %59'u (%49-68) baştan sona asemptomatik kalırken huzurevinde kalanların %54'ü (%42-65) testte asemptomatik ve bunların %28'i (%13-50) takip boyunca asemptomatik kaldı (22).”)

- c. WSD: 15
- d. Semantically Unrelated: 3
- e. Other: 5

6. Mechanical: 2

- a. Capitalization: 0
- b. Punctuation: 1
- c. Other: 1

7. Other: 12



3.4. BING TRANSLATOR

1. Arka Plan¹

Koronavirüs hastalığı 2019 (COVID-19), ilk olarak Aralık 2019'da Çin'in Hubei eyaletinin Wuhan kentinde tanınan ve yeni ortaya çıkan bir koronavirüs olan şiddetli akut solunum yolu sendromu Coronavirus²³⁴ 2'den (SARS-CoV-2) kaynaklanmaktadır. SARS-CoV-2, insanlarda bulaşıcı olan pozitif duyulu⁵ tek iplikli bir RNA virüsüdür. 2002-2004 SARS salgınına neden olan SARS-CoV-1'in halefidir.

Epidemiyoloji ve virolojik çalışmalar, bulaşmanın esas olarak hem semptomatik hem de asemptomatik kişilerden başkalarına solunum damlacıkları yoluyla⁶ yakın temas yoluyla veya enfekte kişilerle doğrudan temas yoluyla gerçekleştiğini göstermektedir^{7,8} veya⁹ kontamine nesneler ve yüzeylerle (2,3,4,5,6) veya aerosollerle, yani enfekte kişilerin başkalarıyla uzun süreler geçirdiği kapalı alanlarda, kalabalık ve yetersiz havalandırılmış alanlarda temas ederek¹⁰, restoranlar¹¹, koro uygulamaları¹², fitness dersleri, gece kulüpleri, ofisler ve ibadet yerlerini (7) veya aerosol üreten prosedürler sırasında içerebilir^{13,14,15}. Doğrulanmış hastalardan tekrarlanan biyolojik örnekleri toplayan klinik ve virolojik çalışmalar, SARS-CoV-2 dökülmesinin^{16,17} hastalığın seyrinin başlarında (8,9,10), semptomların başlangıcından itibaren ilk 3 gün içinde (10,11,12,13) üst solunum yollarında (URT^{18,19}) (burun ve boğaz) en yüksek olduğunu göstermektedir. Semptom başlangıcı sırasında boğaz sürüntü örneklerinde en yüksek viral yükü gözlemleyen²⁰

¹ Accuracy-mechanical-other (should be bold)

² Fluency-lexicon-foreign word

³ Accuracy-untranslated

⁴ Accuracy-mechanical-capitalization

⁵ Fluency-lexicon-lexical choice (pozitif anlamlı)

⁶ Accuracy-other ("by" and "through" are both translated as "yoluyla" and it creates repetition in the TT. One of them can be translated as "ile": solunum damlacıkları ile yakın temas yoluyla)

⁷ Accuracy-other (should be at the end of the sentence)

⁸ Accuracy-mechanical-punctuation (there should not be a full-stop here)

⁹ Fluency-orthography-capitalization (the first letter of the word coming after the dot is always capitalized)

¹⁰ Accuracy-other (MISPLACED- should be "[...] kontamine nesneler ve yüzeylerle temas yoluyla [...]")

¹¹ Fluency-orthography-other (extra space)

¹² Accuracy-mistranslation-WSD (koro provaları)

¹³ Fluency-grammar-missing word (What can include? Need to check the ST for more)

¹⁴ Accuracy-other (MISPLACED-"including" should not involve the part after the reference (7): "[...] restoranlar, koro provaları [...] ibadet yerleri de dâhil [...]")

¹⁵ Accuracy-other (the sentence should be rephrased as "[...] enfekte kişilerle doğrudan temas yoluyla veya kontamine nesneler ve yüzeyler ile temas yoluyla (2,3,4,5,6) veya aerosoller yoluyla, yani restoranlar, koro provaları, fitness dersleri, gece kulüpleri, ofisler ve ibadet yerleri de dâhil enfekte kişilerin başkalarıyla uzun süreler geçirdiği kapalı alanlarda, kalabalık ve yetersiz havalandırılmış alanlarda (7) veya aerosol üreten prosedürler sırasında gerçekleştiğini göstermektedir.")

¹⁶ Fluency-lexicon-lexical choice (does not fit here)

¹⁷ Accuracy-mistranslation-WSD (bulaşmasının)

¹⁸ Fluency-lexicon-foreign word

¹⁹ Accuracy-untranslated (ÜSY)

²⁰ Accuracy-mistranslation-POS ("observed" is translated as verbal adjective, whereas it should be a verb)

77 enfekte²¹-enfekte²² bulaşma çifti üzerinde yapılan bir çalışmada, indeks olgusunun²³ semptom öncesi evresinde (14) meydana gelen ileriye dönük enfeksiyonların tahmini % 44'ü²⁴ (%95 güven aralığı, %30-57) ile semptom başlangıcında veya öncesinde enfeksiyözlük²⁵ zirvesi önerilmiştir^{26,27,28}. Virüse maruz kalma (enfekte olma) ile semptom başlangıcı arasındaki süre olan COVID-19 için kuluçka süresi ortalama 5-7 gündür, ancak 14 güne kadar olabilir²⁹.

"Presemptomatik" dönem olarak da bilinen bu dönemde, bazı enfekte kişiler semptom başlangıcından 1-3 gün önce bulaşıcı³⁰ olabilir (12). Presemptomatik bulaşmanın hala virüsün enfeksiyöz³¹ damlacıklar yoluyla veya enfekte bir kişiden gelen vücut sıvılarıyla doğrudan veya dolaylı temas yoluyla yayılmasını gerektirdiğini kabul etmek³² önemlidir. Asemptomatik bir vaka, SARS-CoV-2 ile enfekte olan ve semptom geliştirmeyen bir³³ kişidir (15,16). Semptomatik hastalar arasında, enfeksiyöz³⁴ virüs dökülmesinin^{35,36} süresi, herhangi bir semptomun başlangıcından itibaren 8 gün olarak tahmin edilmiştir (17,18,19). SARS-CoV-2 ile enfekte olan ve asemptomatik kalan kişilerin oranı daha iyi anlaşılmalıya devam ediyor^{37,38}, son³⁹ meta-analizler⁴⁰, önceden tanımlanmış taranmış popülasyonlara sahip yedi çalışmadan, tahmin aralığı⁴¹ %26-37 arasında değişen genel bir tahmin bildirdi^{42,43} (20). 79 çalışmanın sistematik bir incelemesi, insanların⁴⁴ %20'sinin (% 17-25⁴⁵) enfeksiyon seyri boyunca asemptomatik kaldığını buldu⁴⁶ (20). Düşük önyargı⁴⁷ riski altında olduğu düşünülen 13 çalışmanın yer aldığı bir başka sistematik derlemede, vakaların %17'sinin asemptomatik (%14-20) kaldığı

²¹ Accuracy-mistranslation-WSD (bulaştırıcı/bulaştırıcı)

²² Fluency-grammar-extra word (repetition)

²³ Accuracy-mistranslation-WSD (vakasının)

²⁴ Fluency-orthography-punctuation (%44)

²⁵ Fluency-lexicon-lexical choice (bulaşıcılık)

²⁶ Fluency-lexicon-lexical choice (ileri sürülmüştür)

²⁷ Fluency-other (the sentence is hard to read and does not have a clear meaning)

²⁸ Accuracy-other (the sentence should be rephrased: "77 bulaştırıcı-enfekte bulaşma çifti üzerinde yapılan bir çalışma, boğaz sürüntülerindeki en yüksek viral yükü semptom başlangıcında gözlemleyerek sonraki enfeksiyonların tahmini %44'ünün (%95 güven aralığı, %30-57), indeks vakasının presemptomatik evresinde meydana gelmesiyle birlikte bulaşıcılığın semptom başlangıcında veya öncesinde zirve yaptığını ileri sürmüştür.")

²⁹ Accuracy-mistranslation-MWE (çıkabilir)

³⁰ Fluency-grammar-word form (bulaştırıcı)

³¹ Fluency-lexicon-lexical choice (enfeksiyöz is only used in disease names, bulaşıcı)

³² Fluency-lexicon-lexical choice (bilmek)

³³ Fluency-grammar-extra word (bir is unnecessary)

³⁴ Fluency-lexicon-lexical choice (enfeksiyöz is only used in disease names, should be bulaşıcı but can be omitted: [...] virüs bulaşma süresi [...])

³⁵ Fluency-lexicon-lexical choice (does not fit)

³⁶ Accuracy-mistranslation-WSD (bulaşma)

³⁷ Fluency-grammar-word form (devam etmektedir)

³⁸ Accuracy-mistranslation-MWE (daha iyi anlaşılması gerekiyor)

³⁹ Accuracy-mistranslation-WSD (yakın tarihli)

⁴⁰ Accuracy-mistranslation-other (should be singular: meta-analiz)

⁴¹ Fluency-orthography-punctuation (tahmin aralığı %26-37)

⁴² Fluency-grammar-word form (bildirmiştir)

⁴³ Accuracy-omission (31% is omitted)

⁴⁴ Fluency-orthography-punctuation (insanların %20'sinin)

⁴⁵ Fluency-orthography-punctuation (%17-25)

⁴⁶ Fluency-grammar-word form (bulmuştur)

⁴⁷ Fluency-lexicon-lexical choice (yanlılık)

tahmin edilmektedir (21). Bir diğer meta-analizde 28 çalışma yer aldı⁴⁸. Test sırasında asemptomatik enfeksiyonların oranı sırasıyla %⁴⁹ 20 ve %⁵⁰ 75 olan iki genel popülasyon çalışması arasında geniş bir fark vardı⁵¹, temaslılarda⁵² oran %8,2-50⁵³ ve obstetrik hastaların %59'u (%49–68)⁵⁴ asemptomatik kalırken, bakımevi sakinlerinin %54'ü (%42-%65) testlerde asemptomatik, %28'i (%13-50) ise takip yoluyla asemptomatik kaldı⁵⁵ (22).

3.4.1. Analysis of Bing Translator

Fluency Errors: 28

1. Grammar: 8
 - a. Multi-word Syntax: 0
 - b. Word Form: 5
 - c. Word Order: 0
 - d. Extra word: 2
 - e. Missing Word: 1
 - f. Other: 0
2. Lexicon: 11
 - a. Non-Existing: 2
 - b. Lexical Choice: 9
3. Orthography: 8
 - a. Spelling: 0
 - b. Capitalization: 1
 - c. Punctuation: 6
 - d. Other: 1
4. Multiple Errors: 0
5. Other: 1

Accuracy Errors: 27

1. Addition: 0
2. Omission: 3
3. Untranslated: 2

⁴⁸ Fluency-grammar-word form (yer almıştır)

⁴⁹ Fluency-orthography-punctuation (%20)

⁵⁰ Fluency-orthography-punctuation (%75)

⁵¹ Accuracy-other (the sentence should start with “İki genel popülasyon çalışması arasında geniş bir fark vardı, test sırasında asemptomatik enfeksiyonların oranı sırasıyla %20 ve %75 iken temaslılarda %8.2-50’ydi [...]

⁵² Accuracy-mistranslation-WSD (sonraki görüşmelerde)

⁵³ Accuracy-omission (was is omitted)

⁵⁴ Accuracy-omission (throughout is omitted)

⁵⁵ Accuracy-other (%28'i (%13–50) takip yoluyla asemptomatik kalmıştır” means “28% of nursing home residents remained asymptomatic”, therefore it should be “bakımevi sakinlerinin %54’ü test esnasında asemptomatik iken bu hastaların da %28’i takip boyunca asemptomatik kalmıştır”)

- 4. DNT: 0
- 5. Mistranslation: 11
 - a. MWE: 2
 - b. POS: 1
 - c. WSD: 7
 - d. Semantically Unrelated: 0
 - e. Other: 1
- 6. Mechanical: 3
 - a. Capitalization: 1
 - b. Punctuation: 1
 - c. Other: 1
- 7. Other: 8



3.5. WATSON TRANSLATOR

1. Arka Plan¹² Coronavirüs³⁴ hastalığı 2019 (COVID-19), Aralık 2019 'da⁵ ilk kez Wuhan, Hubei eyaletinde⁶, Çin 'de⁷ tanınan şiddetli akut solunum yolu⁸⁹ koronavirus¹⁰ 2 (SARS-CoV-2) tarafından ortaya çıktı¹¹. SARS-COV-2¹², insanlarda bulaşıcı olan, pozitif¹³, tek iplikli bir RNA virüsüdür¹⁴. Bu, 2002-2004 SARS salgınına neden olan SKAR-CoV-1¹⁵ 'in¹⁶ varisi¹⁷¹⁸¹⁹.

Epidemiyoloji ve virolojik çalışmalar, aktarımın²⁰ daha çok, hem semptomatik, hem de asimptomatik²¹ kişilerden²² solunum yolu damlacıkları yoluyla²³ veya²⁴ virüslü nesneler ile doğrudan temas yoluyla^{25,26} ya da kirlenmiş²⁷ nesneler ve yüzeyler (2,3,4,5, 6²⁸),²⁹ ya da aerosollerle temas ederek, yani kapalı alanlarda, kapalı alanlarda³⁰, kalabalık ve yeterince havalandırılmış³¹³² mekanlarda³³, enfekte kişilerin diğer kişilerle uzun süre vakit geçirdikleri, restoranlar, koro uygulamaları³⁴, fitness dersleri, gece kulüpleri, ofisler ve ibadet yerleri (7) veya aerosol oluşturma sırasında

¹ Fluency-other (Should be a separate header)

² Accuracy-mechanical-other (Should be bold)

³ Fluency-lexicon-non-existing or foreign word (Koronavirüs)

⁴ Accuracy-mistranslation-other (Virus is translated but the Corona is not)

⁵ Fluency-orthography-punctuation (there should be no space before the apostrophe)

⁶ Fluency-other (Hubei is the state, Wuhan is the city)

⁷ Fluency-orthography-punctuation (there should be no space before the apostrophe)

⁸ Fluency-grammar-missing word (sendromu is missing)

⁹ Accuracy-omission (syndrome is omitted)

¹⁰ Fluency-lexicon-non-existing or foreign word (koronavirüs)

¹¹ Fluency-lexicon-lexical choice ("koronavirüs 2'den kaynaklanmaktadır" is better than "tarafından ortaya çıktı")

¹² Fluency-orthography-spelling (SARS-CoV-2)

¹³ Accuracy-omission (-sense is omitted)

¹⁴ Fluency-orthography-spelling (virüsüdür)

¹⁵ Fluency-lexicon-non-existing (SARS-CoV-1)

¹⁶ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹⁷ Fluency-orthography-spelling (diacritics, "vârisi". "Varis" means varicosis)

¹⁸ Fluency-grammar-word form (vârisidir)

¹⁹ Accuracy-omission ("is" is omitted)

²⁰ Accuracy-mistranslation-WSD (bulaşmanın)

²¹ Fluency-orthography-spelling (asemptomatik)

²² Accuracy-omission ("to others" is omitted)

²³ Accuracy-omission ("by close contact" is omitted)

²⁴ Accuracy-omission ("or [...] with infected persons")

²⁵ Accuracy-other ("doğrudan temas" should not be with "virüslü nesneler", rather with "infected persons")

²⁶ Fluency-orthography-punctuation (no comma)

²⁷ Accuracy-mistranslation-WSD (kontamine)

²⁸ Fluency-orthography-punctuation (there is an extra space before "6", unlike the other numbers)

²⁹ Fluency-orthography-punctuation (no comma)

³⁰ Fluency-grammar-extra word (repetition)

³¹ Fluency-grammar-word form (illogical, should be negative: "havalandırılmamış")

³² Accuracy-mistranslation-other (the opposite meaning)

³³ Fluency-orthography-spelling (diacritics, "mekânlarda")

³⁴ Accuracy-mistranslation-WSD (provaları)

yer alabilen kişiler tarafından³⁵ ortaya konduğunu³⁶³⁷ gösteriyor³⁸³⁹. Yordamlar⁴⁰⁴¹⁴². Doğrulanmış hastalarda⁴³ tekrarlanan biyolojik numuneler toplamış olan⁴⁴ klinik ve virolojik⁴⁵ çalışmalar, SKAR-CoV-2 'nin⁴⁶⁴⁷⁴⁸, hastalığın seyrinin en yüksek⁴⁹⁵⁰ üst solunum yolu (URT⁵¹⁵²) (burun ve boğaz) erken dönemlerinde (10⁵³,9,10), semptomların başlangıcından itibaren ilk 3 gün içinde (10,11,12,13) en yüksek olduğunu gösteriyor⁵⁴⁵⁵. 77 adet, mikro-dezenfekte⁵⁶⁵⁷ bulaşma çiftleri⁵⁸⁵⁹, semptom başlangıcında boğazdaki⁶⁰ en yüksek viral yükü gözlemledi, belirti başlangıcında veya öncesinde, semptomları⁶¹ %44 (%95 güven aralığı, %30-57) ile endeks⁶² vakasının⁶³ semptomatik⁶⁴ aşaması (14) sırasında meydana gelen enfeksiyon başlangıcında ya da daha önce ortaya çıkan⁶⁵ enfeksiyon yoğunlukta⁶⁶ olduğunu öne

³⁵ Accuracy-addition (“yer alabilen kişiler tarafından” is added)

³⁶ Fluency-lexicon-lexical choice (ortaya konduğunu does not fit here)

³⁷ Accuracy-mistranslation-WSD (gerçekleştirdiğini)

³⁸ Fluency-other (the sentence needs to be corrected by checking the ST)

³⁹ Accuracy-other (the sentence should be rephrased as “[...] enfekte kişilerle doğrudan temas yoluyla veya kontamine nesneler ve yüzeyler ile temas yoluyla (2,3,4,5,6) veya aerosoller yoluyla, yani restoranlar, koro provaları, fitness dersleri, gece kulüpleri, ofisler ve ibadet yerleri de dâhil enfekte kişilerin başkalarıyla uzun süreler geçirdiği kapalı alanlarda, kalabalık ve yetersiz havalandırılmış alanlarda (7) veya aerosol üreten prosedürler sırasında gerçekleştiğini göstermektedir)

⁴⁰ Fluency-grammar-extra word (Yordamlar cannot be a separate sentence on its own)

⁴¹ Accuracy-other (this word should belong to the previous sentence)

⁴² Accuracy-mistranslation-wsd (prosedürler)

⁴³ Fluency-grammar-word form (hastalardan)

⁴⁴ Fluency-grammar-word form (toplayan)

⁴⁵ Fluency-lexicon-non-existing (virolojik)

⁴⁶ Fluency-lexicon-non-existing (SARS-CoV-2)

⁴⁷ Fluency-orthography-punctuation (there should be no space before the apostrophe)

⁴⁸ Accuracy-Omission (“shedding of” is omitted)

⁴⁹ Fluency-grammar-extra word (“en yüksek üst solunum yolu” is meaningless, “en yüksek” is redundant)

⁵⁰ Accuracy- addition (en yüksek” is added)

⁵¹ Fluency-lexicon-foreign word

⁵² Accuracy-untranslated (ÜSY)

⁵³ Fluency-Orthography-other (should be 8)

⁵⁴ Fluency-grammar-missing word (neyin en yüksek olduğunu gösteriyor? Hastalığın seyrinin olamaz. Eksik kelime var)

⁵⁵ Accuracy-other (the sentence should be rephrased as “[...] virolojik çalışmalar, SARS-CoV-2'nin yayılmasının hastalığın en erken döneminde (8,9,10), semptomların başlangıcından itibaren ilk 3 gün içinde, üst solunum yollarında (ÜSY) (burun ve boğaz) en yüksek olduğunu göstermektedir (10,11,12,13).”)

⁵⁶ Fluency-lexicon-non-existing

⁵⁷ Accuracy-mistranslation-other (bulaştıran-enfekte)

⁵⁸ Fluency-grammar-word form (bulaşma çifti)

⁵⁹ Accuracy-omission (“a study of” is omitted)

⁶⁰ Accuracy-omission- (“swabs” is omitted)

⁶¹ Accuracy-addition (“semptomları” is added)

⁶² Fluency-lexicon-lexical choice (indeks)

⁶³ Fluency-grammar-word form (vakanın)

⁶⁴ Accuracy-omission (“pre-“ is omitted)

⁶⁵ Accuracy-addition (“ortaya çıkan” is added)

⁶⁶ Accuracy-mistranslation-WSD (here, peak should be translated as “zirve”)

sürmektedir⁶⁷⁶⁸. COVID-19 için kuluçka dönemi, virüse maruz kalma süresi⁶⁹ (enfekte olma) ve belirti başlangıcı⁷⁰⁷¹, ortalama olarak 5-7 gün⁷², ancak 14 güne kadar çıkabilen⁷³ kuluçka dönemi⁷⁴⁷⁵. "presimptomatik"⁷⁶⁷⁷ dönemi⁷⁸ olarak da bilinen bu dönemde bazı enfekte kişiler belirti başlangıcından 1-3 gün önce (12)⁷⁹ bulaşıcı⁸⁰ olabilmektedir. Presymptomatik⁸¹ transmisyonun⁸² virüsün bulaşma⁸³ damlacıkları⁸⁴ yoluyla veya enfekte bir insandan⁸⁵⁸⁶ doğrudan veya dolaylı temas yoluyla bulaşma gerektirdiğini fark etmek⁸⁷ önemlidir. Asmptomatik⁸⁸ bir⁸⁹ vaka, SKAR-COV-2⁹⁰⁹¹ ile enfekte olmuş bir kişidir (15.16⁹²) semptomları geliştirmeyen⁹³. Semptomatik hastalar arasında, herhangi bir belirtinin başlangıcından itibaren (17.18.19⁹⁴), bulaşıcı virüs dökülmesi⁹⁵⁹⁶⁹⁷ süresi 8 gün olarak tahmin ediliyor⁹⁸⁹⁹.

⁶⁷ Fluency-other (the sentence is not clear)

⁶⁸ Accuracy-other (This sentence includes several fluency and accuracy errors. Therefore it should be restated as “77 adet bulaştıran-enfekte bulaşma çifti üzerinde yapılan bir çalışma, boğaz sürüntülerindeki en yüksek viral yükü semptom başlangıcında gözlemleyerek sonraki enfeksiyonların tahmini %44’ünün (%95 güven aralığı, %30-57), indeks vakanın presemptomatik evresinde meydana gelmesiyle birlikte bulaşıcılığın semptom başlangıcında veya öncesinde zirve yaptığını ileri sürmüştür (14).)”)

⁶⁹ Accuracy-other (mislocated, “virüse maruz kalma (enfekte olma) ve belirti başlangıcı arasındaki süre”)

⁷⁰ Accuracy-omission (“between” is omitted)

⁷¹ Accuracy-omission (“which is” is omitted, therefore the relative sentence has lost its connection to the subject)

⁷² Fluency-grammar-word form (gündür)

⁷³ Accuracy-mistranslation-POS (çıkabilir)

⁷⁴ Fluency-grammar-extra word (“kuluçka dönemi” is unnecessarily repeated)

⁷⁵ Fluency-grammar-missing word (no verb in the sentence)

⁷⁶ Fluency-orthography-capitalization (first letter after the full stop is always capitilazed)

⁷⁷ Fluency-orthography-spelling (Presemptomatik)

⁷⁸ Fluency-grammar-word form (dönem)

⁷⁹ Accuracy-other (this reference should be at the end of the sentence)

⁸⁰ Fluency-grammar-word form (bulaştırıcı)

⁸¹ Fluency-orthography-spelling (presemptomatik)

⁸² Fluency-lexicon-lexical choice (bulaşmanın)

⁸³ Fluency-grammar-word form (bulaşıcı)

⁸⁴ Fluency-grammar-word form (damlacıklar)

⁸⁵ Fluency-grammar-word form (insana/insanla)

⁸⁶ Accuracy-omission (“with the bodily fluids of” is omitted)

⁸⁷ Accuracy-mistranslation-WSD (bilmek)

⁸⁸ Fluency-orthography-spelling (Asemptomatik)

⁸⁹ Fluency-grammar-extra word (“bir” should be omitted)

⁹⁰ Fluency-lexicon-non-existing (SARS-CoV-2)

⁹¹ Fluency-orthography-capitalization (“CoV”)

⁹² Fluency-orthography-punctuation (should be comma: 15,16)

⁹³ Fluency-other (Asemptomatik vaka, SARS-CoV-2 ile enfekte olup semptom geliştirmeyen kişidir)

⁹⁴ Fluency-orthography-punctuation (should be comma: 17,18,19)

⁹⁵ Fluency-grammar-word form (dökülme)

⁹⁶ Fluency-lexicon-lexical choice (does not fit here)

⁹⁷ Accuracy-mistranslation-WSD (bulaşma)

⁹⁸ Fluency-grammar-word form (edilmektedir)

⁹⁹ Fluency-grammar-word order (Semptomatik hastalar arasında virus bulaşma süresi, herhangi bir belirtinin başlangıcından itibaren 8 gün olarak tahmin edilmektedir)

SARS-CoV-2 ile enfekte olmuş kişilerin¹⁰⁰ oranı¹⁰¹ ve asimptomatik¹⁰² olarak¹⁰³ kalan kişilerin oranı daha iyi anlaşılacak şekilde kalmaya devam ediyor¹⁰⁴¹⁰⁵¹⁰⁶. Son dönemde¹⁰⁷ üst analiz¹⁰⁸, %31 'lik¹⁰⁹ bir tahminle¹¹⁰, %26-37 (20) arasında değişen tahmin aralığı ile yedi çalışmadan %31 'lik¹¹¹ bir tahmini¹¹² rapor etti. 79 araştırmadan oluşan bir sistematik inceleme, enfeksiyon süresince (20)^{113 114}%20 'nin¹¹⁵¹¹⁶ (%17-25) asimptomatik¹¹⁷ olarak¹¹⁸ kaldığını ortaya koydu. düşük¹¹⁹ risk altında¹²⁰ olduğu düşünülen 13 araştırmayı da¹²¹ içeren bir diğer sistematik inceleme¹²², vakaların %17 'si¹²³ asimptomatik¹²⁴ (%14-20) (21) olarak¹²⁵ kalmaya devam etti¹²⁶. Daha ayrıntılı¹²⁷ bir meta analizde 28 çalışma yer aldı. İki genel nüfus dönemi¹²⁸ arasında, testin¹²⁹% 20¹³⁰ ve %75¹³¹ oranındaki orantısal¹³² enfeksiyon oranı¹³³ ile orantısal enfeksiyon oranı¹³⁴ arasında geniş bir fark vardı¹³⁵¹³⁶. Bu

¹⁰⁰ Accuracy-addition (should be only one “kişilerin”)

¹⁰¹ Accuracy-addition (the word proportion is mentioned in the ST only once, however there are two equivalents for it on the TT)

¹⁰² Fluency-orthography-spelling (asemptomatik)

¹⁰³ Fluency-grammar-extra word (redundant, should be omitted: asemptomatik kaldı)

¹⁰⁴ Fluency-other (Sentence is not clear, ST needs to be checked)

¹⁰⁵ Accuracy-mistranslation-MWE (daha iyi anlaşılması gerekmekte)

¹⁰⁶ Accuracy-other (The sentence does not end here in the ST, but it could have done so as well.

HOWEVER, the sentence must be restated: “SARS-CoV-2 ile enfekte olup asemptomatik kalan kişilerin oranı daha iyi anlaşılması gerekmekte)

¹⁰⁷ Accuracy-mistranslation-WSD (Yakın tarihli)

¹⁰⁸ Accuracy-mistranslation-wsd (meta-analiz)

¹⁰⁹ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹¹⁰ Fluency-grammar-extra word (“%31 'lik bir tahminle” is a repetition, tahmin is mentioned thrice in the sentence, without having a clear purpose of use)

¹¹¹ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹¹² Fluency-grammar-word form (tahmin)

¹¹³ Accuracy-other (this reference is misplaced, should be at the end of the sentence)

¹¹⁴ Accuracy-omission (“of people” is omitted)

¹¹⁵ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹¹⁶ Fluency-grammar-missing word (20% of what?)

¹¹⁷ Fluency-orthography-spelling (asemptomatik)

¹¹⁸ Fluency-grammar-extra word (redundant, should be omitted: asemptomatik kaldı)

¹¹⁹ Fluency-orthography-capitalization (First letter after the full stop is always capitalized)

¹²⁰ Accuracy-omission (“bias” is omitted)

¹²¹ Fluency-grammar-extra word (unnecessary “da”)

¹²² Fluency-grammar-missing word (should be “incelemeye göre” otherwise the two parts of the sence do not fit with each other)

¹²³ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹²⁴ Fluency-orthography-spelling (asemptomatik)

¹²⁵ Fluency-grammar-extra word (redundant, should be omitted: asemptomatik kaldı)

¹²⁶ Accuracy-omission (“estimated that” is omitted)

¹²⁷ Accuracy-mistranslation-WSD (bir diğer/başka bir)

¹²⁸ Accuracy-mistranslation-SU (çalışması)

¹²⁹ Accuracy-omission (“at the time of” is omitted)

¹³⁰ Fluency-orthography-punctuation (testin %20 ve)

¹³¹ Accuracy-omission (“respectively” is omitted)

¹³² Accuracy-omission (“asymptomatic” is omitted)

¹³³ Fluency-grammar-extra word (“oranındaki orantısal enfeksiyon oranı” repetition)

¹³⁴ Fluency-grammar-extra word (several repetitions)

¹³⁵ Fluency-other (the sentence does not have a clear meaning, need to check the ST)

¹³⁶ Accuracy-other (the sentence does not end here)

oran¹³⁷, nüfusun¹³⁸ %8,2-50 ve %59 'unun¹³⁹ (%49-%65), hemşirelik ev¹⁴⁰ sakinlerinin¹⁴¹ %54 'ü¹⁴² (%42 %-65¹⁴³), %28 'in¹⁴⁴ (%13-50) takip yoluyla asimptomatik¹⁴⁵ olarak¹⁴⁶ kaldığı (22)¹⁴⁷ test sırasında asimptomatik¹⁴⁸ olarak¹⁴⁹ kaldı¹⁵⁰151.

3.5.1. Analysis of Watson Translator

Fluency Errors: 92

1. Grammar: 35
 - a. Multi-word Syntax: 0
 - b. Word Form: 15
 - c. Word Order: 1
 - d. Extra word: 14
 - e. Missing Word: 5
 - f. Other: 0
2. Lexicon: 14
 - a. Non-Existing: 8
 - b. Lexical Choice: 6
3. Orthography: 35
 - a. Spelling: 13
 - b. Capitalization: 3
 - c. Punctuation: 18
 - d. Other: 1
4. Multiple Errors: 0
5. Other: 8

¹³⁷ Accuracy-omission (“in contacts” is omitted)

¹³⁸ Accuracy-addition (“nüfusun” is added)

¹³⁹ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹⁴⁰ Accuracy-mistranslation-WSD (huzurevi)

¹⁴¹ Fluency-lexicon-lexical choice (hemşirelik ev sakinleri is meaningless)

¹⁴² Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹⁴³ Fluency-orthography-punctuation (%42-%65)

¹⁴⁴ Fluency-orthography-punctuation (there should be no space before the apostrophe)

¹⁴⁵ Fluency-orthography-spelling (asemptomatik)

¹⁴⁶ Fluency-grammar-extra word (redundant, should be omitted: asemptomatik kaldı)

¹⁴⁷ Accuracy-other (this reference should be at the end of the sentence)

¹⁴⁸ Fluency-orthography-spelling (asemptomatik)

¹⁴⁹ Fluency-grammar-extra word (redundant, should be omitted: asemptomatik kaldı)

¹⁵⁰ Fluency-other (the sentence does not have a clear meaning, need to check the ST)

¹⁵¹ Accuracy-other (This sentence, and the one before this, should be restated: “İki genel nüfus çalışması arasında geniş bir fark vardı, test sırasında asemptomatik enfeksiyonların oranı sırasıyla %20 ve %75 iken, sonraki görüşmelerde oran %8.2-50 idi ve obstetrik hastaların %59'u (%49-68) baştan sona asemptomatik kalırken huzurevinde kalanların %54'ü (%42-65) testte asemptomatikti ve bunların %28'i (%13-50) takip boyunca asemptomatik kaldı (22).

Accuracy Errors: 59

1. Addition: 7
2. Omission: 20
3. Untranslated: 1
4. DNT: 0
5. Mistranslation: 18
 - a. MWE: 1
 - b. POS: 1
 - c. WSD: 12
 - d. Semantically Unrelated: 1
 - e. Other: 3
6. Mechanical: 1
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 1
7. Other: 12

3.6. OVERALL ANALYSIS OF THE MEDICAL TEXT

Fluency Errors: 266

1. Grammar: 94
 - a. Multi-word Syntax: 1
 - b. Word Form: 50
 - c. Word Order: 8
 - d. Extra word: 21
 - e. Missing Word: 13
 - f. Other: 1
2. Lexicon: 64
 - a. Non-Existing: 22
 - b. Lexical Choice: 42
3. Orthography: 82
 - a. Spelling: 22
 - b. Capitalization: 13
 - c. Punctuation: 45
 - d. Other: 2
4. Multiple Errors: 4
5. Other: 22

Accuracy Errors: 199

1. Addition: 8
2. Omission: 37
3. Untranslated: 12

- 4. DNT: 0
- 5. Mistranslation: 82
 - a. MWE:6
 - b. POS: 2
 - c. WSD: 52
 - d. Semantically Unrelated: 7
 - e. Other: 15
- 6. Mechanical: 12
 - a. Capitalization: 4
 - b. Punctuation: 3
 - c. Other: 5
- 7. Other: 48



4. SOURCE TEXT

Operating the Jet Engine

In a jet engine, thrust is determined by the amount of fuel injected into the combustion chamber. The power controls on most turbojet-and turbofan-powered airplanes consist of just one thrust lever for each engine, because most engine control functions are automatic. The thrust lever is linked to a fuel control and/or electronic engine computer that meters fuel flow based upon revolutions per minute (rpm), internal temperatures, ambient conditions, and other factors. [Figure 15-3]

In a jet engine, each major rotating section usually has a separate gauge devoted to monitoring its speed of rotation. Depending on the make and model, a jet engine may have an N_1 gauge that monitors the low-pressure compressor section and/or fan speed in turbofan engines. The gas generator section may be monitored by an N_2 gauge, while triple spool engines may have an N_3 gauge as well. Each engine section rotates at many thousands of rpm. Their gauges therefore are calibrated in percent of rpm rather than actual rpm, for ease of display and interpretation. [Figure 15-4]

The temperature of turbine gases must be closely monitored by the pilot. As in any gas turbine engine, exceeding temperature limits, even for a very few seconds, may result in serious heat damage to turbine blades and other components. Depending on the make and model, gas temperatures can be measured at a number of different locations within the engine. The associated engine gauges therefore have different names according to their location. For instance:

- Exhaust Gas Temperature (EGT)—the temperature of the exhaust gases as they enter the tail pipe after passing through the turbine.
- Turbine Inlet Temperature (TIT)—the temperature of the gases from the combustion section of the engine as they enter the first stage of the turbine. The TIT is the highest temperature inside a gas turbine engine and is one of the limiting factors of the amount of power the engine can produce. TIT, however, is difficult to measure. Therefore, EGT, which relates to TIT, is normally the parameter measured.
- Interstage Turbine Temperature (ITT)—the temperature of the gases between the high-pressure and low-pressure turbine wheels.
- Turbine Outlet Temperature (TOT)—like EGT, turbine outlet temperature is taken aft of the turbine wheel(s).

Jet Engine Ignition

Most jet engine ignition systems consist of two igniter plugs, which are used during the ground or air starting of the engine. Once the start is completed, this ignition either automatically goes off or is turned off, and from this point on, the combustion in the engine is a continuous process.

Continuous Ignition

An engine is sensitive to the flow characteristics of the air that enters the intake of the engine nacelle. So long as the flow of air is substantially normal, the engine continues to run smoothly. However, particularly with rear-mounted engines that are sometimes in a position to be affected by disturbed airflow from the wings, there are some

abnormal flight situations that could cause a compressor stall or flameout of the engine. These abnormal flight conditions would usually be associated with abrupt pitch changes such as might be encountered in severe turbulence or a stall.

4.1. GOOGLE TRANSLATE

Jet Motorunu Çalıştırma¹²

Bir jet motorunda,³ itme, yanma odasına püskürtülen yakıt miktarı ile belirlenir. Çoğu motor kontrol işlevi otomatik olduğundan, çoğu turbojet ve turbofanla çalışan uçaklardaki⁴ güç kontrolleri, her motor için yalnızca bir itme kolundan oluşur. İtme kolu, dakikadaki devir sayısı (rpm), iç sıcaklıklar, ortam koşulları ve diğer faktörlere dayalı olarak yakıt akışını ölçen bir yakıt kontrolüne ve/veya elektronik motor bilgisayarına⁵ bağlıdır. [Şekil 15-3⁶]

Bir jet motorunda,⁷ her büyük dönen⁸ bölüm genellikle dönme hızını izlemeye ayrılmış ayrı bir göstergeye sahiptir. Marka ve modele bağlı olarak,⁹ bir jet motorunda, turbofan motorlarda düşük basınçlı kompresör bölümünü ve/veya fan hızını izleyen¹⁰ bir N1¹¹ göstergesi olabilir. Gaz jeneratörü bölümü bir N2¹² göstergesi ile izlenebilirken, üçlü makaralı¹³¹⁴ motorlarda¹⁵ ayrıca bir N3¹⁶ göstergesi olabilir. Her motor bölümü binlerce rpm'de¹⁷ döner. Bu nedenle göstergeleri¹⁸¹⁹, görüntüleme ve yorumlama kolaylığı için gerçek rpm yerine rpm yüzdesi olarak kalibre edilir. [Şekil 15-4²⁰]

Türbin gazlarının sıcaklığı pilot tarafından yakından izlenmelidir. Herhangi bir gaz türbin²¹ motorunda²² olduğu gibi, sıcaklık sınırlarının birkaç saniye için bile aşılması

¹ Accuracy-mechanical-other (source title is red, bold and bigger font)

² Accuracy-mistranslation-other (the text does not inform how to operate jet engine, which the translation means, rather how a jet engine operates. It should be *Jet Motorunun Çalışması*)

³ Fluency-orthography-punctuation (unnecessary comma)

⁴ Fluency-grammar-word form (nouns of the indefinite adjectives cannot be plural, should be *uçaktaki*)

⁵ Accuracy-mistranslation-WSD (*motor beyni* is the correct term)

⁶ Accuracy-mechanical-other (source is in italics)

⁷ Fluency-orthography-punctuation (unnecessary comma)

⁸ Fluency-lexicon-lexical choice (*döner* is the correct term)

⁹ Fluency-orthography-punctuation (unnecessary comma)

¹⁰ Accuracy-mistranslation-WSD (should be *gösteren/görüntüleyen*)

¹¹ Accuracy-mechanical-other (1 should be a subscript)

¹² Accuracy-mechanical-other (2 should be a subscript)

¹³ Accuracy-mistranslation-WSD (wrong meaning of the spool is used)

¹⁴ Fluency-orthography-punctuation (unnecessary comma)

¹⁵ Fluency-lexicon-lexical choice (wrong term, should be *üç şaftlı motor*)

¹⁶ Accuracy-mechanical-other (3 should be a subscript)

¹⁷ Fluency-lexicon-lexical choice (rpm is used in Turkish technical texts both adding it a suffix and separating it with an apostrophe is against the Turkish writing rules. Thus, *devir* should be used.)

¹⁸ Fluency-grammar-missing word (whose gauges? a word is missing)

¹⁹ Accuracy-mistranslation-other (source word “their” is translated as a suffix but it creates a confusion in the target text regarding gauges. Thus, it should be translated as “motor kısımlarının göstergeleri”)

²⁰ Accuracy-mechanical-other (source is in italics)

²¹ Fluency-grammar-word form (should be *türbinli* for correct term)

²² Fluency-grammar-word form (gaz türbinli *motorda*)

türbin kanatlarında²³²⁴ ve diğer bileşenlerde ciddi ısı hasarına neden olabilir. Marka ve modele bağlı olarak, gaz sıcaklıkları motor içinde bir dizi farklı yerde ölçülebilir. İlişkili²⁵ motor göstergeleri bu nedenle konumlarına göre farklı adlara sahiptir. Örneğin:

- Egzoz Gazı Sıcaklığı (EGT)—²⁶türbinden geçtikten sonra egzoz borusuna girerken egzoz gazlarının sıcaklığı.
- Türbin Giriş Sıcaklığı (TIT)—²⁷motorun yanma bölümünden çıkan gazların türbinin ilk aşamasına girerkenki sıcaklığı. TIT, bir gaz türbini²⁸ motorunun²⁹ içindeki en yüksek sıcaklıktır ve motorun üretebileceği güç miktarının sınırlayıcı faktörlerinden biridir. Ancak TIT'i³⁰ ölçmek zordur. Bu nedenle,³¹ TIT ile ilgili olan EGT, normalde ölçülen parametredir.³²
- Aşamalar Arası Türbin Sıcaklığı³³ (ITT)—³⁴yüksek basınçlı ve düşük basınçlı türbin çarkları arasındaki gazların sıcaklığı.
- Türbin Çıkış Sıcaklığı (TOT)—³⁵EGT gibi, türbin çıkış sıcaklığı türbin çark(lar)ının arkasından alınır.

Jet Motoru Ateşleme³⁶

Çoğu jet motoru ateşleme sistemi, motorun yerde veya havada çalıştırılması sırasında kullanılan iki ateşleme tapasından³⁷³⁸ oluşur. Marş tamamlandıktan sonra bu ateşleme ya otomatik olarak kapanır ya da kapatılır³⁹⁴⁰ ve bu andan itibaren motordaki yanma sürekli bir süreçtir.

Sürekli Ateşleme⁴¹

Bir⁴² motor, motor kaportasının⁴³ girişine giren havanın akış özelliklerine duyarlıdır. Hava akışı büyük ölçüde normal olduğu sürece motor sorunsuz çalışmaya devam eder.

²³ Fluency-lexicon-lexical choice (*türbin kanadı* may refer to wind turbine blades. *Bıçak* is used for blades in engines)

²⁴ Accuracy-mistranslation-WSD (wrong sense of “blades” has been used)

²⁵ Fluency-lexicon-lexical choice (*İlgili*)

²⁶ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

²⁷ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

²⁸ Fluency-grammar-word form (*gaz türbinli*)

²⁹ Fluency-grammar-word form (*gaz türbinli motorun*)

³⁰ Fluency-grammar-word form (TIT'yi)

³¹ Fluency-orthography-punctuation (unnecessary comma)

³² Fluency-grammar-word order (Bu nedenle normalde ölçülen parametre TIT ile ilgili olan EGT'dir)

³³ Fluency-lexicon-lexical choice (Should be *Kademeler Arası Türbin Sıcaklığı* or *Ara Kademe Türbin Sıcaklığı*)

³⁴ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

³⁵ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

³⁶ Accuracy-mechanical-other (should be bold)

³⁷ Fluency-lexicon-lexical choice (“Tapa” does not fit the context. Source text should be checked)

³⁸ Accuracy-mistranslation-WSD (should be *ateşleme bujisi*)

³⁹ Fluency-other (“otomatik olarak kapanır ya da kapatılır” is not quite fluent)

⁴⁰ Accuracy-mistranslation-other (target text involves a repetition. Thus, the automatic and manual process should be differentiated: *otomatik olarak ya da elle kapatılır*)

⁴¹ Accuracy-mechanical-other (should be bold)

⁴² Fluency-grammar-extra word (the indefinite articles are not used in Turkish in the way they are used in English. Therefore, this indefinite article is unnecessary)

⁴³ Accuracy-mistranslation-WSD (in aviation, nacelle is translated as *nacel*)

Ancak,⁴⁴ özellikle arkaya monteli motorlarda, bazen kanatlardan gelen rahatsız edici⁴⁵ hava akışından etkilenebilecek⁴⁶ bir konumdayken⁴⁷, kompresörün durmasına veya motorun alev almasına neden olabilecek bazı anormal uçuş durumları vardır. Bu anormal uçuş koşulları, genellikle,⁴⁸ şiddetli türbülans veya stall gibi durumlarda karşılaşılabilecek ani yunuslama değişiklikleriyle ilişkilendirilir.

4.1.1. Analysis of Google Translate

Fluency Errors: 29

6. Grammar: 9
 - a. Multi-word Syntax: 0
 - b. Word Form: 6
 - c. Word Order: 1
 - d. Extra word: 1
 - e. Missing Word: 1
 - f. Other: 0
7. Lexicon: 7
 - a. Non-Existing: 0
 - b. Lexical Choice: 7
8. Orthography: 11
 - a. Spelling: 0
 - b. Capitalization: 0
 - c. Punctuation: 11
 - d. Other: 0
9. Multiple Errors: 0
10. Other: 2

Accuracy Errors: 19

8. Addition: 0
9. Omission: 0
10. Untranslated: 0
11. DNT: 0
12. Mistranslation: 10
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 8
 - d. Semantically Unrelated: 0
 - e. Other: 2
13. Mechanical: 8
 - a. Capitalization: 0

⁴⁴ Fluency-orthography-punctuation (there should be no comma here)

⁴⁵ Accuracy-mistranslation-WSD (should be *dengeşiz*)

⁴⁶ Fluency-other (It is not clear what is affected from this airflow)

⁴⁷ Accuracy-other (relative clause is mispositioned, should be “*Ancak özellikle kanatlardan gelen rahatsız edici hava akışından bazen etkilenebilecek bir konumda olan arkaya monteli motorlarda kompresörün [...]*”)

⁴⁸ Fluency-orthography-punctuation (unnecessary comma)

- b. Punctuation: 0
 - c. Other: 8
14. Other: 1



4.2. REVERSO

Jet motorunun¹ çalıştırılması²³⁴

Jet motorlarında baskı⁵⁶, yanma odasına enjekte edilen⁷⁸ yakıt miktarına göre belirlenir. Turbojet ve turbofan motorlu uçakların çoğunda bulunan güç kontrolleri, motor kontrol işlevlerinin çoğu otomatik olduğundan, her motor için tek bir itme kolundan oluşur. Baskı⁹¹⁰ kolu;¹¹ devir/dakika (dev/dak¹²), dahili¹³ sıcaklıklar, ortam koşulları ve diğer faktörlere bağlı olarak yakıt akışını ölçen bir yakıt kontrolü ve/veya elektronik motor beynine bağlıdır. [Şekil 15-3]¹⁴¹⁵

Jet motorlarında, her bir ana döner bölümde genellikle dönüş hızını izlemeye ayrılmış ayrı bir gösterge bulunur. Marka ve modele bağlı olarak, jet motorunun turbo fan¹⁶ motorlarındaki düşük basınçlı kompresör bölümünü ve/veya fan devrini izleyen¹⁷ bir N1¹⁸ göstergesi olabilir. Gaz jeneratörü bölümü bir N2¹⁹ göstergesi ile izlenebilir, üç trip²⁰²¹ motorlarda da N3²² göstergesi olabilir. Her motor bölümü binlerce dev/dak²³ değerinde döner. Bu nedenle göstergeleri²⁴²⁵, kolay görüntüleme ve yorumlama için gerçek devir yerine devir yüzdesi olarak kalibre edilir. [Şekil 15-4]²⁶²⁷

Türbin gazlarının sıcaklığı pilot tarafından yakından izlenmelidir. Gaz türbini²⁸ motorlarında²⁹ olduğu gibi, sıcaklık sınırlarını aşmak birkaç saniye bile³⁰ türbin kanatlarında ve diğer bileşenlerde ciddi ısı hasarına neden olabilir. Gaz sıcaklıkları,

¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

² Accuracy-mechanical-other (Title should be bold, red and bigger font)

³ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁴ Accuracy-mistranslation-other (the text does not inform how to operate jet engine, which the translation means, rather how a jet engine operates. It should be *Jet Motorunun Çalışması*)

⁵ Fluency-lexicon-lexical choice (*baskı* does not fit the context)

⁶ Accuracy-mistranslation-WSD (should be *itme*)

⁷ Fluency-lexicon-lexical choice (*enjekte* does not fit the context)

⁸ Accuracy-mistranslation-WSD (should be *püskürtülen*)

⁹ Fluency-lexicon-lexical choice (*baskı* does not fit the context)

¹⁰ Accuracy-mistranslation-WSD (should be *itme*)

¹¹ Fluency-orthography-punctuation (the use of semicolon is wrong)

¹² Fluency-other (Short for *dakika* is *dk.*)

¹³ Fluency-orthography-spelling (circumflex accent is missing: *dâhili*)

¹⁴ Accuracy-mechanical-other (should be in italics)

¹⁵ Accuracy-mechanical-other (paragraph should be justified)

¹⁶ Fluency-orthography-spelling (should be written together: *turbofan*)

¹⁷ Accuracy-mistranslation-WSD (should be *gösteren/görüntüleyen*)

¹⁸ Accuracy-mechanical-other (1 should be subscript)

¹⁹ Accuracy-mechanical-other (2 should be subscript)

²⁰ Fluency-lexicon-non-existing (*trip* is not a Turkish word)

²¹ Accuracy-mistranslation-SU (should be *üç şaftlı motor*)

²² Accuracy-mechanical-other (3 should be subscript)

²³ Fluency-other (Short for *dakika* is *dk.*)

²⁴ Fluency-grammar-missing word (whose gauges? a word is missing)

²⁵ Accuracy-mistranslation-other (source word “their” is translated as a suffix but it creates a confusion in the target text regarding gauges. Thus, it should be translated as “motor bölümlerinin göstergeleri”)

²⁶ Accuracy-mechanical-other (should be in italics)

²⁷ Accuracy-mechanical-other (paragraph should be justified)

²⁸ Fluency-grammar-word form (should be *türbinli* for correct term)

²⁹ Fluency-grammar-word form (gaz türbinli *motorlarda*)

³⁰ Fluency-grammar-word order (should be *sıcaklık sınırlarını birkaç saniye bile aşmak*)

marka ve modele bağılı olarak motor içindeki çeşitli konumlarda ölçülebilir. Bu nedenle,³¹ ilgili motor göstergeleri konumlarına göre farklı adlara sahiptir. Örneğin:³²

- Egzoz Gazı Sıcaklığı (EGT) —³³ türbinden geçtikten sonra egzoz borusuna giren egzoz gazlarının sıcaklığı.

- Türbin giriş³⁴ sıcaklığı³⁵ (TIT) —³⁶ türbinin ilk aşamasına giren motorun³⁷ yanma bölümünden gelen gazların sıcaklığı. TIT, bir gaz türbini³⁸ motoru³⁹ içindeki en yüksek sıcaklıktır ve motorun üretebileceği güç miktarının sınırlayıcı faktörlerinden biridir. Ancak ÖLÇÜMÜ⁴⁰ zor⁴¹. Bu nedenle,⁴² TIT ile ilgili EGT normalde ölçülen parametredir.⁴³⁴⁴

- Ara kattaki Türbin Sıcaklığı⁴⁵ (ITT) — ⁴⁶Yüksek⁴⁷⁴⁸ basınç ve düşük basınçlı türbin tekerlekleri⁴⁹⁵⁰ arasındaki gazların sıcaklığı.

- Türbin çıkış⁵¹ sıcaklığı⁵² (TOT) —⁵³ EGT gibi, türbin çıkış sıcaklığı da türbin çarkının/çarklarının arka tarafından alınır.

Jet Motoru Ateşleme⁵⁴⁵⁵

Çoğu jet motoru ateşleme sistemi, motorun topraklama⁵⁶⁵⁷ veya hava⁵⁸ ile⁵⁹ çalıştırılması sırasında kullanılan iki ateşleme bujisinden oluşur. Çalıştırma

³¹ Fluency-orthography-punctuation (unnecessary comma)

³² Accuracy-mechanical-other (paragraph should be justified)

³³ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

³⁴ Fluency-orthography-capitalization (first letter should be capitalized)

³⁵ Fluency-orthography-capitalization (first letter should be capitalized)

³⁶ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

³⁷ Fluency-grammar-word order (it means that the engine enters the first stage of the gas turbine, which should have been the gas: *motorun yanma bölümünden gelen gazların türbinin ilk aşamasında girerkenki sıcaklığı*.)

³⁸ Fluency-grammar-word form (should be *türbinli* for correct term)

³⁹ Fluency-grammar-word form (gaz türbinli *motorun*)

⁴⁰ Accuracy-mechanical-capitalization (the letters are not capitalized in the source)

⁴¹ Fluency-grammar-word form (there is a missing copula: *zordur*)

⁴² Fluency-orthography-punctuation (unnecessary comma)

⁴³ Fluency-grammar-word order (Bu nedenle normal ölçülen parametre TIT ile ilgili olan EGT'dir)

⁴⁴ Accuracy-mechanical-other (paragraph should be justified)

⁴⁵ Fluency-lexicon-lexical choice (Should be *Kademeler Arası Türbin Sıcaklığı* or *Ara Kademe Türbin Sıcaklığı*)

⁴⁶ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

⁴⁷ Fluency-orthography-capitalization (previous definitions started with a lower case letter)

⁴⁸ Accuracy-mechanical-capitalization

⁴⁹ Fluency-lexicon-lexical choice (*tekerlek* does not fit here)

⁵⁰ Accuracy-mistranslation-WSD (should be *türbin çarkları*)

⁵¹ Fluency-orthography-capitalization (first letter should be capitalized)

⁵² Fluency-orthography-capitalization (first letter should be capitalized)

⁵³ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)ür

⁵⁴ Fluency-orthography-capitalization (other titles are not capitalized, source text should be checked)

⁵⁵ Accuracy-mechanical-other (should be bold)

⁵⁶ Fluency-lexicon-lexical choice (*topraklama* does not fit the context)

⁵⁷ Accuracy-mistranslation-WSD (*zeminde/yerde*)

⁵⁸ Fluency-lexicon-lexical choice (target text means airplane engine running on air, which is not possible)

⁵⁹ Accuracy-mistranslation-WSD (*havada çalıştırılması*)

tamamlandıktan sonra bu kontak⁶⁰ otomatik olarak kapanır veya kapatılır⁶¹⁶² ve bu noktadan itibaren motordaki yanma sürekli bir işlemdir.⁶³
Sürekli ateşleme⁶⁴⁶⁵

Motor, motor kapının⁶⁶⁶⁷ girişine giren havanın akış özelliklerine karşı duyarlıdır. Hava akışı büyük ölçüde normal olduğu sürece motor sorunsuz çalışmaya devam eder. Ancak,⁶⁸ özellikle çamurluklardan⁶⁹⁷⁰ gelen hava akışının bozulmasından etkilenecek bir konumda bulunan arkaya monte motorlar için,⁷¹ kompresörün durmasına veya motorun alev almasına neden olabilecek bazı anormal uçuş durumları vardır. Bu anormal uçuş koşulları, genellikle aşırı türbülans veya durma⁷² durumunda karşılaşılan gibi⁷³ ani hatve⁷⁴⁷⁵ değişiklikleriyle ilişkilidir.⁷⁶

4.2.1. Analysis of Reverso

Fluency Errors: 40

1. Grammar: 9
 - a. Multi-word Syntax: 0
 - b. Word Form: 5
 - c. Word Order: 3
 - d. Extra word: 0
 - e. Missing Word: 1
 - f. Other: 0
2. Lexicon: 11
 - a. Non-Existing: 2
 - b. Lexical Choice: 9
3. Orthography: 17
 - a. Spelling: 2
 - b. Capitalization: 6
 - c. Punctuation: 9
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 3

⁶⁰ Accuracy-mistranslation-WSD (ateşleme)

⁶¹ Fluency-other (“otomatik olarak kapanır ya da kapatılır” is not quite fluent)

⁶² Accuracy-mistranslation-other (target text involves a repetition. Thus, the automatic and manual process should be differentiated: *otomatik olarak ya da elle kapatılır*)

⁶³ Accuracy-mechanical-other (paragraph should be justified)

⁶⁴ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁶⁵ Accuracy-mechanical-other (should be bold)

⁶⁶ Fluency-lexicon-non-existing

⁶⁷ Accuracy-mistranslation-SU (in aviation, nacelle is translated as *nacel*)

⁶⁸ Fluency-orthography-punctuation (unnecessary comma)

⁶⁹ Fluency-lexicon-lexical choice (*çamurluklar* does not fit the context)

⁷⁰ Accuracy-mistranslation-SU (kanatlardan)

⁷¹ Fluency-orthography-punctuation (unnecessary)

⁷² Accuracy-mistranslation-WSD (correct term is *stall/stol*)

⁷³ Accuracy-other (this phrase should be restated: [...] *veya stol gibi durumlarda karşılaşılabilen* [...])

⁷⁴ Fluency-lexicon-lexical choice (*hatve* does not fit the context)

⁷⁵ Accuracy-mistranslation-WSD (*yunuslama*)

⁷⁶ Accuracy-mechanical-other (paragraph should be justified)

Accuracy Errors: 36

1. Addition: 0
2. Omission: 0
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 16
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 11
 - d. Semantically Unrelated: 3
 - e. Other: 2
6. Mechanical: 19
 - a. Capitalization: 5
 - b. Punctuation: 0
 - c. Other: 14
7. Other: 1

4.3. YANDEX TRANSLATE

Jet Motorunun Çalıştırılması¹²

Bir jet motorunda itme, yanma odasına enjekte edilen³⁴ yakıt miktarı ile belirlenir. Çoğu turbojet ve turbofan motorlu uçaktaki güç kontrolleri, her motor için sadece bir itme kolundan oluşur,⁵ çünkü çoğu motor kontrol fonksiyonu otomatiktir. İtme kolu, dakikada devir⁶ (rpm), iç sıcaklıklar, ortam koşulları ve diğer faktörlere bağlı olarak yakıt akışını ölçen bir yakıt kontrolü ve / veya⁷ elektronik motor bilgisayarına⁸ bağlanır⁹. [Şekil 15-3]¹⁰

Bir jet motorunda, her büyük dönen¹¹ bölüm genellikle dönme hızını izlemeye ayrılmış ayrı bir göstergeye sahiptir. Marka ve modele bağlı olarak,¹² bir jet motoru, turbofan motorlarında düşük basınçlı kompresör bölümünü ve / veya¹³ fan hızını izleyen¹⁴ bir N1¹⁵ göstergesine sahip olabilir. Gaz jeneratörü bölümü bir N2¹⁶ göstergesi ile izlenebilirken,¹⁷ üçlü makara¹⁸ motorları¹⁹ da bir N3²⁰ göstergesine sahip olabilir. Her motor bölümü binlerce devirde döner. Bu nedenle göstergeleri²¹²², görüntüleme ve yorumlama kolaylığı için gerçek rpm yerine rpm oranında²³ kalibre edilir. [Şekil 15-4]²⁴

Türbin gazlarının sıcaklığı pilot tarafından yakından izlenmelidir. Herhangi bir gaz türbini²⁵ motorunda²⁶ olduğu gibi, birkaç saniye bile olsa sıcaklık sınırlarının aşılması türbin kanatlarında ve diğer bileşenlerde ciddi ısı hasarına neden olabilir. Marka ve

¹ Accuracy-mechanical-other (should be bold, red, bigger font)

² Accuracy-mistranslation-other (the text does not inform how to operate jet engine, which the translation means, rather how a jet engine operates. It should be *Jet Motorunun Çalışması*)

³ Fluency-lexicon-lexical choice (does not fit the context)

⁴ Accuracy-mistranslation-WSD (should be *püskürtülen*)

⁵ Fluency-orthography-punctuation (unnecessary comma)

⁶ Fluency-grammar-missing word (dakikada devir *sayısı*)

⁷ Accuracy-mechanical-other (no space before and after the slash)

⁸ Accuracy-mistranslation-WSD (*motor beyni* is the correct term)

⁹ Fluency-grammar-word form (*bağlıdır*)

¹⁰ Accuracy-mechanical-other (should be in italics)

¹¹ Fluency-lexicon-lexical choice (*döner* is the correct term)

¹² Fluency-orthography-punctuation (unnecessary comma)

¹³ Accuracy-mechanical-other (no space before and after the slash)

¹⁴ Accuracy-mistranslation-WSD (should be *gösteren/görüntüleyen*)

¹⁵ Accuracy-mechanical-other (1 should be a subscript)

¹⁶ Accuracy-mechanical-other (2 should be a subscript)

¹⁷ Fluency-orthography-punctuation (unnecessary comma)

¹⁸ Accuracy-mistranslation-WSD (wrong sense of spool is used)

¹⁹ Fluency-lexicon-lexical choice (wrong term, should be *üç şaftlı motor*)

²⁰ Accuracy-mechanical-other (3 should be a subscript)

²¹ Fluency-grammar-missing word (whose gauges? a word is missing)

²² Accuracy-mistranslation-other (source word “their” is translated as a suffix but it creates a confusion in the target text regarding gauges. Thus, it should be translated as “motor bölümlerinin göstergeleri”)

²³ Accuracy-mistranslation-WSD (should be *yüzdesine/yüzdesi olarak*)

²⁴ Accuracy-mechanical-other (should be in italics)

²⁵ Fluency-grammar-word form (should be *türbinli* for correct term)

²⁶ Fluency-grammar-word form (gaz türbinli *motorda*)

modele bağı olarak,²⁷ gaz sıcaklıkları motor içinde bir dizi farklı yerde ölçülebilir. Bu nedenle,²⁸ ilgili motor göstergeleri konumlarına göre farklı adlara sahiptir. Örneğin:

- Egzoz Gazı Sıcaklığı (EGT) —²⁹ egzoz gazlarının türbinden geçtikten sonra kuyruk³⁰ borusuna girdikleri sıcaklık.

- Türbin Giriş Sıcaklığı (TIT) —³² türbinin ilk aşamasına girerken motorun³³ yanma bölümünden çıkan gazların sıcaklığı. TIT, bir gaz türbini³⁴ motorunun³⁵ içindeki en yüksek sıcaklıktır ve motorun üretebileceği güç miktarının sınırlayıcı faktörlerinden biridir. Bununla birlikte,³⁶ baştankara³⁷ ölçmek zordur. Bu nedenle,³⁹ TIT ile ilgili olan EGT normalde ölçülen parametredir.⁴⁰

- *⁴¹⁴² Kademeler Arası Türbin Sıcaklığı⁴³ (ITT) -⁴⁴ yüksek basınçlı ve düşük basınçlı türbin çarkları arasındaki gazların sıcaklığı.

- Türbin Çıkış Sıcaklığı (TOT) —⁴⁵EGT gibi, türbin çıkış sıcaklığı da türbin çarkının (çarklarının) arkasından alınır.

Jet Motoru Ateşlemesi⁴⁶

Çoğu jet motoru ateşleme sistemi, motorun zemin veya hava⁴⁷ çalıştırması⁴⁸ sırasında kullanılan iki ateşleyici⁴⁹ tapadan⁵⁰ oluşur. Çalıştırma tamamlandıktan sonra, bu

²⁷ Fluency-orthography-punctuation (unnecessary comma)

²⁸ Fluency-orthography-punctuation (unnecessary comma)

²⁹ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

³⁰ Fluency-lexicon-lexical choice (*kuyruk* does not fit the context)

³¹ Accuracy-mistranslation-WSD (should be *egzoz*)

³² Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

³³ Fluency-grammar-word order (it means that the engine enters the first stage of the gas turbine, which should have been the gas: *motorun yanma bölümünden gelen gazların türbinin ilk aşamasında girerkenki sıcaklığı*.)

³⁴ Fluency-grammar-word form (should be *türbinli* for correct term)

³⁵ Fluency-grammar-word form (gaz türbinli *motorun*)

³⁶ Fluency-orthography-punctuation (unnecessary comma)

³⁷ Fluency-lexicon-lexical choice (this is a type of bird, which does not fit the context)

³⁸ Accuracy-mistranslation-SU (should be *TIT*)

³⁹ Fluency-orthography-punctuation (unnecessary comma)

⁴⁰ Fluency-grammar-word order (Bu nedenle normalde ölçülen parametre TIT ile ilgili olan EGT'dir)

⁴¹ Fluency-orthography-punctuation (others are bullet points, this one should also be bullet)

⁴² Accuracy-mechanical-other (should be a bullet point)

⁴³ Fluency-lexicon-lexical choice (Should be *Kademeler Arası Türbin Sıcaklığı* or *Ara Kademe Türbin Sıcaklığı*)

⁴⁴ Fluency-orthography-punctuation (hyphen is not used as such in Turkish. Colon would be the correct choice)

⁴⁵ Fluency-orthography-punctuation (dash is not used as such in Turkish. Colon would be the correct choice)

⁴⁶ Accuracy-mechanical-other (should be bold)

⁴⁷ Fluency-grammar-word form (*havada*)

⁴⁸ Fluency-grammar-word form (*çalıştırılması*)

⁴⁹ Accuracy-mistranslation-WSD (should be *ateşleme*)

⁵⁰ Fluency-lexicon-lexical choice ("Tapa" does not fit the context. Source text should be checked)

⁵¹ Accuracy-mistranslation-WSD (should be *ateşleme bujisi*)

ateşleme otomatik olarak söner⁵²⁵³ veya kapanır⁵⁴ ve bu noktadan sonra motordaki yanma sürekli bir işlemdir.

Sürekli Ateşleme⁵⁵

Bir⁵⁶ motor, motor motorunun⁵⁷⁵⁸ girişine giren havanın akış özelliklerine duyarlıdır. Hava akışı önemli ölçüde normal olduğu sürece,⁵⁹ motor sorunsuz çalışmaya devam eder. Bununla birlikte,⁶⁰ özellikle bazen kanatlardan gelen rahatsız edici⁶¹ hava akışından etkilenebilecek bir konumda olan arkaya monte motorlarda, kompresörün durmasına veya motorun alev almasına neden olabilecek bazı anormal uçuş durumları vardır. Bu anormal uçuş koşulları genellikle şiddetli türbülansla veya duraklamada⁶² karşılaşılabilecek ani perde⁶³⁶⁴ değişiklikleriyle ilişkilendirilir.

4.3.1. Analysis of Yandex Translate

Fluency Errors: 36

1. Grammar: 13
 - a. Multi-word Syntax: 0
 - b. Word Form: 7
 - c. Word Order: 2
 - d. Extra word: 2
 - e. Missing Word: 2
 - f. Other: 0
2. Lexicon: 9
 - a. Non-Existing: 0
 - b. Lexical Choice: 9
3. Orthography: 14
 - a. Spelling: 0
 - b. Capitalization: 0
 - c. Punctuation: 14
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 0

Accuracy Errors: 28

1. Addition: 0
2. Omission: 0

⁵² Fluency-lexicon-lexical choice (here *ateşleme* is not fire, so it cannot be put out)

⁵³ Accuracy-mistranslation-WSD (*kapanır*)

⁵⁴ Accuracy-mistranslation-other (the automatic and manual process should be differentiated: *otomatik olarak kapanır ya da elle kapatılır*)

⁵⁵ Accuracy-mechanical-other (should be bold)

⁵⁶ Fluency-grammar-extra word (the indefinite articles are not used in Turkish in the way they are used in English. Therefore, this indefinite article is unnecessary)

⁵⁷ Fluency-grammar-extra word (repetition)

⁵⁸ Accuracy-mistranslation-SU (should be *motor nacelinin*)

⁵⁹ Fluency-orthography-punctuation (unnecessary comma)

⁶⁰ Fluency-orthography-punctuation (unnecessary comma)

⁶¹ Accuracy-mistranslation-WSD (should be *denge*)

⁶² Accuracy-mistranslation-WSD (correct term is *stall/stol*)

⁶³ Fluency-lexicon-lexical choice (*perde* does not fit the context)

⁶⁴ Accuracy-mistranslation-WSD (*yunuslama*)

- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 18
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 12
 - d. Semantically Unrelated: 2
 - e. Other: 4
- 6. Mechanical: 10
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 10
- 7. Other: 0



4.4. BING TRANSLATOR

Jet Motorunun Çalıştırılması¹²

Bir jet motorunda itme, yanma odasına enjekte edilen³ yakıt miktarı ile belirlenir. Çoğu turbojet ve turbofan motorlu uçaktaki güç kontrolleri, her motor için sadece bir itme kolundan oluşur,⁴ çünkü çoğu motor kontrol fonksiyonu otomatiktir. İtme kolu, yakıt akışını dakikadaki devir sayısına (rpm), iç sıcaklıklara, ortam koşullarına ve diğer faktörlere göre ölçen bir yakıt kontrolü ve/veya elektronik motor bilgisayarına⁵ bağlıdır. [Şekil 15-3]⁶

Bir jet motorunda, her ana dönen⁷ bölüm genellikle dönme hızını izlemeye adanmış⁸ ayrı bir göstergeye sahiptir. Marka ve modele bağlı olarak,⁹ bir jet motoru, turbofan motorlarında düşük basınçlı kompresör bölümünü ve / veya¹⁰ fan hızını izleyen¹¹ bir N1¹² göstergesine sahip olabilir. Gaz jeneratörü bölümü bir N2¹³ göstergesi ile izlenebilirken, üçlü makara¹⁴ motorları¹⁵ da bir N3¹⁶ göstergesine sahip olabilir. Her motor bölümü binlerce devirde döner. Bu nedenle göstergeleri¹⁷¹⁸, görüntüleme ve yorumlama kolaylığı için gerçek rpm yerine rpm yüzdesi cinsinden kalibre edilir. [Şekil 15-4]¹⁹

Türbin gazlarının sıcaklığı pilot tarafından yakından izlenmelidir. Herhangi bir gaz türbini²⁰ motorunda²¹ olduğu gibi, sıcaklık sınırlarını aşmak, birkaç saniye bile olsa,²² türbin kanatlarında ve diğer bileşenlerde ciddi ısı hasarına neden olabilir. Marka ve modele bağlı olarak,²³ gaz sıcaklıkları motor içinde bir dizi farklı yerde ölçülebilir. Bu nedenle,²⁴ ilişkili²⁵ motor göstergeleri konumlarına göre farklı isimlere sahiptir. Örneğin:

¹ Accuracy-mechanical-other (should be bold, red, bigger font)

² Accuracy-mistranslation-other (the text does not inform how to operate jet engine, which the translation means, rather how a jet engine operates. It should be *Jet Motorunun Çalışması*)

³ Fluency-lexicon-lexical choice (*enjekte* does not fit the context)

⁴ Fluency-orthography-punctuation (unnecessary comma)

⁵ Accuracy-mistranslation-WSD (*motor beyini* is the correct term)

⁶ Accuracy-mechanical-other (should be in italics)

⁷ Fluency-lexicon-lexical choice (*döner* is the correct term)

⁸ Accuracy-mistranslation-WSD (should be *ayrılmış*)

⁹ Fluency-orthography-punctuation (unnecessary comma)

¹⁰ Accuracy-mechanical-other (no space before and after the slash)

¹¹ Accuracy-mistranslation-WSD (should be *gösteren/görüntüleyen*)

¹² Accuracy-mechanical-other (1 should be a subscript)

¹³ Accuracy-mechanical-other (2 should be a subscript)

¹⁴ Accuracy-mistranslation-WSD (wrong sense of spool is used)

¹⁵ Fluency-lexicon-lexical choice (wrong term, should be *üç şaftlı motor*)

¹⁶ Accuracy-mechanical-other (3 should be a subscript)

¹⁷ Fluency-grammar-missing word (whose gauges? a word is missing)

¹⁸ Accuracy-mistranslation-other (source word “their” is translated as a suffix but it creates a confusion in the target text regarding gauges. Thus, it should be translated as “motor bölümlerinin göstergeleri”)

¹⁹ Accuracy-mechanical-other (should be in italics)

²⁰ Fluency-grammar-word form (should be *türbinli* for correct term)

²¹ Fluency-grammar-word form (gaz türbinli *motorda*)

²² Fluency-grammar-word order (should be *sıcaklık sınırlarını birkaç saniye bile olsa aşmak*)

²³ Fluency-orthography-punctuation (unnecessary comma)

²⁴ Fluency-orthography-punctuation (unnecessary comma)

²⁵ Fluency-lexicon-lexical choice (*ilgili*)

- Egzoz Gazı Sıcaklığı (EGT) -²⁶ egzoz gazlarının türbinden geçtikten sonra egzoz borusuna girerken²⁷ sıcaklıkları.
- Türbin Giriş Sıcaklığı (TIT) -²⁸ motorun yanma bölümünden gelen gazların türbinin ilk aşamasına girerken²⁹ sıcaklığı. TIT, bir gaz türbini³⁰ motorunun³¹ içindeki en yüksek sıcaklıktır ve motorun üretebileceği güç miktarının sınırlayıcı faktörlerinden biridir. Bununla birlikte,³² TIT'nin ölçülmesi zordur. Bu nedenle,³³ TIT ile ilgili olan EGT, normalde ölçülen parametredir.³⁴
- Kademelerarası³⁵ Türbin Sıcaklığı (ITT)—³⁶yüksek basınçlı ve alçak basınçlı türbin tekerlekleri³⁷³⁸ arasındaki gazların sıcaklığı.
- Türbin Çıkış Sıcaklığı (TOT) -³⁹ EGT gibi, türbin çıkış sıcaklığı türbin çarkının (tekerleklerinin⁴⁰⁴¹) arkasından alınır.

Jet Motoru Ateşlemesi⁴²

Çoğu jet motoru ateşleme sistemi, motorun zeminde veya havada çalıştırılması sırasında kullanılan iki ateşleyici tapadan⁴³⁴⁴ oluşur. Çalıştırma tamamlandıktan sonra, bu kontak⁴⁵ ya otomatik olarak söner⁴⁶⁴⁷ ya da kapatılır⁴⁸ ve bu noktadan itibaren motordaki yanma sürekli bir işlemdir.

Sürekli Ateşleme⁴⁹

Bir⁵⁰ motor, motor naselinin girişine giren havanın akış özelliklerine duyarlıdır. Hava akışı büyük ölçüde normal olduğu sürece,⁵¹ motor sorunsuz çalışmaya devam eder. Bununla birlikte,⁵² özellikle bazen kanatlardan gelen rahatsız⁵³⁵⁴ hava akışından

²⁶ Fluency-orthography-punctuation (a colon should be used)

²⁷ Fluency-grammar-word form (*girerkenki*)

²⁸ Fluency-orthography-punctuation (a colon should be used)

²⁹ Fluency-grammar-word form (*girerkenki*)

³⁰ Fluency-grammar-word form (should be *türbinli* for correct term)

³¹ Fluency-grammar-word form (gaz türbinli *motorun*)

³² Fluency-orthography-punctuation (unnecessary comma)

³³ Fluency-orthography-punctuation (unnecessary comma)

³⁴ Fluency-grammar-word order (Bu nedenle normalde ölçülen parametre TIT ile ilgili olan EGT'dir)

³⁵ Fluency-orthography-spelling (should be written separately, *Kademeler Arası*)

³⁶ Fluency-orthography-punctuation (while hyphen is used in other definitions, this is a dash. Still, colon would be the correct choice)

³⁷ Fluency-lexicon-lexical choice (*tekerlek* does not fit here)

³⁸ Accuracy-mistranslation-WSD (should be *türbin çarkları*)

³⁹ Fluency-orthography-punctuation (a colon should be used)

⁴⁰ Fluency-lexicon-lexical choice (*tekerlek* does not fit here)

⁴¹ Accuracy-mistranslation-WSD (should be *türbin çarkları*)

⁴² Accuracy-mechanical-other (should be bold)

⁴³ Fluency-lexicon-lexical choice ("Tapa" does not fit the context. Source text should be checked)

⁴⁴ Accuracy-mistranslation-WSD (should be *ateşleme bujisi*)

⁴⁵ Accuracy-mistranslation-WSD (should be *ateşleme*)

⁴⁶ Fluency-lexicon-lexical choice (here *ateşleme* is not fire, so it cannot be put out)

⁴⁷ Accuracy-mistranslation-WSD (*kapanır*)

⁴⁸ Accuracy-mistranslation-other (the automatic and manual process should be differentiated: *otomatik olarak kapanır ya da elle kapatılır*)

⁴⁹ Accuracy-mechanical-other (should be bold)

⁵⁰ Fluency-grammar-extra word (the indefinite articles are not used in Turkish in the way they are used in English. Therefore, this indefinite article is unnecessary)

⁵¹ Fluency-orthography-punctuation (unnecessary comma)

⁵² Fluency-orthography-punctuation (unnecessary comma)

⁵³ Fluency-lexicon-lexical choice (*rahatsız* does not fit the context)

⁵⁴ Accuracy-mistranslation-WSD (should be *dengesiz*)

etkilenebilecek bir konumda olan arkaya monte edilmiş motorlarda, kompresörün durmasına veya motorun alev almasına neden olabilecek bazı anormal uçuş durumları vardır. Bu anormal uçuş koşulları genellikle şiddetli türbülans veya duraklamada⁵⁵ karşılaşılabilecek ani perde^{56,57} değişiklikleri ile ilişkili olacaktır⁵⁸.

4.4.1. Analysis of Bing Translator

Fluency Errors: 34

1. Grammar: 11
 - a. Multi-word Syntax: 0
 - b. Word Form: 7
 - c. Word Order: 2
 - d. Extra word: 1
 - e. Missing Word: 1
 - f. Other: 0
2. Lexicon: 10
 - a. Non-Existing: 0
 - b. Lexical Choice: 10
3. Orthography: 13
 - a. Spelling: 1
 - b. Capitalization: 0
 - c. Punctuation: 12
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 0

Accuracy Errors: 24

1. Addition: 0
2. Omission: 0
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 14
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 12
 - d. Semantically Unrelated: 0
 - e. Other: 2
6. Mechanical: 10
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 10
7. Other: 0

⁵⁵ Accuracy-mistranslation-WSD (correct term is *stall/stol*)

⁵⁶ Fluency-lexicon-lexical choice (*perde* does not fit the context)

⁵⁷ Accuracy-mistranslation-WSD (*yunuslama*)

⁵⁸ Fluency-grammar-word form (*ilişkilidir*)

4.5. WATSON TRANSLATOR

Jet Motoru 'nun¹ jet motorunda²³ çalıştırılması⁴⁵, ⁶yanma odasına enjekte edilen⁷⁸ yakıt miktarına göre belirlenir. En⁹¹⁰ turbojet-¹¹ve turbofan gücüyle¹² çalışan uçaklar¹³ üzerindeki güç denetimleri, her motor için sadece bir itme kolundan oluşur,¹⁴ çünkü çoğu motor kontrol fonksiyonu otomatik olarak çalışır. Itme¹⁵ kolu, dakikada devrimler¹⁶ (rpm), iç sıcaklıklar, ortam koşulları ve diğer etkenler doğrultusunda yakıt akışını ölçen bir yakıt kontrolü ve/veya elektronik motor bilgisayarına¹⁷ bağlıdır. [¹⁸Şekil 15 ¹⁹⁻³¹²⁰ ²¹Bir jet motorunda, her büyük dönen²² bölüm genellikle rotasyon hızını izlemek için ayrılmış ayrı bir göstergeye sahiptir. Make²³²⁴ ve modele bağlı olarak,²⁵ bir jet motoru, turbo fan²⁶ motorlarında düşük basınçlı kompresör bölümünü ve/veya fan hızını izleyen²⁷ bir N1²⁸ göstergesine sahip olabilir. Gaz üretici²⁹ bölümü N2³⁰ göstergesine göre³¹ izlenebilir,³² ancak³³ üç adet kuyruk motorunun³⁴³⁵ da N3³⁶

¹ Fluency-orthography-punctuation (no space before the apostrophe)

² Fluency-grammar-extra word (repetition)

³ Accuracy-mistranslation-other (since the title integrated into the body of the text, first part of the sentence is mistranslated)

⁴ Accuracy-other (title of the text is integrated into the body)

⁵ Accuracy-mistranslation-other (the text does not inform how to operate jet engine, which the translation means, rather how a jet engine operates. It should *Jet Motorunun Çalışması*)

⁶ Accuracy-omission (*thrust* is omitted)

⁷ Fluency-lexicon-lexical choice (*enjekte* does not fit the context)

⁸ Accuracy-mistranslation-WSD (*püskürtülen*)

⁹ Fluency-grammar-extra word (*en* seems to be extra)

¹⁰ Accuracy-mistranslation-WSD (*most* is mistranslated, should be *çoğu*)

¹¹ Fluency-orthography-punctuation (unnecessary use of hyphen)

¹² Accuracy-addition (*gücüyle* is added)

¹³ Accuracy-other (When it is considered that the sentence should start with *çoğu*, *uçak* should be singular)

¹⁴ Fluency-orthography-punctuation (unnecessary comma)

¹⁵ Fluency-orthography-spelling (*Itme*)

¹⁶ Fluency-lexicon-lexical choice (*dakikada devir sayısı*)

¹⁷ Accuracy-mistranslation-WSD (*motor beyni* is the correct term)

¹⁸ Fluency-orthography-punctuation (unnecessary space)

¹⁹ Fluency-orthography-punctuation (unnecessary space)

²⁰ Accuracy-mechanical-other (should be in italics)

²¹ Accuracy-mechanical-other (should be another paragraph)

²² Fluency-lexicon-lexical choice (*döner*)

²³ Fluency-lexicon-non-existing/foreign word

²⁴ Accuracy-untranslated (should be *marka*)

²⁵ Fluency-orthography-punctuation (unnecessary comma)

²⁶ Accuracy-mistranslation-other (should be written together *turbofan*)

²⁷ Accuracy-mistranslation-WSD (should be *gösteren/görüntüleyen*)

²⁸ Accuracy-mechanical-other (1 should be a subscript)

²⁹ Accuracy-mistranslation-WSD (*jeneratörü*)

³⁰ Accuracy-mechanical-other (2 should be a subscript)

³¹ Accuracy-mistranslation-WSD (N₂ göstergesi *ile* izlenebilir)

³² Fluency-orthography-punctuation (unnecessary comma)

³³ Accuracy-mistranslation-WSD (*while* is mistranslated, it should be a suffix attached to the previous word: *izlenebilirken*)

³⁴ Fluency-lexicon-lexical choice (*üç adet kuyruk motoru* seems irrelevant as a phrase)

³⁵ Accuracy-mistranslation-SU (should be *üç şaftlı motor*)

³⁶ Accuracy-mechanical-other (3 should be a subscript)

göstergesi olabilir. Her bir motor bölümü, binlerce devir/dakika hızlarında³⁷ döner. Bu nedenle göstergeler, görüntü ve yorumlama kolaylığı için gerçek rpm yerine devir/dakika cinsinden kalibrasyonda yapılır³⁸. [³⁹Şekil 15 ⁴⁰-4]⁴¹

Türbin gazlarının sıcaklığı, pilot tarafından yakından izlenmelidir. Herhangi bir gaz türbini⁴² motorunda⁴³ olduğu gibi, sıcaklık limitlerini aşarak⁴⁴⁴⁵, birkaç saniye içinde⁴⁶ bile,⁴⁷⁴⁸ türbin blade'lerine⁴⁹⁵⁰⁵¹ ve diğer bileşenlere⁵² ciddi ısı hasarına yol açabilir. Make⁵³⁵⁴ ve modele bağlı olarak,⁵⁵ gaz sıcaklıkları, motor içindeki farklı yerlerde ölçülebilir. Bu nedenle,⁵⁶ ilişkili⁵⁷ motor göstergelerinde konumlarına göre farklı adlar bulunur. Örneğin: ⁵⁸⁵⁹Egzoz Gaz⁶⁰ Sıcaklığı (EGT)-⁶¹türbin üzerinden⁶² geçtikten sonra egzoz gazının sıcaklığı, türbin üzerinden geçtikten sonra⁶³⁶⁴ kuyruk⁶⁵⁶⁶ borularına girmektedir⁶⁷⁶⁸. ⁶⁹⁷⁰Türbin Inlet⁷¹⁷² Sıcaklığı (TIT)-⁷³motogunun⁷⁴⁷⁵ yanma

³⁷ Fluency-grammar-word form (*hızında*)

³⁸ Fluency-lexicon-lexical choice (*kalibre edilir*)

³⁹ Fluency-orthography-punctuation (unnecessary space)

⁴⁰ Fluency-orthography-punctuation (unnecessary space)

⁴¹ Accuracy-mechanical-other (should be in italics)

⁴² Fluency-grammar-word form (should be *türbinli* for correct term)

⁴³ Fluency-grammar-word form (gaz türbinli *motorda*)

⁴⁴ Fluency-grammar-other (*aşarak* does not fit here, disrupts the grammar since it does not conform with the subject)

⁴⁵ Accuracy-mistranslation-other (should be *aşılması*)

⁴⁶ Accuracy-mistranslation-WSD (should be *için bile*)

⁴⁷ Fluency-other (this part, “[...] *sıcaklık limitlerini* [...] *içinde bile* [...]” is not quite fluent nor clear. Should be restated)

⁴⁸ Accuracy-other (this part should be restated as “*sıcaklık limitlerinin birkaç saniye için bile aşılması* [...]”)

⁴⁹ Fluency-lexicon-non-existing/foreign word (blade is a foreign word)

⁵⁰ Fluency-grammar-word form (the suffix, -e, does not conform with the verb. Should be -de)

⁵¹ Accuracy-Untranslated (should be *bıçaklarında*)

⁵² Fluency-grammar-word form (the suffix, -e, does not conform with the verb. Should be -de)

⁵³ Fluency-lexicon-non-existing/foreign word (make is a foreign word)

⁵⁴ Accuracy-untranslated (*Marka*)

⁵⁵ Fluency-orthography-punctuation (unnecessary comma)

⁵⁶ Fluency-orthography-punctuation (unnecessary comma)

⁵⁷ Fluency-lexicon-lexical choice (*ilgili*)

⁵⁸ Accuracy-mechanical-other (should be a separate paragraph)

⁵⁹ Accuracy-mechanical-other (bullet point is missing)

⁶⁰ Fluency-grammar-word form (*Gazi*)

⁶¹ Fluency-orthography-punctuation (wrong use of hyphen. Colon should be used)

⁶² Accuracy-mistranslation-WSD (*içinden*)

⁶³ Fluency-grammar-extra word (*türbin üzerinden geçtikten sonra* is repeated)

⁶⁴ Accuracy-addition (repeated part is added)

⁶⁵ Fluency-lexicon-lexical choice (*kuyruk* does not fit the context)

⁶⁶ Accuracy-mistranslation-WSD (should be *egzoz*)

⁶⁷ Fluency-multiple (there are multiple errors which requires the sentence to be restated)

⁶⁸ Accuracy-other (should be restated: *türbi içinden geçtikten sonra egzoz borusuna girerken egzoz gazlarının sıcaklığı*.)

⁶⁹ Accuracy-mechanical-other (should be a separate paragraph)

⁷⁰ Accuracy-mechanical-other (bullet point is missing)

⁷¹ Fluency-lexicon-non-existing/foreign word (*Inlet* is a foreign word)

⁷² Accuracy-untranslated (*Giriş*)

⁷³ Fluency-orthography-punctuation (wrong use of hyphen. Colon should be used)

⁷⁴ Fluency-lexicon-non-existing (*motogunun* is a non-existing word)

⁷⁵ Accuracy-mistranslation-other (*motorun*)

bölümünden gelen gazların sıcaklığı türbin ilk aşamasına girmektedir⁷⁶⁷⁷. TIT, bir gaz türbin⁷⁸ motorunun⁷⁹ içindeki en yüksek sıcaklık olup,⁸⁰ motogunun⁸¹⁸² üretebileceği güç miktarının sınırlandırıcı faktörlerinden biridir. Ancak TIT,⁸³ ölçmesi zor⁸⁴. Bu nedenle,⁸⁵ TIT ile ilgili olan EGT, normalde ölçülen parametredir⁸⁶.⁸⁷⁸⁸ Interstage⁸⁹⁹⁰ Türbin Sıcaklığı (ITT)-⁹¹yüksek basınç ve düşük basınçlı türbin tekerlekleri⁹²⁹³ arasındaki gazların sıcaklığı.⁹⁴⁹⁵ Türbin Çıkış Sıcaklığı (TOT)-⁹⁶EGT gibi, türbin çıkış sıcaklığı türbin çarkı (lar)⁹⁷ in⁹⁸ kış kıvamı⁹⁹¹⁰⁰ alınır¹⁰¹¹⁰². Jet motoru ateşleme¹⁰³ en çok¹⁰⁴ jet motoru ateşleme¹⁰⁵ sistemleri¹⁰⁶, motor ile başlayan¹⁰⁷ zemin ya da hava¹⁰⁸ sırasında kullanılan iki igniter¹⁰⁹¹¹⁰ fiş¹¹¹ ile

⁷⁶ Fluency-multiple (there are multiple errors which requires the sentence to be restated)

⁷⁷ Accuracy-other (should be restated: *motorun yanma bölümünden gelen gazların türbinin ilk aşamasına girerkenki sıcaklığı*)

⁷⁸ Fluency-grammar-word form (should be *türbinli* for correct term)

⁷⁹ Fluency-grammar-word form (gaz türbinli *motorun*)

⁸⁰ Fluency-orthography-punctuation (unnecessary comma)

⁸¹ Fluency-lexicon-non-existing (*motogunun* is a non-existing word)

⁸² Accuracy-mistranslation-other (*motorun*)

⁸³ Fluency-orthography-punctuation (unnecessary comma)

⁸⁴ Fluency-grammar-word form (missing copula, *zordur*)

⁸⁵ Fluency-orthography-punctuation (unnecessary comma)

⁸⁶ Fluency-grammar-word order (Bu nedenle normalde ölçülen parametre TIT ile ilgili olan EGT'dir)

⁸⁷ Accuracy-mechanical-other (should be a separate paragraph)

⁸⁸ Accuracy-mechanical-other (bullet point is missing)

⁸⁹ Fluency-lexicon-non-existing/foreign word (*Interstage* is a foreign word)

⁹⁰ Accuracy-untranslated (Should be *Kademeler Arası* or *Ara Kademe*)

⁹¹ Fluency-orthography-punctuation (wrong use of hyphen. Colon should be used)

⁹² Fluency-lexicon-lexical choice (*tekerlek* does not fit here)

⁹³ Accuracy-mistranslation-WSD (should be *türbin çarkları*)

⁹⁴ Accuracy-mechanical-other (should be a separate paragraph)

⁹⁵ Accuracy-mechanical-other (bullet point is missing)

⁹⁶ Fluency-orthography-punctuation (wrong use of hyphen. Colon should be used)

⁹⁷ Fluency-orthography-spelling (the plural suffix *-lar* cannot stand alone, should be added to a word)

⁹⁸ Fluency-orthography-spelling (the possessive suffix *-in* cannot stand alone, should be added to a word)

⁹⁹ Fluency-lexicon-lexical choice (*kış kıvamı* is irrelevant)

¹⁰⁰ Accuracy-mistranslation-SU (should be *arka tarafından*)

¹⁰¹ Fluency-multiple (there are multiple errors which requires the sentence to be restated)

¹⁰² Accuracy-other (should be restated: *EGT gibi, türbin çıkış sıcaklığı türbin çark(lar)ının arkasından alınır*)

¹⁰³ Accuracy-other (title of the text is integrated into the body)

¹⁰⁴ Accuracy-mistranslation-WSD (should be *çoğu*)

¹⁰⁵ Fluency-grammar-extra word (repetition)

¹⁰⁶ Accuracy-other (When it is considered that the sentence should start with *çoğu*, *sistem* should be singular)

¹⁰⁷ Accuracy-mistranslation-WSD (should be *çalıştırma*)

¹⁰⁸ Accuracy-mistranslation-other (should be *zemin ya da havada çalıştırma sırasında*)

¹⁰⁹ Fluency-lexicon-non-existing/foreign word (*igniter* is a foreign word)

¹¹⁰ Accuracy-untranslated (*ateşleme*)

¹¹¹ Accuracy-mistranslation-WSD (should be *buji*)

oluşur¹¹²¹¹³. Başlatma işlemi tamamlandığında, bu ateşleme otomatik olarak kapatılır ya da kapatılır¹¹⁴¹¹⁵ ve bu noktadan sonra, motordaki yanma işlemi sürekli bir süreçtir. Sürekli ateşleme¹¹⁶ bir¹¹⁷ motor¹¹⁸, motor nacelle¹¹⁹¹²⁰ alımına¹²¹ giren havanın akış özelliklerine karşı duyarlıdır. Hava akışı oldukça¹²²¹²³ normal olduğu sürece, motor sorunsuz bir şekilde çalışmaya devam eder. ancak¹²⁴,¹²⁵ özellikle kanatlardan gelen rahatsız¹²⁶¹²⁷ hava akımından etkilenecek bir konumda bulunan,¹²⁸ arka¹²⁹ monte edilen motorlar başta olmak üzere, motordan¹³⁰ kompresör kabına¹³¹¹³² ya da flameout¹³³¹³⁴ a¹³⁵ a¹³⁶ neden olabilecek bazı anormal uçuş durumları vardır. Bu olağandışı¹³⁷ uçuş koşulları genellikle şiddetli türbülans ya da bir tezgâhta¹³⁸¹³⁹ rastlanabileceği gibi¹⁴⁰ ani karakter sıklığı¹⁴¹¹⁴² değişiklikleriyle ilişkilendirilir.

4.5.1. Analysis of Watson Translator

Fluency Errors: 75

1. Grammar: 18

- a. Multi-word Syntax: 0
- b. Word Form: 10

¹¹² Fluency-multiple (there are multiple errors which requires the sentence to be restated)

¹¹³ Accuracy-other (should be restated: *Çoğu jet motoru ateşleme sistemi, motorun yerde veya havada çalıştırılması sırasında kullanılan iki ateşleme bujisinden oluşur*)

¹¹⁴ Fluency-grammar-extra word (repetition)

¹¹⁵ Accuracy-mistranslation-other (target text involves a repetition. Thus, the automatic and manual process should be differentiated: *otomatik olarak ya da elle kapatılır*)

¹¹⁶ Accuracy-other (title of the text is integrated into the body)

¹¹⁷ Fluency-grammar-extra word (the indefinite articles are not used in Turkish in the way they are used in English. Therefore, this indefinite article is unnecessary)

¹¹⁸ Fluency-other (this phrase sounds illogical, source text should be checked)

¹¹⁹ Fluency-lexicon-non-existing/foreign word (*nacelle* is a foreign word)

¹²⁰ Accuracy-untranslated (in aviation, nacelle is translated as *nacel*)

¹²¹ Accuracy-mistranslation-WSD (*girişine*)

¹²² Fluency-lexicon-lexical choice (*oldukça* does not fit here)

¹²³ Accuracy-mistranslation-WSD (büyük ölçüde)

¹²⁴ Fluency-orthography-capitalization (First letter should be capitalized)

¹²⁵ Fluency-orthography-punctuation (unnecessary comma)

¹²⁶ Fluency-lexicon-lexical choice (*rahatsız* does not fit here)

¹²⁷ Accuracy-mistranslation-WSD (*dengeşiz*)

¹²⁸ Fluency-orthography-punctuation (unnecessary comma)

¹²⁹ Fluency-grammar-word form (*arkaya*)

¹³⁰ Accuracy-other (misplaced, should be at: “[...] ya da motorun alev almasına [...]”)

¹³¹ Fluency-lexicon-lexical choice (*kompresör kabı* sounds irrelevant)

¹³² Accuracy-mistranslation-SU (*kompresör perdövitesine/stoluna/stalluna*)

¹³³ Fluency-lexicon-non-existing/foreign word (*flameout* is a foreign word)

¹³⁴ Accuracy-untranslated (*alev almaya*)

¹³⁵ Fluency-orthography-punctuation (no space before apostrophe)

¹³⁶ Fluency-orthography-punctuation (no space after apostrophe)

¹³⁷ Fluency-orthography-spelling (*olağan dışı*)

¹³⁸ Fluency-lexicon-lexical choice (*tezgâh* is irrelevant)

¹³⁹ Accuracy-mistranslation-WSD (in aviation, stall is *perdövites/stol/stall*)

¹⁴⁰ Accuracy-other (this part of the sentence should be restated: *uçuş koşulları genellikle şiddetli türbülans veya perdövites gibi durumlarda karşılaşılabilecek ani yunuslama değişiklikleriyle ilişkilendirilir*)

¹⁴¹ Fluency-lexicon-lexical choice (*karakter sıklığı* is irrelevant)

¹⁴² Accuracy-mistranslation-SU (*ani yunuslama değişiklikleriyle*)

- c. Word Order: 1
 - d. Extra word: 6
 - e. Missing Word: 0
 - f. Other: 1
- 2. Lexicon: 24
 - a. Non-Existing: 10
 - b. Lexical Choice: 14
- 3. Orthography: 27
 - a. Spelling: 4
 - b. Capitalization: 1
 - c. Punctuation: 22
 - d. Other: 0
- 4. Multiple Errors: 4
- 5. Other: 2

Accuracy Errors: 67

- 1. Addition: 2
- 2. Omission: 1
- 3. Untranslated: 8
- 4. DNT: 0
- 5. Mistranslation: 30
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 19
 - d. Semantically Unrelated: 4
 - e. Other: 7
- 6. Mechanical: 14
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 14
- 7. Other: 12

4.6. OVERALL ANALYSIS OF THE SECOND TECHNICAL TEXT

Fluency Errors: 214

- 1. Grammar: 60
 - a. Multi-word Syntax: 0
 - b. Word Form: 35
 - c. Word Order: 9
 - d. Extra word: 10
 - e. Missing Word: 5
 - f. Other: 1
- 2. Lexicon: 61
 - a. Non-Existing: 12
 - b. Lexical Choice: 49

3. Orthography: 82
 - a. Spelling: 7
 - b. Capitalization: 7
 - c. Punctuation: 68
 - d. Other: 0
4. Multiple Errors: 4
5. Other: 7

Accuracy Errors: 174

1. Addition: 2
2. Omission: 1
3. Untranslated: 8
4. DNT: 0
5. Mistranslation: 90
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 60
 - d. Semantically Unrelated: 9
 - e. Other: 21
6. Mechanical: 59
 - a. Capitalization: 5
 - b. Punctuation: 0
 - c. Other: 54
7. Other: 14

5. SOURCE TEXT

Title I: General provisions

Article 1 (21) (73) (96)

These Staff Regulations shall apply to officials of the Communities.

Article 1a (96)

1. For the purposes of these Staff Regulations, "official of the Communities" means any person who has been appointed, as provided for in these Staff Regulations, to an established post on the staff of one of the institutions of the Communities by an instrument issued by the Appointing Authority of that institution.

2. This definition in paragraph 1 shall also apply to persons appointed by Community bodies to whom these Staff Regulations apply under the Community acts establishing them (hereinafter "agencies"). Any references to institutions in these Staff Regulations shall apply to agencies, save as otherwise provided in these Staff Regulations.

Article 1b (96)

Save as otherwise provided in these Staff Regulations,

- (a) the European Economic and Social Committee,
- (b) the Committee of the Regions,
- (c) the European Ombudsman and
- (d) the European Data Protection Supervisor shall, for the purposes of these Staff Regulations, be treated as institutions of the Communities.

Article 1c (96)

Any reference in these Staff Regulations to a person of the male sex shall be deemed also to constitute a reference to a person of the female sex, and vice-versa, unless the context clearly indicates otherwise.

Article 1d (77) (96)

1. In the application of these Staff Regulations, any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age, or sexual orientation shall be prohibited.

For the purposes of these Staff Regulations, non-marital partnerships shall be treated as marriage provided that all the conditions listed in Article 1(2)(c) of Annex VII are fulfilled.

2. With a view to ensuring full equality in practice between men and women in working life, which shall be an essential element to be considered in the implementation of all aspects of these Staff Regulations, the principle of equal treatment shall not prevent the institutions of the European Communities from maintaining or adopting measures providing for specific advantages in order to make it easier for the underrepresented sex to pursue a vocational activity or to prevent or compensate for disadvantages in professional careers.

3. The institutions shall determine, by agreement, after consulting the Staff Regulations Committee, measures and actions to promote equal opportunities for men and women in the areas covered by these Staff Regulations, and shall adopt the

appropriate provisions notably to redress such de facto inequalities as hamper opportunities for women in these areas.

4. For the purposes of paragraph 1, a person has a disability if he has a physical or mental impairment that is, or is likely to be, permanent. The impairment shall be determined according to the procedure set out in Article 33.

A person with a disability meets the conditions laid down in Article 28(e) if he can perform the essential functions of the job when reasonable accommodation is made.

“Reasonable accommodation”, in relation to the essential functions of the job, shall mean appropriate measures, where needed, to enable a person with a disability to have access to, participate in, or advance in employment, or to undergo training, unless such measures would impose a disproportionate burden on the employer.

5.1. GOOGLE TRANSLATE

Başlık I: Genel hükümler¹

Madde 1 (21) (73) (96)²

Bu Personel Tüzüğü Topluluk görevlileri için geçerlidir.

Madde 1a (96)³

1. Bu Personel Tüzüğü'nün⁴ amaçları doğrultusunda, "Topluluk Görevlisi"⁵, bu Personel Tüzüğü'nde⁶ öngörüldüğü şekilde, bir belge ile Topluluk kurumlarından birinin kadrosunda kurulu⁷ bir göreve atanan herhangi bir kişi anlamına gelir. o⁹ kurumun Atama Otoritesi¹⁰ tarafından verilir¹¹.

2. Paragraf 1'deki¹³ bu tanım,¹⁴ aynı zamanda, kendilerini¹⁵ kuran¹⁶ Topluluk yasaları uyarınca bu Personel Tüzüğü'nün¹⁷ geçerli olduğu Topluluk organları tarafından atanan kişiler (bundan böyle "ajanslar" olarak anılacaktır)¹⁸ için de geçerlidir. Bu

¹ Accuracy-mechanical-other (should be at the center, bold and bigger font)

² Accuracy-mechanical-other (should be at the center and in italics)

³ Accuracy-mechanical-other (should be at the center and in italics)

⁴ Fluency-orthography-punctuation (*Tüzüğü'nün*)

⁵ Accuracy-mechanical-capitalization (first letter of *official* is not capitalized in the source)

⁶ Fluency-orthography-punctuation (*Tüzüğü'nde*)

⁷ Fluency-lexicon-lexical choice (*kurulu görev* does not have a clear meaning in Turkish)

⁸ Accuracy-mistranslation-WSD (should be *resmi*)

⁹ Fluency-orthography-capitalization (first letter after a full stop should be always capitalized)

¹⁰ Accuracy-mistranslation-WSD (*Atama Makamı*)

¹¹ Fluency-grammar-missing word (It is not clear what is given by the appointment authority)

¹² Accuracy-other (last part of the sentence is not a separate sentence, it should be: “[...] öngörüldüğü şekilde, Topluluk kurumlarından birinin kadrosunda resmî bir göreve o kurumun Atama Makamı tarafından verilen bir belge ile atanan herhangi bir kişi anlamına gelir.”)

¹³ Fluency-orthography-other (*1./birinci paragraftaki*)

¹⁴ Fluency-orthography-punctuation (unnecessary comma)

¹⁵ Fluency-lexicon-lexical choice (*kendi* is used for humans)

¹⁶ Accuracy-mistranslation-other (*kendi* cannot be used for agencies, therefore, *kurucu* might be an alternative)

¹⁷ Fluency-orthography-punctuation (*Tüzüğü'nün*)

¹⁸ Accuracy-mistranslation-other (this explanation between the parentheses is misplaced. It should come after *Topluluk organları*)

Personel Yönetmeliğinde¹⁹²⁰ kurumlara yapılan atıflar, bu Personel Yönetmeliğinde²¹²² aksi belirtilmedikçe acenteler²³²⁴ için geçerli olacaktır.

Madde 1b (96)²⁵

Bu Personel Yönetmeliğinde²⁶²⁷ aksi belirtilmedikçe,²⁸

(a) Avrupa Ekonomik ve Sosyal Komitesi,

(b) Bölgeler Komitesi,

(c) Avrupa Ombudsmanı ve

(d) Avrupa Veri Koruma Denetçisi, bu Personel Tüzüğü'nün²⁹³⁰ amaçları doğrultusunda, Toplulukların kurumları olarak muamele görecektir.

Madde 1c (96)³¹

Bu Personel Yönetmeliğinde³²³³ erkek cinsiyetten³⁴ bir kişiye yapılan herhangi bir atıf³⁵, bağlam açıkça aksini belirtmedikçe,³⁶ aynı zamanda kadın cinsiyetten³⁷ bir kişiye de atıfta bulunduğu kabul edilecektir.³⁸

Madde 1d (77) (96)³⁹

1. Bu Personel Yönetmeliğinin⁴⁰⁴¹ uygulanmasında cinsiyet, ırk, renk, etnik veya sosyal köken, genetik özellikler, dil, din veya inanç, siyasi veya diğer herhangi bir görüş, ulusal bir azınlığa mensubiyet gibi herhangi bir temele dayalı her türlü ayrımcılık, mülkiyet, doğum, engellilik, yaş veya cinsel yönelim⁴² yasaklanacaktır. Bu Personel Yönetmeliğinin⁴³⁴⁴ amaçları doğrultusunda, Ek VII Madde 1(2)(c)'de sıralanan tüm koşulların yerine getirilmesi kaydıyla, evlilik dışı birliktelikler evlilik olarak kabul edilecektir.

¹⁹ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük*)

²⁰ Fluency-orthography-punctuation (*Yönetmeliği'nde*)

²¹ Accuracy-mistranslation-WSD inconsistency, previously translated as *tüzük*)

²² Fluency-orthography-punctuation (*Yönetmeliği'nde*)

²³ Fluency-lexicon-lexical choice (*acente* does not fit the context)

²⁴ Accuracy-mistranslation-WSD (should be *ajanslar* this is also an inconsistent translation)

²⁵ Accuracy-mechanical-other (should be at the center and in italics)

²⁶ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük*)

²⁷ Fluency-orthography-punctuation (*Yönetmeliği'nde*)

²⁸ Fluency-orthography-punctuation (unnecessary comma)

²⁹ Accuracy-mistranslation-WSD (inconsistency, translated as both *tüzük* and *yönetmelik*)

³⁰ Fluency-orthography-punctuation (*Tüzüğü'nün*)

³¹ Accuracy-mechanical-other (should be at the center and in italics)

³² Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük*)

³³ Fluency-orthography-punctuation (*Yönetmeliği'nde*)

³⁴ Fluency-grammar-word form (*cinsiyetinden*)

³⁵ Fluency-grammar-word form (*atıfın*)

³⁶ Fluency-orthography-punctuation (unnecessary comma)

³⁷ Fluency-grammar-word form (*cinsiyetinden*)

³⁸ Accuracy-omission (*vice versa* is omitted)

³⁹ Accuracy-mechanical-other (should be at the center and in italics)

⁴⁰ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük*)

⁴¹ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

⁴² Fluency-grammar-word order (prohibiting birth, age, sexual orientatio, etc. cannot be something that this regulation puts forward. The sentence should be reordered: *Bu Personel Yönetmeliği'nin⁴²⁴² uygulanmasında cinsiyet, ırk, [...] ulusal bir azınlığa mensubiyet, mülkiyet, doğum, engellilik, yaş veya cinsel yönelim gibi herhangi bir temele dayalı her türlü ayrımcılık yasaklanacaktır.*)

⁴³ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük*)

⁴⁴ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

2. Bu Kadro⁴⁵ Yönetmeliğinin⁴⁶⁴⁷ tüm yönleriyle⁴⁸ uygulanmasında göz önünde bulundurulması gereken temel bir unsur olan çalışma hayatında kadın erkek eşitliğinin uygulamada tam olarak sağlanması amacıyla eşit muamele ilkesi, Avrupa Toplulukları'nın^{49,50} yeterince temsil edilmeyen cinsiyetin mesleki bir faaliyette bulunmasını kolaylaştırmak veya profesyonel kariyerlerdeki dezavantajları önlemek veya telafi etmek için belirli avantajlar sağlayan önlemleri sürdürmesi veya benimsemesi.⁵¹⁵²

3. Kurumlar, Personel Düzenlemeleri⁵³ Komitesine danıştıktan sonra, bu Kadro⁵⁴ Düzenlemelerinin⁵⁵ kapsadığı alanlarda kadın ve erkekler için fırsat eşitliğini teşvik edecek önlemleri ve eylemleri anlaşılarak belirleyecek ve özellikle bu tür fiili⁵⁶ eşitsizlikleri gidermek için uygun hükümleri kabul edecektir. bu⁵⁷ alanlarda kadınlar için engel fırsatları⁵⁸⁵⁹ olarak.⁶⁰⁶¹

4. 1. paragrafın⁶² amaçları doğrultusunda, kalıcı olan veya kalıcı olması muhtemel olan fiziksel veya zihinsel bir bozukluğu olan bir kişi engellidir. Değer düşüklüğü⁶³⁶⁴, 33. maddede⁶⁵ belirtilen prosedüre göre belirlenir.

Engelli bir kişi, makul düzenlemeler yapıldığında işin temel işlevlerini yerine getirebiliyorsa, Madde 28(e)'de⁶⁶ belirtilen koşulları karşılar.

İşin temel işlevleriyle ilgili olarak “makul konaklama⁶⁷⁶⁸”, gerektiğinde,⁶⁹ engelli bir kişinin istihdama erişmesine, katılmasına veya istihdamda ilerlemesine veya eğitim

⁴⁵ Accuracy-mistranslation-WSD (inconsistency, previously translated as *personel*)

⁴⁶ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük*)

⁴⁷ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

⁴⁸ Accuracy-mistranslation-WSD (*yönlerinin*)

⁴⁹ Fluency-orthography-punctuation (*Topluluklarının*)

⁵⁰ Fluency-orthography-punctuation (unnecessary comma)

⁵¹ Fluency-grammar-missing word (a verb is missing)

⁵² Accuracy-omission (the verb *prevent* is omitted)

⁵³ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük* and *yönetmelik*)

⁵⁴ Accuracy-mistranslation-WSD (inconsistency, previously translated as *personel*)

⁵⁵ Accuracy-mistranslation-WSD (inconsistency, previously translated as *tüzük* and *yönetmelik*)

⁵⁶ Fluency-orthography-spelling (circumflex accent is missing, *fiili*)

⁵⁷ Fluency-orthography-capitalization (first letter after a full stop should be capitalized)

⁵⁸ Fluency-lexicon-lexical choice (*engel fırsatları* is probably a mistranslation)

⁵⁹ Accuracy-mistranslation-other (*engel fırsatları* is a mistranslation, it should be *fırsatlara engel olmak*)

⁶⁰ Fluency-grammar-missing word (no verb in this sentence)

⁶¹ Accuracy-other (this sentence should be restated: [...] ve özellikle bu alanlarda kadınların fırsatlarını engellemek gibi fiili eşitsizlikleri gidermek için uygun hükümleri kabul edecektir.)

⁶² Fluency-orthography-spelling (it is previously written as *paragraf 1*, inconsistency)

⁶³ Fluency-lexicon-lexical choice (*değer düşüklüğü* does not fit here)

⁶⁴ Accuracy-mistranslation-WSD (should be *bozukluk*)

⁶⁵ Accuracy-mechanical-capitalization (first letter of *Madde* should be capitalized)

⁶⁶ Fluency-orthography-spelling (articles are inconsistently written: *33. madde* or *madde 28*)

⁶⁷ Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

⁶⁸ Accuracy-mistranslation-WSD (*makul düzenleme*)

⁶⁹ Fluency-orthography-punctuation (unnecessary comma)

almasına olanak sağlamak için uygun önlemler anlamına gelir.⁷⁰ önlemler⁷¹ işverene orantısız bir yük getirecektir.⁷²⁷³⁷⁴

5.1.1. Analysis of Google Translate

Fluency Errors: 38

1. Grammar: 7
 - a. Multi-word Syntax: 0
 - b. Word Form: 3
 - c. Word Order: 1
 - d. Extra word: 0
 - e. Missing Word: 3
 - f. Other: 0
2. Lexicon: 6
 - a. Non-Existing: 0
 - b. Lexical Choice: 6
3. Orthography: 24
 - a. Spelling: 3
 - b. Capitalization: 3
 - c. Punctuation: 17
 - d. Other: 1
4. Multiple Errors: 0
5. Other: 1

Accuracy Errors: 36

1. Addition: 0
2. Omission: 3
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 21
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 18
 - d. Semantically Unrelated: 0
 - e. Other: 3
6. Mechanical: 9
 - a. Capitalization: 2
 - b. Punctuation: 6
 - c. Other: 1
7. Other: 3

⁷⁰ Accuracy-mechanical-punctuation (this one is added)

⁷¹ Fluency-orthography-capitalization (first letter after a full stop should be capitalized)

⁷² Fluency-other (This sentence creates a negative meaning which does not conform with the previous one)

⁷³ Accuracy-omission (*unless* is omitted)

⁷⁴ Accuracy-other (the second sentence of the paragraph should have been included in the first sentence)

5.2. REVERSO

Başlık I: Genel Hükümler¹²

Madde 1 (21) (73) (96)³

Bu personel⁴ yönetmelikleri⁵⁶, toplulukların⁷ yetkilileri için geçerli olacaktır.

Madde 1a (96)⁸

1.Bu⁹ personel¹⁰ düzenlemelerinin¹¹¹² amaçları doğrultusunda, "toplulukların¹³ resmi"¹⁴¹⁵, bu personel¹⁶ düzenlemelerinde¹⁷¹⁸ belirtilen şekilde atanmış herhangi bir kişi anlamına gelir, Bu¹⁹ kurumun atanma²⁰ Dairesi²¹ tarafından yayınlanan bir araç²² tarafından, toplumların²³²⁴ kurumlarından birinin personeli²⁵ üzerinde kurulmuş²⁶ bir göreve.²⁷²⁸

2.1.²⁹ Fıkra³⁰da yer alan bu tanım, bu personel³¹ düzenlemelerinin³²³³ kendilerini³⁴ oluşturan³⁵ Topluluk eylemleri³⁶ kapsamında geçerli olduğu Topluluk organları

¹ Accuracy-mechanical-capitalization (first letter of *hükümler* is unnecessarily capitalized)

² Accuracy-mechanical-other (should be bold, bigger font and centralized)

³ Accuracy-mechanical-other (should be in italics and centralized)

⁴ Accuracy-mechanical-capitalization (first letter of *personel* should be capitalized)

⁵ Fluency-grammar-word form (should be singular *yönetmeliği*)

⁶ Accuracy-mechanical-capitalization (first letter of *yönetmelikleri* should be capitalized)

⁷ Accuracy-mechanical-capitalization (first letter of *toplulukların* should be capitalized)

⁸ Accuracy-mechanical-other (should be in italics and centralized)

⁹ Fluency-orthography-punctuation (there should be a space after the full stop)

¹⁰ Accuracy-mechanical-capitalization (first letter of *personel* should be capitalized)

¹¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹² Accuracy-mistranslation-WSD (should be *Yönetmeliği'nin*)

¹³ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹⁴ Fluency-lexicon-lexical choice (*resim* does not fit here)

¹⁵ Accuracy-mistranslation-WSD (*resmi* is mistranslated and misspelled, it should be *yetkilisi*)

¹⁶ Accuracy-mechanical-capitalization (first letter of *personel* should be capitalized)

¹⁷ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹⁸ Accuracy-mistranslation-WSD (should be *Yönetmeliği'nde*)

¹⁹ Fluency-orthography-capitalization (unnecessary capitalization)

²⁰ Accuracy-mechanical-capitalization (first letter should be capitalized)

²¹ Accuracy-mistranslation-WSD (*Atama Makamı*)

²² Accuracy-mistranslation-WSD (*belge*)

²³ Accuracy-mechanical-capitalization (first letter should be capitalized)

²⁴ Accuracy-mistranslation-WSD (*toplulukların*)

²⁵ Accuracy-mistranslation-WSD (should be *kadro*)

²⁶ Accuracy-mistranslation-WSD (should be *resmî*)

²⁷ Fluency-multiple errors (second part of the paragraph, starting from *Bu kurumun atanma Dairesi*, contains multiple errors that could be only solved with restating)

²⁸ Accuracy-other (this sentence should be restated: *Bu Personel Yönetmeliği'nin amaçları doğrultusunda, "Topluluk Görevlisi", bu Personel Yönetmeliği'nde öngörüldüğü şekilde Topluluk kurumlarından birinin kadrosunda resmî bir göreve o kurumun Atama Makamı tarafından verilen bir belge ile atanan herhangi bir kişi anlamına gelir*)

²⁹ Fluency-orthography-punctuation (there should be a space after the full stop)

³⁰ Accuracy-mechanical-capitalization (first letter should be a lower case)

³¹ Accuracy-mechanical-capitalization (first letter of *personel* should be capitalized)

³² Accuracy-mechanical-capitalization (first letter should be capitalized)

³³ Accuracy-mistranslation-WSD (*Yönetmeliği'nin*)

³⁴ Fluency-lexicon-lexical choice (*kendi* is used for humans)

³⁵ Accuracy-mistranslation-other (*kendi* cannot be used for agencies, therefore, *kurucu* might be an alternative)

³⁶ Accuracy-mistranslation-WSD (should be *yasalar*)

tarafından atanan kişiler için de geçerlidir (bundan sonra "Acenteler"³⁷³⁸ olarak anılacaktır)³⁹. Bu personel⁴⁰ düzenlemelerinde⁴¹⁴² yer alan kurumlara yapılan tüm başvurular⁴³⁴⁴ acenteler⁴⁵⁴⁶ için geçerli olacak ve bu personel düzenlemelerinde aksi belirtilmedikçe saklayalım^{4748 4950}.

Makale⁵¹⁵² 1b (96)⁵³

Bu personel⁵⁴ Düzenlemeleri'nde⁵⁵⁵⁶ aksi belirtilmedikçe tasarruf edin^{5758 59},

(A⁶⁰) Avrupa Ekonomik ve Sosyal Komitesi,

(B⁶¹) Bölgeler Komitesi,

(c⁶²) Avrupa Ombudsmanı ve

(D⁶³) Avrupa Veri Koruma Şefi⁶⁴, bu personel⁶⁵ düzenlemelerinin⁶⁶⁶⁷ amaçları doğrultusunda toplumların⁶⁸⁶⁹ kurumları olarak kabul edilir.

Madde 1c (96)⁷⁰

³⁷ Fluency-lexicon-lexical choice (grammatically, appointed persons will be referred to as *acenteler* and it is not plausible)

³⁸ Accuracy-mistranslation-WSD (should be *ajanslar*)

³⁹ Accuracy-other (this explanation between the parentheses is misplaced. It should come after *Topluluk organları*)

⁴⁰ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁴¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁴² Accuracy-mistranslation-WSD (*Yönetmeliği'nde*)

⁴³ Fluency-lexicon-lexical choice (*başvurular* does not fit here)

⁴⁴ Accuracy-mistranslation-WSD (*atıflar*)

⁴⁵ Fluency-lexicon-lexical choice (*acente* does not fit here)

⁴⁶ Accuracy-mistranslation-WSD (*ajanslar*)

⁴⁷ Fluency-lexicon-lexical choice (*saklayalım* does not fit here)

⁴⁸ Accuracy-mistranslation-WSD (*save as* is mistranslated. It can be omitted since the meaning is already provided with *belirtilmedikçe*)

⁴⁹ Fluency-other (this sentence is not clear and fluent)

⁵⁰ Accuracy-other (last part of the sentence is misplaced, it should be: *Bu Personel Yönetmeliği'nde yer alan kurumlara yapılan tüm atıflar, bu Personel Yönetmeliği'nde aksi belirtilmediği sürece ajanslar için geçerli olacaktır*)

⁵¹ Fluency-lexicon-lexical choice (it should be *madde*)

⁵² Accuracy-mistranslation-WSD (*madde*)

⁵³ Accuracy-mechanical-other (should be in italics and centralized)

⁵⁴ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁵⁵ Fluency-orthography-capitalization (the name of the regulation is not capitalized previously)

⁵⁶ Accuracy-mistranslation-WSD (*Yönetmeliği'nde*)

⁵⁷ Fluency-lexicon-lexical choice (*tasarruf* does not fit here)

⁵⁸ Accuracy-mistranslation-WSD (*save as* is mistranslated. It can be omitted since the meaning is already provided with *belirtilmedikçe*)

⁵⁹ Fluency-orthography-punctuation (unnecessary comma)

⁶⁰ Accuracy-mechanical-capitalization (should be a lower case)

⁶¹ Accuracy-mechanical-capitalization (should be a lower case)

⁶² Fluency-orthography-capitalization (others are capitalized while article c is a lower case)

⁶³ Accuracy-mechanical-capitalization (should be a lower case)

⁶⁴ Fluency-lexicon-lexical choice (*Denetçisi*)

⁶⁵ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁶⁶ Accuracy-mistranslation-WSD (*Yönetmeliği'nin*)

⁶⁷ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁶⁸ Accuracy-mistranslation-WSD (*Toplulukların*)

⁶⁹ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁷⁰ Accuracy-mechanical-other (should be in italics and centralized)

Bu personel⁷¹ düzenlemelerinde⁷²⁷³ erkek cinsiyetten⁷⁴ birine yönelik her türlü referans, bağlam açıkça aksini belirtmediği sürece kadın cinsiyetinden bir kişiye⁷⁵ referans teşkil eder ve tam tersi de geçerlidir⁷⁶.

Makale⁷⁷⁷⁸ 1d (77) (96)⁷⁹

1. Bu personel⁸⁰ düzenlemelerinin⁸¹⁸² uygulamasında cinsiyet, ırk, renk, etnik veya sosyal kaynak⁸³⁸⁴, genetik özellikler, dil, din veya inanç, siyasi veya başka herhangi bir görüş, ulusal bir azınlığın⁸⁵ üyeliği⁸⁶, mülkiyet, doğum, malullük⁸⁷, yaş,⁸⁸ veya cinsel yönelim yasaktır.⁸⁹⁹⁰

Bu personel⁹¹ düzenlemelerinin⁹²⁹³ amaçları doğrultusunda, Ek VII Madde 1(2)(c)'de listelenen tüm koşulların yerine getirilmesi koşuluyla, medeni olmayan⁹⁴⁹⁵ ortaklıklar⁹⁶ evlilik olarak kabul edilir.

2. Çalışma⁹⁷ hayatında erkekler ve kadınlar arasında tam eşitlik sağlama amacıyla, bu personel yönetmeliklerinin tüm yönlerinin uygulanmasında dikkate alınması gereken önemli bir unsur olan,⁹⁸ Eşit⁹⁹ muamele ilkesi, Avrupa toplumlarının kurumlarının,¹⁰⁰ az temsil edilen cinsiyetlerin mesleki bir faaliyette bulunmasını kolaylaştırmak veya

⁷¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁷² Accuracy-mistranslation-WSD (*Yönetmeliği'nin*)

⁷³ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁷⁴ Fluency-grammar-word form (*cinsiyetinden*)

⁷⁵ Accuracy-omission (*also* is omitted, therefore the meaning is altered)

⁷⁶ Fluency-other (last part of the sentence, *ve tam tersi de geçerlidir*, sounds odd. Source should be checked)

⁷⁷ Fluency-lexicon-lexical choice (it should be *madde*)

⁷⁸ Accuracy-mistranslation-WSD (*madde*)

⁷⁹ Accuracy-mechanical-other (should be in italics and centralized)

⁸⁰ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁸¹ Accuracy-mistranslation-WSD (*Yönetmeliği'nin*)

⁸² Accuracy-mechanical-capitalization (first letter should be capitalized)

⁸³ Fluency-lexicon-lexical choice (*kaynak* does not fit here)

⁸⁴ Accuracy-mistranslation-WSD (*köken*)

⁸⁵ Fluency-grammar-word form (*azınlığa*)

⁸⁶ Fluency-grammar-word form (*üyelik*)

⁸⁷ Accuracy-mistranslation-WSD (*engellilik*)

⁸⁸ Fluency-orthography-punctuation (unnecessary comma)

⁸⁹ Fluency-other (this sentence involves a critical error since the meaning cannot be right)

⁹⁰ Accuracy-omission (*any discrimination based on any ground such as* is omitted. Sentence can be restated: *Bu Personel Yönetmeliği'nin⁹⁰⁹⁰ uygulamasında cinsiyet, ırk, [...] ulusal bir azınlığa üyelik, mülkiyet, doğum, engellilik, yaş veya cinsel yönelim gibi herhangi bir temele dayalı her türlü ayrımcılık yasaklanacaktır*)

⁹¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁹² Accuracy-mistranslation-WSD (*Yönetmeliği'nin*)

⁹³ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁹⁴ Fluency-lexicon-lexical choice (*medeni olmayan* does not fit here)

⁹⁵ Accuracy-mistranslation-WSD (*evlilik dışı*)

⁹⁶ Accuracy-mistranslation-WSD (*birliktelikler*)

⁹⁷ Fluency-orthography-punctuation (there should be a space after the full stop)

⁹⁸ Fluency-orthography-punctuation (unnecessary comma)

⁹⁹ Fluency-orthography-capitalization (capitalized first letter seems unnecessary)

¹⁰⁰ Fluency-orthography-punctuation (unnecessary comma)

profesyonel kariyerlerdeki¹⁰¹ dezavantajları önlemek veya telafi etmek amacıyla belirli avantajlar sağlayan tedbirler almasını¹⁰² veya almasını¹⁰³ engellemez.

3.Kurum¹⁰⁴,¹⁰⁵ personel¹⁰⁶ Yönetmelik Komitesi'ne¹⁰⁷ danıştıktan sonra, bu personel¹⁰⁸ yönetmelikleri¹⁰⁹ kapsamındaki alanlarda kadın ve erkekler için eşit fırsatları teşvik etmek amacıyla önlemler ve eylemler belirler,¹¹⁰ ve özellikle de bu alanlardaki kadınlara yönelik fırsatlar¹¹¹ gibi fiili¹¹² eşitsizlikleri telafi etmek için uygun hükümleri uygulayacak¹¹³.

4.1.¹¹⁴ Fıkranın¹¹⁵ amaçları doğrultusunda, kişinin fiziksel veya zihinsel bir bozukluğu varsa ya da kalıcı olması muhtemel ise¹¹⁶¹¹⁷ bir maluliyet¹¹⁸¹¹⁹ vardır. Azalma¹²⁰¹²¹, Madde 33'de¹²² belirtilen prosedüre göre belirlenir.

Malulen¹²³ kişi¹²⁴, makul bir konaklama yeri¹²⁵¹²⁶ yaptırıldığında işin temel işlevlerini yerine getirebilseydi¹²⁷, Madde 28(e)'de belirtilen koşulları yerine getirir.

"Makul konaklama¹²⁸¹²⁹", işin temel fonksiyonlarıyla ilgili olarak, malulen¹³⁰¹³¹ bir kişinin iş yerine¹³² erişmesini, iş yapmasını¹³³ veya işe katılmasını ya da eğitimden

¹⁰¹ Fluency-grammar-word form (*kariyerlerindeki*)

¹⁰² Accuracy-mistranslation-WSD (*sürdürmesini*)

¹⁰³ Fluency-grammar-extra word (repetition)

¹⁰⁴ Accuracy-mistranslation-other (should be plural: *Kurumlar*)

¹⁰⁵ Fluency-orthography-punctuation (there should be a space after the full stop)

¹⁰⁶ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹⁰⁷ Fluency-orthography-punctuation (unnecessary apostrophe, *Komitesine*)

¹⁰⁸ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹⁰⁹ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹¹⁰ Fluency-orthography-punctuation (unnecessary comma)

¹¹¹ Accuracy-omission (*hamper* is omitted, should be: *kadınlara yönelik fırsatları engellemek*)

¹¹² Fluency-orthography-spelling (diacritics, *fiili*)

¹¹³ Fluency-grammar-word form (*uygular*)

¹¹⁴ Fluency-orthography-punctuation (there should be a space after the full stop)

¹¹⁵ Accuracy-mechanical-capitalization (first letter should be a lower case)

¹¹⁶ Fluency-grammar-missing word (it is not clear what has the probability of becoming permanent)

¹¹⁷ Accuracy-omission (*that is* omitted, therefore mistranslated)

¹¹⁸ Fluency-grammar-word form (*maluliyeti*)

¹¹⁹ Accuracy-mistranslation-WSD (*engeli*)

¹²⁰ Fluency-lexicon-lexical choice (*azalma* does not fit here)

¹²¹ Accuracy-mistranslation-WSD (*bozukluk*)

¹²² Fluency-orthography-other (33. *maddede*)

¹²³ Fluency-grammar-word form (*malul*)

¹²⁴ Accuracy-mistranslation-WSD (*engelli*)

¹²⁵ Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

¹²⁶ Accuracy-mistranslation-wsd (*reasonable accomodation* is mistranslated)

¹²⁷ Fluency-grammar-word form (*getirebilirse*)

¹²⁸ Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

¹²⁹ Accuracy-mistranslation-wsd (*reasonable accomodation* is mistranslated)

¹³⁰ Fluency-grammar-word form (*malul*)

¹³¹ Accuracy-mistranslation-WSD (*engelli*)

¹³² Accuracy-addition (*yeri* is added, should be *işe erişmesini*)

¹³³ Accuracy-addition (*iş yapmasını* is added)

geçmesini sağlamak için gereken durumlarda uygun önlemleri ifade eder (¹³⁴bu tür önlemler işveren üzerinde orantısız bir yük taşımadığı¹³⁵ sürece)¹³⁶.¹³⁷¹³⁸

5.2.1. Analysis of Reverso

Fluency Errors: 49

1. Grammar: 12
 - a. Multi-word Syntax: 0
 - b. Word Form: 10
 - c. Word Order: 0
 - d. Extra word: 1
 - e. Missing Word: 1
 - f. Other: 0
2. Lexicon: 15
 - a. Non-Existing: 0
 - b. Lexical Choice: 15
3. Orthography: 17
 - a. Spelling: 1
 - b. Capitalization: 4
 - c. Punctuation: 11
 - d. Other: 1
4. Multiple Errors: 1
5. Other: 4

Accuracy Errors: 89

1. Addition: 2
2. Omission: 4
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 38
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 36
 - d. Semantically Unrelated: 0
 - e. Other: 2
6. Mechanical: 41
 - a. Capitalization: 33
 - b. Punctuation: 2
 - c. Other: 6
7. Other: 4

¹³⁴ Accuracy-mechanical-punctuation (bracket is added)

¹³⁵ Accuracy-mistranslation-WSD (*bindirmediği*)

¹³⁶ Accuracy-mechanical-punctuation (bracket is added)

¹³⁷ Fluency-other (the definition and the term does not match)

¹³⁸ Accuracy-other (the sentence in the parentheses should be included in the sentence)

5.3. YANDEX TRANSLATE

Başlık I: Genel hükümler¹

Makale² 1 (21) (73) (96)³

Bu Personel Düzenlemeleri⁴ Topluluk yetkilileri için geçerli olacaktır.

Madde 1a (96)⁵

1. Bu Personel Yönetmeliklerinin⁶⁷ amaçları doğrultusunda, "Toplulukların Yetkilisi"⁸, bu Personel Yönetmeliklerinde⁹¹⁰ öngörüldüğü şekilde, bu kurumun Atama Yetkisi¹¹ tarafından verilen bir araçla¹² Toplulukların kurumlarından birinin personeli¹³ üzerinde kurulu¹⁴ bir göreve atanan herhangi bir kişi anlamına gelir.

2. 1. Paragraftaki¹⁵ bu tanım, bu Personel Düzenlemelerinin¹⁶ kendilerini¹⁷ oluşturan¹⁸ Topluluk eylemleri¹⁹ kapsamında uygulandığı Topluluk organları tarafından atanan kişiler için de geçerlidir (bundan böyle "ajanslar" olarak anılacaktır)²⁰²¹. Bu Personel Yönetmeliklerindeki²²²³ kurumlara yapılan atıflar, bu Personel Yönetmeliklerinde²⁴²⁵ aksi belirtilmedikçe kurumlar²⁶ için geçerli olacaktır²⁷.

Madde 1b (96)²⁸

Bu Personel Yönetmeliklerinde²⁹³⁰ aksi belirtilmedikçe,³¹

¹ Accuracy-mechanical-other (should be bold, bigger font and centralized)

² Fluency-lexicon-lexical choice (should be *Madde*)

³ Accuracy-mechanical-other (should be in italics and centralized)

⁴ Accuracy-mistranslation-WSD (should be *Yönetmeliği*)

⁵ Accuracy-mechanical-other (should be in italics and centralized)

⁶ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

⁷ Fluency-orthography-punctuation (should be *Yönetmeliği'nin*)

⁸ Accuracy-mechanical-capitalization (first letter of *official* is not capitalized in the source)

⁹ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

¹⁰ Fluency-orthography-punctuation (should be *Yönetmeliği'nde*)

¹¹ Accuracy-mistranslation-WSD (*Atama Makamı*)

¹² Accuracy-mistranslation-WSD (*belge*)

¹³ Accuracy-mistranslation-WSD (should be *kadro*)

¹⁴ Accuracy-mistranslation-WSD (should be *resmî*)

¹⁵ Accuracy-mechanical-capitalization (first letter should be a lower case)

¹⁶ Fluency-orthography-punctuation (should be *Yönetmeliği'nin*)

¹⁷ Fluency-lexicon-lexical choice (*kendi* is used for humans)

¹⁸ Accuracy-mistranslation-other (*kendi* cannot be used for agencies, therefore, *kurucu* might be an alternative)

¹⁹ Accuracy-mistranslation-WSD (should be *yasalar*)

²⁰ Fluency-other (grammatically, appointed persons will be referred to as *ajanslar* and it is not plausible)

²¹ Accuracy-other (this explanation between the parentheses is misplaced. It should come after *Topluluk organları*)

²² Fluency-grammar-word form (should be singular, *Yönetmeliği*)

²³ Fluency-orthography-punctuation (should be *Yönetmeliği'ndeki*)

²⁴ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

²⁵ Fluency-orthography-punctuation (should be *Yönetmeliği'nde*)

²⁶ Accuracy-mistranslation-WSD (should be *ajanslar*, otherwise it constitutes an inconsistency with the translation of *institution*)

²⁷ Fluency-grammar-other (Grammatically, this sentence means that the references to institutions shall apply to institutions, and it seems like a mistranslation)

²⁸ Accuracy-mechanical-other (should be at the center and in italics)

²⁹ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

³⁰ Fluency-orthography-punctuation (should be *Yönetmeliği'nde*)

³¹ Fluency-orthography-punctuation (unnecessary comma)

- (a) Avrupa Ekonomik ve Sosyal Komitesi,
- (b) Bölgeler Komitesi,
- (c) Avrupa Ombudsmanı ve
- (d) Avrupa Veri Koruma Sorumlusu³², bu Personel Yönetmeliklerinin³³³⁴ amaçları doğrultusunda Toplulukların kurumları olarak değerlendirilecektir.

Madde 1c (96)³⁵

Bu Personel Yönetmeliklerinde³⁶³⁷ erkek cinsiyetten³⁸ bir kişiye yapılan herhangi bir atıf, bağlam aksini açıkça belirtmedikçe,³⁹ kadın cinsiyetten⁴⁰ bir kişiye de atıf teşkil etmiş sayılır ve bunun tersi de geçerlidir.

Madde 1d (77) (96)⁴¹

1. Bu Personel Yönetmeliği uygulamasında, bu⁴² cinsiyet, ırk, renk, etnik veya sosyal köken, genetik özellikler, dil, din veya inanç, siyasi veya başka bir görüş, ulusal bir azınlığa üyelik, mülkiyet, doğum, engellilik, yaş olarak⁴³ herhangi bir yere⁴⁴ dayalı herhangi bir ayrımcılık ya da cinsel yönelim⁴⁵⁴⁶ yasaktır.

Bu Personel Düzenlemelerinin⁴⁷ amaçları doğrultusunda,⁴⁸ evlilik dışı ortaklıklar⁴⁹, Ek Vı'nın⁵⁰ 1 (2) (c)⁵¹ maddesinde listelenen tüm koşulların yerine getirilmesi koşuluyla evlilik olarak değerlendirilir.

2. Erkekler ve bu Personel Düzenlemeleri⁵²⁵³ tüm yönleriyle uygulanmasına dikkat edilmesi gereken önemli bir unsur olması gereken⁵⁴ iş hayatında kadınlar arasında⁵⁵ uygulamada tam eşitliği sağlamak amacıyla, eşit muamele ilkesini belirli avantajları için daha az temsil edilen cinsiyet, mesleki bir faaliyet icra etmek veya önlemek için ya da mesleki kariyerlerinde dezavantajları telafi etmek için yapmak⁵⁶ sağlayan

³² Fluency-lexicon-lexical choice (*Denetçisi*)

³³ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

³⁴ Fluency-orthography-punctuation (should be *Yönetmeliği'nin*)

³⁵ Accuracy-mechanical-other (should be at the center and in italics)

³⁶ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

³⁷ Fluency-orthography-punctuation (should be *Yönetmeliği'nde*)

³⁸ Fluency-grammar-word form (*cinsiyetinden*)

³⁹ Fluency-orthography-punctuation (unnecessary comma)

⁴⁰ Fluency-grammar-word form (*cinsiyetinden*)

⁴¹ Accuracy-mechanical-other (should be at the center and in italics)

⁴² Accuracy-addition (*bu* is added)

⁴³ Accuracy-mistranslation-WSD (should be *gibi*)

⁴⁴ Accuracy-mistranslation-WSD (should be *temele*)

⁴⁵ Fluency-other (sexual orientation cannot be prohibited, source should be checked)

⁴⁶ Accuracy-other (*ya da cinsel yönelim* is misplaced, should be: [...] *engellilik, yaş ya da cinsel yönelim gibi herhangi bir temele dayalı herhangi bir ayrımcılık yasaktır.*)

⁴⁷ Accuracy-mistranslation-WSD (should be *Yönetmeliği'nin*)

⁴⁸ Fluency-orthography-punctuation (unnecessary comma)

⁴⁹ Accuracy-mistranslation-WSD (should be *birliktelikler*)

⁵⁰ Fluency-orthography-capitalization (roman numbers should be capitalized: *VII*)

⁵¹ Fluency-orthography-spelling (ne space between *1 (2) (c)*)

⁵² Fluency-grammar-word form (*Düzenlemelerinin*)

⁵³ Accuracy-mistranslation-WSD (should be *Yönetmeliği'nin*)

⁵⁴ Fluency-grammar-extra word (repetition of *gereken* distracts the fluency, second should be omitted: [...] *dikkat edilmesi gereken önemli bir unsur olan* [...])

⁵⁵ Fluency-grammar-word order (the sentence mentions gender equality, therefore, *erkekler* at the beginning of the sentence should come before *kadınlar*: *Bu Personel Yönetmeliği'nin tüm yönleriyle* [...] *iş hayatında erkekler ve kadınlar arasında* [...])

⁵⁶ Fluency-grammar-word form (*yapmak sağlayan* requires inflection for the verb)

önlemleri muhafaza veya kabul etmekten Avrupa Toplulukları kurumları engel değildir⁵⁷.

3. Kurumlar, Personel Yönetmelikleri⁵⁸ Komitesine danıştıktan sonra, bu Personel Yönetmeliklerinin⁵⁹ kapsadığı alanlarda kadın ve erkek fırsat eşitliğini teşvik edecek tedbirleri ve eylemleri anlaşılarak belirleyecek ve özellikle bu alanlarda kadınlara yönelik fırsatları engelleyecek fiili⁶¹ eşitsizlikleri gidermeye yönelik uygun hükümleri benimseyeceklerdir⁶².

4. Eğer,⁶³ ya da⁶⁴,⁶⁵ kalıcı⁶⁶ büyük olasılıkla fiziksel ya da ruhsal bir bozukluk varsa o 1. paragrafın amaçları doğrultusunda, bir kişi bir sakatlık⁶⁷ vardır⁶⁸. Değer düşüklüğü⁶⁹ 33'üncü⁷⁰ maddede belirtilen usule göre belirlenir.

Engelli bir kişi, makul bir konaklama⁷¹ yapıldığında işin temel işlevlerini yerine getirebiliyorsa, Madde 28(e) 'de⁷² belirtilen şartları yerine getirir.

İşin temel işlevleriyle ilgili olarak "makul barınma"⁷³, gerektiğinde,⁷⁴ engelli bir kişinin istihdama erişmesini, katılmasını veya ilerlemesini sağlamak veya bu tür önlemler işverene orantısız bir yük getirmediği eğitimi geçmek⁷⁵ için uygun önlemler anlamına gelecektir.⁷⁶

5.3.1. Analysis of Yandex Translate

Fluency Errors: 50

1. Grammar: 20

- a. Multi-word Syntax: 0
- b. Word Form: 15
- c. Word Order: 1
- d. Extra word: 1

⁵⁷ Fluency-multiple errors (starting from *eşit muamele*, this sentence contains multiple errors and it requires checking the source text)

⁵⁸ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

⁵⁹ Fluency-grammar-word form (should be singular, *Yönetmeliği*)

⁶⁰ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

⁶¹ Fluency-orthography-spelling (diacritics, should be *fiili*)

⁶² Fluency-grammar-word form (plural suffix is not used in verbs of inanimate subjects)

⁶³ Fluency-orthography-punctuation (unnecessary comma)

⁶⁴ Fluency-grammar-other (*eğer* and *ya da* cannot be subsequent)

⁶⁵ Fluency-orthography-punctuation (unnecessary comma)

⁶⁶ Fluency-grammar-other (grammatically, *kalıcı* does not fit here)

⁶⁷ Fluency-lexicon-lexical choice (*sakatlık* does not fit here)

⁶⁸ Fluency-multiple errors (the sentence includes several errors that require checking the source text for correction)

⁶⁹ Fluency-lexicon-lexical choice (*değer düşüklüğü* does not fit here)

⁷⁰ Fluency-orthography-punctuation (*33'üncü*)

⁷¹ Accuracy-mistranslation-wsd (*reasonable accomodation* is mistranslated)

⁷² fluency-orthography-punctuation (extra space before the apostrophe)

⁷³ Accuracy-mistranslation-wsd (*reasonable accomodation* is mistranslated)

⁷⁴ Fluency-orthography-punctuation (unnecessary comma)

⁷⁵ Fluency-grammar-word form (*geçmesini*)

⁷⁶ Fluency-other (the definition and the term does not match)

⁷⁷ Accuracy-other (the sentence must be restated: *İşin temel işlevleriyle ilgili olarak "makul düzenleme", gerektiğinde engelli bir kişinin istihdama erişmesini, katılmasını, ilerlemesini veya eğitimi geçmesini sağlamak için işverene orantısız bir yük getirmediği alınan uygun önlemler anlamına gelecektir.*)

- e. Missing Word: 0
 - f. Other: 3
- 2. Lexicon: 5
 - a. Non-Existing: 0
 - b. Lexical Choice: 5
- 3. Orthography: 20
 - a. Spelling: 2
 - b. Capitalization: 1
 - c. Punctuation: 17
 - d. Other: 0
- 4. Multiple Errors: 2
- 5. Other: 3

Accuracy Errors: 27

- 1. Addition: 1
- 2. Omission: 0
- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 15
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 14
 - d. Semantically Unrelated: 0
 - e. Other: 1
- 6. Mechanical: 8
 - a. Capitalization: 2
 - b. Punctuation: 0
 - c. Other: 6
- 7. Other: 3

5.4. BING TRANSLATOR

Başlık I: Genel hükümler¹

MADDE² 1 (21) (73) (96)

Bu Personel Yönetmeliği, Toplulukların yetkilileri için geçerli olacaktır.

Madde 1a (96)³

1. Bu Personel Tüzüğü'nün⁴ amaçları doğrultusunda, "Toplulukların yetkilisi", bu Personel Tüzüğü'nde⁵ öngörüldüğü üzere, o kurumun Atama Makamı tarafından yayınlanan bir belgeyle Toplulukların kurumlarından birinin personeli üzerinde⁶ kurulmuş⁷ bir göreve atanmış olan herhangi bir kişi anlamına gelir.

2. Paragraf 1'deki⁸ bu tanım, bu Personel Yönetmeliklerinin^{9,10} kendilerini¹¹ kuran¹² Topluluk yasaları kapsamında uygulandığı Topluluk organları tarafından atanan kişiler için de geçerli olacaktır (bundan böyle "ajanslar"¹³ olarak anılacaktır)¹⁴. Bu Personel Yönetmeliğinde¹⁵ kurumlara yapılan atıflar, bu Personel Yönetmeliğinde¹⁶ aksi belirtilmedikçe,¹⁷ ajanslar için geçerli olacaktır.

Madde 1b (96)¹⁸

Bu Personel Yönetmeliğinde¹⁹ aksi belirtilmedikçe,²⁰

(a) Avrupa Ekonomik ve Sosyal Komitesi,

(b) Bölgeler Komitesi,

(c) Avrupa Ombudsmanı ve

(d) Avrupa Veri Koruma Denetçisi, bu Personel Yönetmeliğinin²¹ amaçları doğrultusunda, Toplulukların kurumları olarak muamele görecektir.

Madde 1c (96)²²

¹ Accuracy-mechanical-other (should be bold, centralized and bigger font)

² Accuracy-mechanical-capitalization (should be *Madde*)

³ Accuracy-mechanical-other (should be in italics, centralized)

⁴ Accuracy-mistranslation-WSD (previously translated as *Yönetmelik*, inconsistency)

⁵ Accuracy-mistranslation-WSD (previously translated as *Yönetmelik*, inconsistency)

⁶ Accuracy-mistranslation-WSD (should be *kadrosunda*)

⁷ Accuracy-mistranslation-WSD (should be *resmî*)

⁸ Fluency-orthography-other (*1./birinci paragraftaki*)

⁹ Fluency-grammar-word form (should be *Yönetmeliği'nin*)

¹⁰ Fluency-orthography-punctuation (the suffix should be separated with an apostrophe)

¹¹ Fluency-lexicon-lexical choice (*kendi* is used for humans)

¹² Accuracy-mistranslation-other (*kendi* cannot be used for agencies, therefore, *kurucu* might be an alternative)

¹³ Fluency-other (grammatically, appointed persons will be referred to as *ajanslar* and it is not plausible)

¹⁴ Accuracy-other (this explanation between the parentheses is misplaced. It should come after *Topluluk organları*)

¹⁵ Fluency-orthography-punctuation (the suffix should be separated with an apostrophe, *Yönetmeliği'nde*)

¹⁶ Fluency-orthography-punctuation (the suffix should be separated with an apostrophe, *Yönetmeliği'nde*)

¹⁷ Fluency-orthography-punctuation (unnecessary comma)

¹⁸ Accuracy-mechanical-other (should be in italics, centralized)

¹⁹ Fluency-orthography-punctuation (*Yönetmeliği'nde*)

²⁰ Fluency-orthography-punctuation (unnecessary comma)

²¹ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

²² Accuracy-mechanical-other (should be in italics, centralized)

Bu Personel Tüzüğünde²³²⁴ erkek cinsiyetinden bir kişiye yapılan herhangi bir atıf, bağlam aksini açıkça belirtmedikçe,²⁵ kadın cinsiyetinden bir kişiye yapılan bir atıf olarak kabul edilecektir ve bunun tersi de geçerlidir.

Madde 1d (77) (96)²⁶

1. Bu Personel Yönetmeliğinin²⁷ uygulanmasında, cinsiyet, ırk, renk, etnik veya sosyal köken, genetik özellikler, dil, din veya inanç, siyasi veya başka herhangi bir görüş, ulusal bir azınlığın²⁸ üyeliği²⁹, mülkiyet, doğum, engellilik, yaş veya cinsel yönelim gibi herhangi bir zemine dayalı ayrımcılık yasaktır.

Bu Personel Tüzüğü'nün³⁰ amaçları doğrultusunda, evlilik dışı ortaklıklar³¹, Ek VII'nin 1(2)(c) Maddesinde listelenen tüm koşulların yerine getirilmesi koşuluyla evlilik olarak kabul edilecektir.

2. Bu Personel Tüzüğü'nün³² tüm yönleriyle uygulanmasında göz önünde bulundurulması gereken temel bir unsur olacak³³ olan çalışma yaşamında kadın ve erkek arasında uygulamada tam eşitliğin sağlanması amacıyla, eşit muamele ilkesi, Avrupa Toplulukları kurumlarının,³⁴ yeterince temsil edilmeyen cinsiyetin mesleki bir faaliyette bulunmasını kolaylaştırmak için belirli avantajlar sağlayan önlemleri sürdürmesini veya benimsemesini engellemeyecektir.³⁵ Profesyonel kariyerlerdeki dezavantajları önlemek veya telafi etmek.³⁶³⁷

3. Kurumlar, Personel Düzenleme³⁸ Komitesine danıştıktan sonra, bu Personel Tüzüğü'nün³⁹ kapsadığı alanlarda kadın ve erkek için fırsat eşitliğini teşvik edecek tedbirleri ve eylemleri anlaşıma ile belirleyecek ve özellikle bu alanlarda kadınlar için fırsatları engelleyen fiili⁴⁰ eşitsizliklerin giderilmesi için uygun hükümleri kabul edeceklerdir.

²³ Fluency-orthography-punctuation (*Tüzüğü'nde*)

²⁴ Accuracy-mistranslation-WSD (previously translated as *Yönetmelik*, inconsistency)

²⁵ Fluency-orthography-punctuation (unnecessary comma)

²⁶ Accuracy-mechanical-other (should be in italics, centralized)

²⁷ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

²⁸ Fluency-grammar-word form (*azınlığa*)

²⁹ Fluency-grammar-word form (*üyelik*)

³⁰ Accuracy-mistranslation-WSD (previously translated as *Yönetmelik*, inconsistency)

³¹ Accuracy-mistranslation-WSD (*birliktelikler*)

³² Accuracy-mistranslation-WSD (previously translated as *Yönetmelik*, inconsistency)

³³ Fluency-grammar-extra word (*olacak olan* creates an unnecessary repetition, *olacak* should be omitted)

³⁴ Fluency-orthography-punctuation (unnecessary comma)

³⁵ Accuracy-mechanical-punctuation (no full stop here in the source sentence)

³⁶ Fluency-other (the second sentence in the paragraph stands off from the rest, the source should be checked)

³⁷ Accuracy-other (the second sentence should be included in the previous one)

³⁸ Accuracy-mistranslation-wsd (inconsistency, should be *Yönetmeliği*)

³⁹ Accuracy-mistranslation-WSD (previously translated as *Yönetmelik*, inconsistency)

⁴⁰ Fluency-orthography-spelling (missing the circumflex accent, *fiili*)

4. Paragraf 1'in⁴¹ amaçları doğrultusunda, bir kişinin kalıcı olan veya olması muhtemel olan fiziksel veya zihinsel bir bozukluğu varsa bir sakatlığı⁴²⁴³ vardır. Değer düşüklüğü⁴⁴⁴⁵, 33 üncü⁴⁶ maddede⁴⁷ belirtilen usule göre belirlenir.

Engelli bir kişi, makul bir konaklama⁴⁸⁴⁹ yapıldığında işin temel işlevlerini yerine getirebiliyorsa, Madde 28 (e)'de belirtilen koşulları yerine getirir.

İşin temel işlevleriyle ilgili olarak "makul konaklama"⁵⁰⁵¹, gerektiğinde, engelli bir kişinin istihdama erişimini, istihdama⁵² katılmasını veya ilerlemesini sağlamak veya bu tür önlemler işverene orantısız bir yük getirmediği eğitime girmesini sağlamak için uygun önlemler anlamına gelecektir.⁵³

5.4.1. Analysis of Bing Translator

Fluency Errors: 27

1. Grammar: 4
 - a. Multi-word Syntax: 0
 - b. Word Form: 3
 - c. Word Order: 0
 - d. Extra word: 1
 - e. Missing Word: 0
 - f. Other: 0
2. Lexicon: 5
 - a. Non-Existing: 0
 - b. Lexical Choice: 5
3. Orthography: 15
 - a. Spelling: 1
 - b. Capitalization: 0
 - c. Punctuation: 12
 - d. Other: 2
4. Multiple Errors: 0
5. Other: 3

Accuracy Errors: 26

1. Addition: 1
2. Omission: 0
3. Untranslated: 0

⁴¹ Fluency-orthography-other (1./birinci paragraftaki)

⁴² Fluency-lexicon-lexical choice (sakatlık is inappropriate)

⁴³ Accuracy-mistranslation-WSD (should be *engeli*)

⁴⁴ Fluency-lexicon-lexical choice (değer düşüklüğü does not fit here)

⁴⁵ Accuracy-mistranslation-WSD (should be *bozukluk*)

⁴⁶ Fluency-orthography-punctuation (there should be an apostrophe)

⁴⁷ Accuracy-mechanical-capitalization (first letter of *Madde* should be capitalized)

⁴⁸ Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

⁴⁹ Accuracy-mistranslation-wsd (*reasonable accommodation* is mistranslated)

⁵⁰ Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

⁵¹ Accuracy-mistranslation-wsd (*reasonable accommodation* is mistranslated)

⁵² Accuracy-addition (there is a second *employment* in target)

⁵³ Fluency-other (the definition and the term does not match)

4. DNT: 0
5. Mistranslation: 15
 - a. MWE: 0
 - b. POS: 0
 - c. WSD: 14
 - d. Semantically Unrelated: 0
 - e. Other: 1
6. Mechanical: 8
 - a. Capitalization: 2
 - b. Punctuation: 1
 - c. Other: 5
7. Other: 2



5.5. WATSON TRANSLATOR

Başlık I: Genel hükümler¹ Madde 1 (21) (73) (96)²³

Bu Personel Yönetmeliği, Topluluklar 'ın⁴ yetkilileri için geçerli olacaktır. ⁵Madde 1a (96)⁶

1. Bu Personel Yönetmeliğinin⁷ amaçları açısından,⁸ "Toplulukların resmi⁹¹⁰", bu Personel Yönetmeliklerinde¹¹¹² belirtilen şekilde atanan herhangi bir kişi anlamına gelir.¹³ Bu yönetmelikler¹⁴¹⁵, bu¹⁶ kurumun¹⁷ Öğretim Otoritesi¹⁸ tarafından verilen bir araç¹⁹ tarafından, Topluluklar 'ın²⁰ kurumlarından birinin kadrolarında²¹ bulunan²² bir gönderiye²³ verilir²⁴.^{2526 27} 2. 1. paragrafta²⁸ bu tanım, bu Personel Yönetmeliğinin²⁹³⁰³¹ (bundan böyle "acenteler"³²³³ olarak anılacaktır "34)3536 kurduğu Topluluk

¹ Accuracy-mechanical-other (should be bold, centralized and bigger font)

² Accuracy-mechanical-other (should not be on the same line with the title)

³ Accuracy-mechanical-other (should be italic and centralized)

⁴ Fluency-orthography-punctuation (there should be no space before the apostrophe and it is unnecessary)

⁵ Accuracy-mechanical-other (should be on a separate line)

⁶ Accuracy-mechanical-other (should be italic and centralized)

⁷ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

⁸ Fluency-orthography-punctuation (unnecessary comma)

⁹ Fluency-lexicon-lexical choice (*resim* does not fit here)

¹⁰ Accuracy-mistranslation-WSD (*resmi* is mistranslated and misspelled, it should be *yetkilisi*)

¹¹ Fluency-grammar-word form (should be singular, *Yönetmeliği'nde*)

¹² Fluency-orthography-punctuation (the suffix must be separated with an apostrophe)

¹³ Accuracy-mechanical-punctuation (no full stop here in the source text)

¹⁴ Fluency-grammar-word form (should be *yönetmelik*)

¹⁵ Accuracy-mechanical-capitalization (first letter should be capitalized)

¹⁶ Accuracy-mistranslation-WSD (should be *o*)

¹⁷ Fluency-grammar-other (it is not clear that which institutions *this* refers to)

¹⁸ Accuracy-mistranslation-WSD (*Atama Makamı*)

¹⁹ Accuracy-mistranslation-WSD (*belge*)

²⁰ Fluency-orthography-punctuation (there should be no space before the apostrophe and it is unnecessary)

²¹ Fluency-grammar-word form (should be singular: *kadrosunda*)

²² Accuracy-omission (*established* is omitted)

²³ Accuracy-mistranslation-WSD (*göreve/pozisyona*)

²⁴ Accuracy-addition (*verilir* is added)

²⁵ Fluency-multiple errors (individual error annotation cannot correct this sentence, the source should be checked)

²⁶ Accuracy-other (this sentence should be restated: *Bu Personel Yönetmeliği'nin amaçları açısından "Toplulukların yetkilisi", bu Personel Yönetmeliği'nde belirtilen şekilde, o kurumun Atama Makamı tarafından verilen bir belgeyle Toplulukların kurumlarından birinin kadrosunda bulunan resmî bir göreve atanan herhangi bir kişi anlamına gelir.*)

²⁷ Accuracy-mechanical-other (should not be on a separate line)

²⁸ Fluency-grammar-word form (*paragraftaki*)

²⁹ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

³⁰ Accuracy-omission (*to whom* is omitted)

³¹ Accuracy-omission (*apply under* is omitted)

³² Fluency-lexicon-lexical choice (*acente* does not fit here)

³³ Accuracy-mistranslation-WSD (*ajanslar*)

³⁴ Fluency-orthography-punctuation (unnecessary quotation mark)

³⁵ Fluency-orthography-punctuation (There should be no space before the bracket)

³⁶ Fluency-grammar-word order (information between the brackets is misplaced)

çalışanları³⁷³⁸ tarafından görevlendirilen³⁹ kişiler için de geçerli olacaktır.⁴⁰⁴¹⁴² Bu Personel Yönetmeliklerindeki⁴³⁴⁴ kurumlara yapılan başvurular⁴⁵, bu Personel Yönetmeliklerinde⁴⁶⁴⁷ aksi belirtilmediği sürece ajanslar için geçerli olacaktır.⁴⁸ Madde 1b (96)^{49 50} Bu Personel Yönetmeliklerinde⁵¹⁵² aksi belirtilmediği sürece, ⁵³(a) Avrupa Ekonomik ve Sosyal Komitesi, ⁵⁴(b) Bölgeler Komitesi, ⁵⁵(c) Avrupa Ombudsmanı ve ⁵⁶(d) Avrupa Veri Koruma Denetmeni⁵⁷, bu Personel Yönetmeliğinin⁵⁸ amaçları açısından, Topluluklar 'ın⁵⁹ kurumları olarak ele alınır. Madde 1c (96)^{60 61} Bu Personel yönetmeliklerinde⁶²⁶³⁶⁴ erkek cinsiyetinin⁶⁵ bir kişisine⁶⁶ yönelik herhangi bir başvuru⁶⁷, aynı zamanda kadın cinsiyetinin⁶⁸ bir kişisine⁶⁹ referans teşkil edecek şekilde değerlendirilecektir,⁷⁰ ve tersi⁷¹⁷², bağlam açıkça aksini göstermediği sürece.⁷³

³⁷ Fluency-other (it means that the regulations establish employees, which is not plausible)

³⁸ Accuracy-mistranslation-SU (*bodies* is translated as *çalışanlar*, unrelated. Should be Topluluk organları)

³⁹ Accuracy-mistranslation-WSD (*atanan*)

⁴⁰ Accuracy-omission (*Community acts* is missing)

⁴¹ Fluency-multiple errors (this sentence must be retranslated based on the source)

⁴² Accuracy-other (this sentence should be restated: *1. paragraftaki bu tanım, kurucu Topluluk yasaları uyarınca bu Personel Yönetmeliği'nin geçerli olduğu Topluluk organları (bundan böyle "ajanslar" anılacaktır) tarafından atanan kişiler için de geçerli olacaktır.*)

⁴³ Fluency-grammar-word form (*Yönetmeliği'ndeki*)

⁴⁴ Fluency-orthography-punctuation (suffix should be separated with an apostrophe)

⁴⁵ Accuracy-mistranslation-WSD (should be *atıflar*)

⁴⁶ Fluency-grammar-word form (*Yönetmeliği'nde*)

⁴⁷ Fluency-orthography-punctuation (suffix should be separated with an apostrophe)

⁴⁸ Accuracy-mechanical-other (*Madde 1b (96)* should be on a separate line)

⁴⁹ Accuracy-mechanical-other (should be centralized and in italics)

⁵⁰ Accuracy-mechanical-other (this sentence should be on a separate line)

⁵¹ Fluency-grammar-word form (*Yönetmeliği'nde*)

⁵² Fluency-orthography-punctuation (suffix should be separated with an apostrophe)

⁵³ Accuracy-mechanical-other (should be on a separate line)

⁵⁴ Accuracy-mechanical-other (should be on a separate line)

⁵⁵ Accuracy-mechanical-other (should be on a separate line)

⁵⁶ Accuracy-mechanical-other (should be on a separate line)

⁵⁷ Fluency-lexicon-lexical choice (should be *Denetçisi*)

⁵⁸ Fluency-orthography-punctuation (should be *Yönetmeliği'nin*)

⁵⁹ Fluency-orthography-punctuation (there should be no space before the apostrophe and it is unnecessary)

⁶⁰ Accuracy-mechanical-other (should be in italics and centralized)

⁶¹ Accuracy-mechanical-other (should be on a separate line)

⁶² Fluency-grammar-word form (*Yönetmeliği'nde*)

⁶³ Fluency-orthography-capitalization (First letter of *yönetmelik* should be capitalized)

⁶⁴ Fluency-orthography-punctuation (the suffix of *yönetmelik* should be separated with an apostrophe)

⁶⁵ Fluency-grammar-word form (*cinsiyetinden*)

⁶⁶ Fluency-grammar-word form (*kişiye*)

⁶⁷ Accuracy-mistranslation-WSD (should be *atıf*)

⁶⁸ Fluency-grammar-word form (*cinsiyetinden*)

⁶⁹ Fluency-grammar-word form (*kişiye*)

⁷⁰ Fluency-orthography-punctuation (unnecessary comma)

⁷¹ Fluency-other (*ve tersi* does not conform with the rest of the sentence)

⁷² Accuracy-mistranslation-other (*vice versa* is mistranslated. it should be *ve tam tersi de geçerlidir*)

⁷³ Fluency-grammar-word order ([...] *erkek cinsiyetinden bir kişiye yönelik herhangi bir atıf, bağlam açıkça aksini göstermediği sürece kadın cinsiyetinden* [...])

Madde 1d (77) (96)⁷⁴

1. Bu Personel Yönetmeliği⁷⁵ uygulamasında, cinsiyet, ırk, renk, etnik veya sosyal köken, genetik özellikler, dil, din veya inanç, siyasi veya başka herhangi bir görüş, ulusal bir azınlığın⁷⁶ üyeliği⁷⁷, mülkiyet, doğum, sakatlık, yaş veya cinsel yönelim gibi herhangi bir yere⁷⁸ dayalı her türlü ayrımcılığa izin verilecektir⁷⁹.

Bu Personel Yönetmeliğinin⁸⁰ amaçları doğrultusunda, evlilik dışı ortaklıklar⁸¹, Annex⁸²⁸³ VII 'nin⁸⁴ Madde⁸⁵ 1 (2) (c)⁸⁶ maddesinde listelenen tüm şartların yerine getirildiği şekilde⁸⁷ ⁸⁸kabul edilecektir⁸⁹. ⁹⁰2. Bu Personel Yönetmeliğinin⁹¹ tüm yönlerinin uygulanmasında dikkate alınması gereken önemli bir unsur olan çalışma yaşamında erkek ve kadın arasındaki uygulamada tam eşitliğin sağlanmasına yönelik bir bakış açısı ile, eşit muamele prensibi, Avrupa Toplulukları kurumlarının özel avantajlar sağlayan önlemleri korumasını veya benimsemesini engellememeli ve bu da bu tür bir hak ve eşitlik için⁹² daha kolay bir şekilde gerçekleştirilecektir⁹³⁹⁴.⁹⁵ mesleki⁹⁶ kariyerlerdeki dezavantajları önlemek ya da önlemek⁹⁷⁹⁸ veya telafi etmek için cinsel temsil edilir⁹⁹¹⁰⁰¹⁰¹¹⁰².¹⁰³ ¹⁰⁴3. Kurumlar, bu Personel Yönetmeliği kapsamında yer alan alanlarda erkek ve kadın için eşit fırsatları teşvik etmek amacıyla Personel Yönetmelik Komitesi, tedbirler ve eylemlere başvurduktan sonra¹⁰⁵, bu

⁷⁴ Accuracy-mechanical-other (should be in italics and centralized)

⁷⁵ Fluency-grammar-word form (*Yönetmeliği'nin*)

⁷⁶ Fluency-grammar-word form (*azınlığa*)

⁷⁷ Fluency-grammar-word form (*üyelik*)

⁷⁸ Accuracy-mistranslation-WSD (should be *temele*)

⁷⁹ Fluency-grammar-word form (this sentence cannot be right since it suggests allowing discrimination. the verb should be negative: *izin verilmeyecektir*)

⁸⁰ Fluency-orthography-punctuation (*Yönetmeliği'nin*)

⁸¹ Accuracy-mistranslation-WSD (*birliktelikler*)

⁸² Fluency-lexicon-non-existing/foreign word (untranslated)

⁸³ Accuracy-untranslated

⁸⁴ Fluency-orthography-punctuation (there should be no space before and after the apostrophe)

⁸⁵ Fluency-grammar-extra word (*madde* appears twice, first one should be omitted)

⁸⁶ Accuracy-mechanical-other (there should be no space between 1, (2) and (c))

⁸⁷ Accuracy-mistranslation-WSD (should be *takdirde*)

⁸⁸ Accuracy-omission (*marriage* is omitted)

⁸⁹ Fluency-other (this sentence is not clear, the source should be checked)

⁹⁰ Accuracy-mechanical-other (this sentence should be on a separate line)

⁹¹ Fluency-grammar-word form (*Yönetmeliği'nin*)

⁹² Accuracy-addition (*bu da bu tür bir hak ve eşitlik* is added)

⁹³ Accuracy-mistranslation-MWE (*make it easier* is mistranslated)

⁹⁴ Fluency-other (the last parts of the sentence after *engellememeli ve* is erroneous, source should be checked)

⁹⁵ Accuracy-mechanical-punctuation (no full stop here in the source)

⁹⁶ Fluency-orthography-capitalization (the first letter of a word after the full stop should be capitalized)

⁹⁷ Fluency-grammar-extra word (repetition)

⁹⁸ Accuracy-addition (second *önlemek* is added)

⁹⁹ Fluency-lexicon-lexical choice (*cinsel temsil edilir* is meaningless)

¹⁰⁰ Accuracy-mistranslation-SU (underrepresented is mistranslated)

¹⁰¹ Accuracy-mistranslation-POS (underrepresented is turned into a verb in the target text)

¹⁰² Fluency-other (this sentence as a whole is not correct)

¹⁰³ Accuracy-other (this paragraph is divided into two sentences while it should have been only one)

¹⁰⁴ Accuracy-mechanical-other (should start on a separate line)

¹⁰⁵ Accuracy-omission (*determine* is omitted)

alanlarda kadınlar için bu tür fiili¹⁰⁶ eşitsizlikleri en uygun şekilde yeniden giydirmek¹⁰⁷ için gerekli hükümleri benimseyecektir¹⁰⁸.¹⁰⁹ 4. 1. paragrafın amaçları açısından, bir kişinin fiziksel veya zihinsel bozukluğu varsa bir sakatlığı¹¹⁰ vardır veya bu da Kalıcı¹¹¹ olması muhtemel¹¹²¹¹³. Bozukluk, Madde 33 'te¹¹⁴ belirlenen prosedüre uygun olarak belirlenecektir.

maluliyet¹¹⁵¹¹⁶ sahibi bir kişi, makul bir konaklama¹¹⁷¹¹⁸ yapıldığında işin esaslı¹¹⁹ işlevlerini yerine getirebilirse 28. maddede yattığı¹²⁰¹²¹ şartları karşılamaktadır. "Makul konaklama¹²²¹²³", işin temel işlevleri ile ilgili olarak, bir kişinin işverene orantısız bir yük uygulayacağı¹²⁴¹²⁵, istihdam edilebilmeleri¹²⁶, istihdam¹²⁷ edilebilmeleri¹²⁸¹²⁹ ya da istihdamda¹³⁰ ilerlemek veya eğitime geçmek¹³¹ için gerekli olduğu durumlarda uygun önlemleri kastediyor¹³²¹³³.

5.5.1. Analysis of Watson Translator

Fluency Errors: 65

1. Grammar: 26

- a. Multi-word Syntax: 0
- b. Word Form: 20
- c. Word Order: 2
- d. Extra word: 3

¹⁰⁶ Fluency-orthography-spelling (diacritics, *fiili*)

¹⁰⁷ Accuracy-mistranslation-other (*redress* is translated too literally. should be *telaifi etmek*)

¹⁰⁸ Accuracy-omission (*by agreement* is omitted)

¹⁰⁹ Accuracy-mechanical-other (should start on a separate line)

¹¹⁰ Fluency-lexicon-lexical choice (*sakatlık* does not fit here, could be even considered inappropriate)

¹¹¹ Accuracy-mechanical-capitalization (first letter of *kalıcı* should not be capitalized)

¹¹² Fluency-other (last part of the sentence starting from *veya bu da* distracts the fluency)

¹¹³ Accuracy-other (last part of the sentence is misplaced, should be: [...] *bir kişinin kalıcı veya kalıcı olması muhtemel fiziksel veya zihinsel bozukluğu varsa bir engeli vardır.*)

¹¹⁴ Fluency-orthography-other (33 'üncü maddede)

¹¹⁵ Fluency-orthography-capitalization (first letter of the sentence should be capitalized)

¹¹⁶ Accuracy-mistranslation-WSD (should be *engel*)

¹¹⁷ Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

¹¹⁸ Accuracy-mistranslation-WSD (*makul düzenleme*)

¹¹⁹ Fluency-grammar-word form (*esas*)

¹²⁰ Fluency-lexicon-lexical choice (*yattığı* does not fit here)

¹²¹ Accuracy-mistranslation-WSD (should be *belirtilen*)

¹²² Fluency-lexicon-lexical choice (no such term as *makul konaklama*)

¹²³ Accuracy-mistranslation-WSD (*makul düzenleme*)

¹²⁴ Accuracy-omission (*unless* is omitted)

¹²⁵ Accuracy-mistranslation-other (target means that the person would impose disproportionate burden on the employer while it is the measures in the source)

¹²⁶ Accuracy-mistranslation-SU (*istihdama erişebilmesi*)

¹²⁷ Accuracy-addition (*istihdam* is added)

¹²⁸ Fluency-grammar-word form (should be singular)

¹²⁹ Fluency-grammar-extra word (repetition)

¹³⁰ Accuracy-addition (*istihdam* is added)

¹³¹ Accuracy-mistranslation-wsd (should be *eğitim görmek/almak*)

¹³² Fluency-grammar-word form (should be *kastedir*)

¹³³ Accuracy-other (the sentence should be corrected: "*Makul düzenleme*", işin temel işlevleri ile ilgili olarak, bir kişinin istihdama erişebilmesi, katılabilmesi, ilerlemesi veya eğitim alabilmesi için gerekli olduğu durumlarda işverene orantısız bir yük uygulamadığı sürece alınan uygun önlemleri kastedir.)

- e. Missing Word: 0
 - f. Other: 1
- 2. Lexicon: 9
 - a. Non-Existing: 1
 - b. Lexical Choice: 8
- 3. Orthography: 22
 - a. Spelling: 1
 - b. Capitalization: 3
 - c. Punctuation: 17
 - d. Other: 1
- 4. Multiple Errors: 2
- 5. Other: 6

Accuracy Errors: 68

- 1. Addition: 5
- 2. Omission: 8
- 3. Untranslated: 1
- 4. DNT: 0
- 5. Mistranslation: 25
 - a. MWE: 1
 - b. POS: 1
 - c. WSD: 17
 - d. Semantically Unrelated: 3
 - e. Other: 3
- 6. Mechanical: 24
 - a. Capitalization: 2
 - b. Punctuation: 2
 - c. Other: 20
- 7. Other: 5

5.6. OVERALL ANALYSIS OF THE LEGAL TEXT

Fluency Errors: 229

- 1. Grammar: 69
 - a. Multi-word Syntax: 0
 - b. Word Form: 51
 - c. Word Order: 4
 - d. Extra word: 6
 - e. Missing Word: 4
 - f. Other: 4
- 2. Lexicon: 40
 - a. Non-Existing: 1
 - b. Lexical Choice: 39
- 3. Orthography: 98
 - a. Spelling: 8

- b. Capitalization: 11
 - c. Punctuation: 74
 - d. Other: 5
- 4. Multiple Errors: 5
- 5. Other: 17

Accuracy Errors: 246

- 1. Addition: 9
- 2. Omission: 15
- 3. Untranslated: 1
- 4. DNT: 0
- 5. Mistranslation: 114
 - a. MWE: 1
 - b. POS: 1
 - c. WSD: 99
 - d. Semantically Unrelated: 3
 - e. Other: 10
- 6. Mechanical: 90
 - a. Capitalization: 41
 - b. Punctuation: 11
 - c. Other: 38
- 7. Other: 17

6. SOURCE TEXT

The Addiction Cycle

Addiction can be described as a repeating cycle with three stages. Each stage is particularly associated with one of the brain regions described above—basal ganglia, extended amygdala, and prefrontal cortex (Figure 2.3).¹⁰ This three-stage model draws on decades of human and animal research and provides a useful way to understand the symptoms of addiction, how it can be prevented and treated, and how people can recover from it.¹⁴ The three stages of addiction are:

- **Binge/Intoxication**, the stage at which an individual consumes an intoxicating substance and experiences its rewarding or pleasurable effects;
- **Withdrawal/Negative Affect**, the stage at which an individual experiences a negative emotional state in the absence of the substance; and
- **Preoccupation/Anticipation**, the stage at which one seeks substances again after a period of abstinence.

The three stages are linked to and feed on each other, but they also involve different brain regions, circuits (or networks), and neurotransmitters and result in specific kinds of changes in the brain. A person may go through this three-stage cycle over the course of weeks or months or progress through it several times in a day. There may be variation in how people progress through the cycle and the intensity with which they experience each of the stages. Nonetheless, the addiction cycle tends to intensify over time, leading to greater physical and psychological harm.¹⁰

The following sections describe each of the stages in more detail. But first, it is necessary to explain four behaviors that are central to the addiction cycle: impulsivity, positive reinforcement, negative reinforcement, and compulsivity.

For many people, initial substance use involves an element of impulsivity, or acting without foresight or regard for the consequences. For example, an adolescent may impulsively take a first drink, smoke a cigarette, begin experimenting with marijuana, or succumb to peer pressure to try a party drug. If the experience is pleasurable, this feeling positively reinforces the substance use, making the person more likely to take the substance again.

Another person may take a substance to relieve negative feelings such as stress, anxiety, or depression. In this case, the temporary relief the substance brings from the negative feelings negatively reinforces substance use, increasing the likelihood that the person will use again. Importantly, positive and negative reinforcement need not be driven solely by the effects of the drugs. Many other environmental and social stimuli can reinforce a behavior. For example, the approval of peers positively reinforces substance use for some people. Likewise, if drinking or using drugs with others provides relief from social isolation, substance use behavior could be negatively reinforced.

The positively reinforcing effects of substances tend to diminish with repeated use. This is called tolerance and may lead to use of the substance in greater amounts and/or

more frequently in an attempt to experience the initial level of reinforcement. Eventually, in the absence of the substance, a person may experience negative emotions such as stress, anxiety, or depression, or feel physically ill. This is called withdrawal, which often leads the person to use the substance again to relieve the withdrawal symptoms.

6.1. GOOGLE TRANSLATE

Bağımlılık Döngüsü¹

Bağımlılık, üç aşamalı tekrar eden bir döngü olarak tanımlanabilir. Her aşama, özellikle² yukarıda açıklanan beyin bölgelerinden biri ile ilişkilidir —³ bazal ganglionlar, genişletilmiş amigdala ve prefrontal korteks (Şekil 2.3).¹⁰ Bu üç aşamalı model, onlarca yıl süren insan ve hayvan araştırmalarından yararlanır ve bağımlılığın belirtileri, nasıl önlenip tedavi edilebileceği ve insanların bundan nasıl kurtulabileceği⁵⁶.¹⁴ Bağımlılığın üç aşaması şunlardır:

- ⁸• Binge⁹¹⁰/İntoksikasyon¹¹¹², bir¹³ kişinin sarhoş edici bir maddeyi tükettiği ve bunun ödüllendirici¹⁴ veya zevkli etkilerini yaşadığı aşama;¹⁵
- ¹⁶• Geri Çekilme¹⁷/Olumsuz Duygulanım¹⁸, bireyin maddenin yokluğunda olumsuz bir duygusal durum yaşadığı aşama;¹⁹ ve
- ²⁰• Zihniyet²¹/Beklenti²², kişinin belli²³ bir süre yoksun kaldıktan²⁴²⁵ sonra tekrar madde aradığı aşama.

¹ Accuracy-mechanical-other (Should be bigger font and red)

² Accuracy-mistranslation-other (*özellikle* is mispositioned and it should be amended: *Her aşama, yukarıda açıklanan beyin bölgelerinden biri ile özel olarak ilişkilidir*)

³ Fluency-orthography-punctuation (hyphen is not used in Turkish the way it is used in English. Colon would be better)

⁴ Accuracy-mechanical-other (*10* should be a superscript)

⁵ Fluency-grammar-missing word (no verb in the second part of the sentence)

⁶ Accuracy-omission (*provides a useful way to understand* is omitted. This part could be added at the end of the sentence: [...] *kurtulabileceğini anlamak için faydalı bir yöntem sunar.*)

⁷ Accuracy-mechanical-other (*14* should be a superscript)

⁸ Accuracy-mechanical-other (should be indented)

⁹ Fluency-lexicon-non-existing/foreign word (Binge is not a Turkish word. *KontROLSÜZ/AŞIRI Tüketim/Kullanım* could be used)

¹⁰ Accuracy-untranslated

¹¹ Fluency-orthography-spelling (the word should start with the capital *İ* in Turkish alphabet: *İntoksikasyon*)

¹² Accuracy-mechanical-other (should be bold)

¹³ Fluency-grammar-extra word (unnecessary indefinite article)

¹⁴ Accuracy-mistranslation-WSD (*tatmin edici* would be a better choice)

¹⁵ Fluency-orthography-punctuation (semicolon cannot be used here. A comma can be used)

¹⁶ Accuracy-mechanical-other (should be indented)

¹⁷ Accuracy-mistranslation-WSD (should be *yoksunluk*)

¹⁸ Accuracy-mechanical-other (should be bold)

¹⁹ Fluency-orthography-punctuation (semicolon cannot be used before *ve*)

²⁰ Accuracy-mechanical-other (should be indented)

²¹ Accuracy-mistranslation-WSD (should be *kaygı/endişe*)

²² Accuracy-mechanical-other (should be bold)

²³ Accuracy-addition (*belli* is added)

²⁴ Fluency-grammar-missing word (*yoksun kalmak* should refer to an object)

²⁵ Accuracy-mistranslation-POS (it should be a noun: [...] *bir süre yoksunluktan sonra* [...])

Üç aşama birbiriyle bağlantılıdır ve birbiriyle²⁶ beslenir,²⁷ ancak bunlar aynı zamanda farklı beyin bölgelerini, devreleri (veya ağları) ve nörotransmitterleri içerir ve beyinde belirli türde değişikliklere neden olur. Bir²⁸ kişi bu üç aşamalı döngüden haftalar veya aylar boyunca geçebilir²⁹ veya günde birkaç kez geçebilir. İnsanların döngü boyunca nasıl ilerledikleri ve aşamaların her birini deneyimledikleri³⁰ yoğunlukta³¹ farklılıklar olabilir. Bununla birlikte,³² bağımlılık döngüsü zamanla yoğunlaşma eğilimindedir ve bu da daha fazla fiziksel ve psikolojik zarara yol açar.¹⁰³³

Aşağıdaki bölümlerde aşamaların her biri daha ayrıntılı olarak açıklanmaktadır. Ama önce,³⁴ bağımlılık döngüsünün merkezinde yer alan dört davranışı açıklamak gerekir: dürtüsellik, olumlu pekiştirme, olumsuz pekiştirme ve dürtüsellik³⁵.

Birçok insan için,³⁷ ilk madde kullanımı, bir dürtüsellik unsuru veya öngörüsüz veya³⁸ sonuçlara³⁹ bakmadan⁴⁰ hareket etmeyi içerir. Örneğin,⁴¹ bir ergen dürtüsel olarak ilk içkisini alabilir, sigara içebilir, marihuana denemeye başlayabilir veya bir parti ilacını⁴² denemek için akran baskısına yenik düşebilir. Deneyim zevkliyse,⁴³ bu duygu madde kullanımını olumlu yönde güçlendirerek⁴⁴ kişinin maddeyi tekrar kullanma olasılığını artırır.

Başka bir kişi stres, kaygı veya depresyon gibi olumsuz duyguları gidermek için bir⁴⁵ madde alabilir. Bu durumda maddenin olumsuz duygulardan⁴⁶ getirdiği geçici rahatlama, madde kullanımını olumsuz yönde pekiştirerek kişinin tekrar kullanma olasılığını artırır. Daha da önemlisi,⁴⁷ olumlu ve olumsuz pekiştirmenin yalnızca ilaçların⁴⁸ etkileri tarafından yönlendirilmesine gerek yoktur. Diğer birçok çevresel ve sosyal uyaran bir davranışı güçlendirebilir⁴⁹. Örneğin,⁵⁰ akranların onayı bazı insanlar için madde kullanımını olumlu yönde güçlendirir⁵¹. Aynı şekilde,⁵² başkalarıyla

²⁶ Fluency-grammar-word form (*birbirinden*)

²⁷ Fluency-orthography-punctuation (unnecessary comma)

²⁸ Fluency-grammar-extra word (unnecessary indefinite article)

²⁹ Fluency-grammar-extra word (the verbs are the same, the first one can be omitted)

³⁰ Fluency-grammar-word form (*deneyimleme*)

³¹ Fluency-grammar-word form (*yoğunluklarında*)

³² Fluency-orthography-punctuation (unnecessary comma)

³³ Accuracy-mechanical-other (*10* should be a superscript)

³⁴ Fluency-orthography-punctuation (unnecessary comma)

³⁵ Fluency-lexicon-lexical choice (first and the last behaviours are translated the same. One of them must be a mistranslation)

³⁶ Accuracy-mistranslation-other (both *impulsivity* and *compulsivity* is translated into *dürtüsellik*. *Compulsivity* should be *zorlantı*.)

³⁷ Fluency-orthography-punctuation (unnecessary comma)

³⁸ Fluency-grammar-extra word (the same conjunction is used twice and this disrupts the fluency)

³⁹ Fluency-grammar-word form (*sonuçları*)

⁴⁰ Fluency-lexicon-lexical choice (should be *düşünmeden*)

⁴¹ Fluency-orthography-punctuation (unnecessary comma)

⁴² Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁴³ Fluency-orthography-punctuation (unnecessary comma)

⁴⁴ Accuracy-mistranslation-WSD (the term is *olumlu pekiştirme*, so *güçlendirme* is the wrong choice)

⁴⁵ Fluency-grammar-extra word (unnecessary indefinite article)

⁴⁶ Fluency-grammar-word order (should be *duygulara*)

⁴⁷ Fluency-orthography-punctuation (unnecessary comma)

⁴⁸ Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁴⁹ Accuracy-mistranslation-WSD (the term is *olumlu pekiştirme*, so *güçlendirme* is the wrong choice)

⁵⁰ Fluency-orthography-punctuation (unnecessary comma)

⁵¹ Accuracy-mistranslation-WSD (the term is *olumlu pekiştirme*, so *güçlendirme* is the wrong choice)

⁵² Fluency-orthography-punctuation (unnecessary comma)

birlikte içmek veya uyuşturucu kullanmak sosyal izolasyondan kurtulmayı sağlıyorsa,⁵³ madde kullanım davranışı olumsuz olarak pekiştirilebilir. Maddelerin olumlu pekiştirici etkileri, tekrarlanan kullanımla azalma eğilimindedir. Buna tolerans denir ve başlangıçtaki takviye⁵⁴ seviyesini deneyimleme girişiminde⁵⁵ maddenin daha büyük miktarlarda ve/veya daha sık kullanılmasına yol açabilir. Sonunda,⁵⁶ maddenin yokluğunda,⁵⁷ kişi stres, kaygı veya depresyon gibi olumsuz duygular yaşayabilir veya fiziksel olarak hasta hissedebilir. Buna yoksunluk denir ve genellikle kişinin yoksunluk semptomlarını gidermek için maddeyi tekrar kullanmasına neden olur.

6.1.1. Analysis of Google Translate

Fluency Errors: 31

- 11. Grammar: 13
 - a. Multi-word Syntax: 0
 - b. Word Form: 4
 - c. Word Order: 2
 - d. Extra word: 5
 - e. Missing Word: 2
 - f. Other: 0
- 12. Lexicon: 3
 - a. Non-Existing: 1
 - b. Lexical Choice: 2
- 13. Orthography: 15
 - a. Spelling: 1
 - b. Capitalization: 0
 - c. Punctuation: 14
 - d. Other: 0
- 14. Multiple Errors: 0
- 15. Other: 0

Accuracy Errors: 26

- 15. Addition: 1
- 16. Omission: 1
- 17. Untranslated: 1
- 18. DNT: 0
- 19. Mistranslation: 13
 - a. MWE: 0
 - b. POS: 1
 - c. WSD: 10
 - d. Semantically Unrelated: 0

⁵³ Fluency-orthography-punctuation (unnecessary comma)

⁵⁴ Accuracy-mistranslation-WSD (should be *pekiştirme*)

⁵⁵ Accuracy-mistranslation-WSD (should be *amacıyla*)

⁵⁶ Fluency-orthography-punctuation (unnecessary comma)

⁵⁷ Fluency-grammar-word order (frequent use of comma, can be ordered: *Sonunda kişi maddenin yokluğunda stres, [...]*)

- e. Other: 2
- 20. Mechanical: 10
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 10
- 21. Other: 0



6.2. REVERSO

Bağımlılık Döngüsü¹

Bağımlılık, üç aşamalı tekrar eden bir döngü olarak tanımlanabilir. Her aşama özellikle² yukarıda açıklanan beyin bölgelerinden biri ile ilgilidir: Bazal³ ganglia⁴⁵, genişletilmiş amigdap^{67,8}, Ve⁹ ön cephe¹⁰¹¹ korteksi (Şekil 2.3) .10¹²¹³ Bu üç aşamalı model, onlarca yıllık insan ve hayvan araştırmasını temel alır ve bağımlılık belirtilerini, nasıl önlenebileceğini ve tedavi edilebileceğini ve insanların bundan nasıl kurtulabileceğini anlamak için yararlı bir yol sunar.¹⁴¹⁴ Bağımlılık sürecinin üç aşaması şunlardır:

- ¹⁵• Bağımlılık¹⁶¹⁷/sarhoşluk¹⁸¹⁹, bir²⁰ kişinin sarhoş bir madde²¹ tükettiği ve tatmin edici veya keyifli etkilerini yaşadığı sahne^{2223,24}
- ²⁵• Geri çekme²⁶/olumsuz²⁷ etki²⁸²⁹³⁰, bir³¹ bireyin maddenin yokluğunda olumsuz bir duygusal durum yaşadığı aşamadır;³² ve

¹ Accuracy-mechanical-other (should be red and bigger font)

² Accuracy-mistranslation-other (*özellikle* is mispositioned and it should be amended: *Her aşama, yukarıda açıklanan beyin bölgelerinden biri ile özel olarak ilgilidir*)

³ Accuracy-mechanical-capitalization (first letter of *bazal* is unnecessarily capitalized)

⁴ Fluency-lexicon-non-existing/foreign word (*ganglia* is not a Turkish word)

⁵ Accuracy-untranslated

⁶ Fluency-lexicon-non-existing/foreign word (*amigdap* does not exist)

⁷ Accuracy-mistranslation-other (*amygdala* is translated into a non-existing word)

⁸ Fluency-orthography-punctuation (unnecessary comma)

⁹ Fluency-orthography-capitalization (unnecessary capitalization)

¹⁰ Fluency-lexicon-lexical choice (*ön cephe* does not fit here)

¹¹ Accuracy-mistranslation-WSD (*prefrontal* is mistranslated, should be left in English)

¹² Accuracy-mechanical-other (unnecessary space before the full stop)

¹³ Accuracy-mechanical-other (*10* should be superscript)

¹⁴ Accuracy-mechanical-other (*14* should be superscript)

¹⁵ Accuracy-mechanical-other (should be indented)

¹⁶ Fluency-lexicon-lexical choice (*bağımlılık* does not fit the context)

¹⁷ Accuracy-mistranslation-SU (should be *Kontrolsüz/Aşırı Tüketim/Kullanım*)

¹⁸ Accuracy-mechanical-capitalization (first letter of *sarhoşluk* should be capitalized)

¹⁹ Accuracy-mechanical-other (should be bold)

²⁰ Fluency-grammar-extra word (unnecessary indefinite article)

²¹ Fluency-grammar-missing word (*sarhoş madde* is not a logical word, it should be *sarhoş edici madde*)

²² Fluency-lexicon-lexical choice (*sahne* does not fit here)

²³ Accuracy-mistranslation-WSD (should be *aşama*)

²⁴ Fluency-orthography-punctuation (semicolon cannot be used here. A comma can be used)

²⁵ Accuracy-mechanical-other (should be indented)

²⁶ Accuracy-mistranslation-WSD (should be *yoksunluk*)

²⁷ Accuracy-mechanical-capitalization (first letter of *olumsuz* should be capitalized)

²⁸ Accuracy-mistranslation-WSD (should be *Olumsuz Duygulanım*)

²⁹ Accuracy-mechanical-capitalization (first letter of *etki* should be capitalized)

³⁰ Accuracy-mechanical-other (should be bold)

³¹ Fluency-grammar-extra word (unnecessary indefinite article)

³² Fluency-orthography-punctuation (semicolon cannot be used here)

33• İşgal³⁴³⁵/tahmin³⁶³⁷³⁸³⁹, bir⁴⁰⁴¹ kaçınma periyodundan sonra maddelerin tekrar araştırılması⁴²⁴³ aşaması.

Bu üç aşama birbiriyle bağlantılıdır ve birbirleri üzerinde beslemedir⁴⁴⁴⁵,⁴⁶ ancak farklı beyin bölgeleri, devreler (veya ağlar) ve nörovericiler⁴⁷ içerir ve beyinde belirli türlerde değişikliklere neden olur. Bir⁴⁸ kişi,⁴⁹ haftalar veya aylar boyunca bu üç aşamalı döngüyü gözden geçirebilir⁵⁰ veya günde birkaç kez bu döngüde ilerleyebilir. İnsanların döngüde nasıl ilerlediği ve aşamaların her birini ne kadar deneyimleyebileceği⁵¹ farklılık gösterebilir. Bununla birlikte,⁵² bağımlılık döngüsü zamanla yoğunlaşarak daha fazla fiziksel ve psikolojik zarar verebilir.¹⁰⁵³

Aşağıdaki bölümlerde aşamaların her biri daha ayrıntılı olarak açıklanmaktadır. Ancak öncelikle,⁵⁴ bağımlılık döngüsünün merkezinde yer alan dört davranışı açıklamak gerekir: Darbe⁵⁵⁵⁶⁵⁷, pozitif takviye⁵⁸⁵⁹, negatif takviye⁶⁰⁶¹ ve sıkıştırma⁶²⁶³.

33 Accuracy-mechanical-other (should be indented)

34 Fluency-lexicon-lexical choice (*İşgal* does not fit the context)

35 Accuracy-mistranslation-WSD (should be *kaygı/endişe*)

36 Fluency-lexicon-lexical choice (*tahmin* does not fit here)

37 Accuracy-mistranslation-WSD (should be *beklenti*)

38 Accuracy-mechanical-capitalization (first letter of *tahmin* should be capitalized)

39 Accuracy-mechanical-other (should be bold)

40 Fluency-grammar-extra word (unnecessary indefinite article)

41 Accuracy-omission (*one* is omite)

42 Fluency-lexicon-lexical choice (*araştırma* does not fit here)

43 Accuracy-mistranslation-WSD (should be *arandığı*)

44 Fluency-lexicon-lexical choice (*besleme* does not fit the context)

45 Accuracy-mistranslation-SU (should be *üzerinden beslenir*)

46 Fluency-orthography-punctuation (unnecessary comma)

47 Accuracy-mistranslation-other (the frequent and accepted translation of this word is *nörotransmitter*)

48 Fluency-grammar-extra word (unnecessary indefinite article)

49 Fluency-orthography-punctuation (unnecessary comma)

50 Accuracy-mistranslation-WSD (should be *döngüden geçebilir*)

51 Fluency-grammar-word form (the ability suffix, *-ebilmek*, is unnecessary here. Should be *deneyimleyeceği*)

52 Fluency-orthography-punctuation (unnecessary comma)

53 Accuracy-mechanical-other (10 should be a superscript)

54 Fluency-orthography-punctuation (unnecessary comma)

55 Fluency-lexicon-lexical choice (*darbe* does not fit here)

56 Accuracy-mistranslation-SU (should be *dürtüsellik*)

57 Accuracy-mechanical-capitalization (first letter should not be capitalized)

58 Fluency-lexicon-lexical choice (*pozitif takviye* is not a term)

59 Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

60 Fluency-lexicon-lexical choice (*negatif takviye* is not a term)

61 Accuracy-mistranslation-WSD (the correct term is *olumsuz pekiştirme*)

62 Fluency-lexicon-lexical choice (*sıkıştırma* does not fit here)

63 Accuracy-mistranslation-SU (should be *zorlanti*)

Birçok kişi için,⁶⁴ ilk madde kullanımı bir darbe⁶⁵⁶⁶ unsuru ya da direniş⁶⁷ ya da⁶⁸ sonuçları göz önünde bulundurmada hareket eder⁶⁹⁷⁰⁷¹. Örneğin,⁷² ergenlik dönemi⁷³⁷⁴ ilk içeceği⁷⁵⁷⁶ istemeden⁷⁷ alabilir, sigara içebilir, marihuana deneyine⁷⁸⁷⁹ başlayabilir veya parti ilacını⁸⁰ denemek için akranlara baskı yapabilir⁸¹. Bu deneyim tatminkarsa⁸²,⁸³ bu duygu⁸⁴ maddenin kullanımını olumlu bir şekilde güçlendirerek⁸⁵ kişinin maddeyi tekrar ele alma⁸⁶⁸⁷ olasılığını artırır. Başka bir kişi stres, endişe veya depresyon gibi olumsuz duyguları hafifletmek için bir⁸⁸ madde alabilir. Bu durumda,⁸⁹ maddenin olumsuz duygulardan⁹⁰ aldığı⁹¹⁹² geçici rahatlama madde kullanımını olumsuz bir şekilde güçlendirerek⁹³ kişinin tekrar kullanma olasılığını artırır. Daha da önemlisi,⁹⁴ pozitif⁹⁵ ve negatif⁹⁶ takviyelerin⁹⁷ yalnızca ilaçların⁹⁸ etkileriyle tahrik⁹⁹¹⁰⁰ edilmemesi gerekir¹⁰¹. Diğer birçok çevre¹⁰²

⁶⁴ Fluency-orthography-punctuation (unnecessary comma)

⁶⁵ Fluency-lexicon-lexical choice (*darbe* does not fit here)

⁶⁶ Accuracy-mistranslation-SU (should be *dürtüsellik*)

⁶⁷ Accuracy-mistranslation-SU (should be *öngörüsüz*)

⁶⁸ Fluency-grammar-extra word (the same conjunction is used twice and this disrupts the fluency)

⁶⁹ Fluency-grammar-other (the verb does not conform to first part of the sentence)

⁷⁰ Accuracy-mistranslation-POS (while *acting* is a noun in the source, it is transformed into a verb in the target text)

⁷¹ Accuracy-omission (*involves* is omitted)

⁷² Fluency-orthography-punctuation (unnecessary comma)

⁷³ Fluency-other (the subject of the sentence is the adolescence period and it cannot be right. Source should be checked)

⁷⁴ Accuracy-mistranslation-WSD (should be *ergen*)

⁷⁵ Fluency-lexicon-lexical choice (the context is addiction, therefore *içecek* does not fit here)

⁷⁶ Accuracy-mistranslation-WSD (should be *içki*)

⁷⁷ Accuracy-mistranslation-WSD (should be *dürtüsel olarak*)

⁷⁸ Fluency-lexicon-lexical choice (*deney* does not fit here)

⁷⁹ Accuracy-mistranslation-WSD (should be *denemeye*)

⁸⁰ Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁸¹ Accuracy-mistranslation-other (It is the adolescent that could receive pressure from the peers for using drug, it is not the adolescent that puts the pressure on others)

⁸² Fluency-orthography-spelling (circumflex accent is missing: *tatminkâr*)

⁸³ Fluency-orthography-punctuation (unnecessary comma)

⁸⁴ Fluency-lexicon-lexical choice (it should be *his*)

⁸⁵ Accuracy-mistranslation-WSD (should be *pekiştirerek*)

⁸⁶ Fluency-lexicon-lexical choice (*ele almak* does not fit here)

⁸⁷ Accuracy-mistranslation-WSD (should be *tekrar alma olasılığı*)

⁸⁸ Fluency-grammar-extra word (unnecessary indefinite article)

⁸⁹ Fluency-orthography-punctuation (unnecessary comma)

⁹⁰ Fluency-grammar-word form (should be *duygulara*)

⁹¹ Fluency-lexicon-lexical choice (should be *getirdiği*)

⁹² Accuracy-mistranslation-MWE (*bring relief from* is mistranslated)

⁹³ Accuracy-mistranslation-WSD (should be *pekiştirerek*)

⁹⁴ Fluency-orthography-punctuation (unnecessary comma)

⁹⁵ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

⁹⁶ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

⁹⁷ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

⁹⁸ Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁹⁹ Fluency-lexicon-lexical choice (*tahrik* does not fit here)

¹⁰⁰ Accuracy-mistranslation-WSD (should be *yönlendirmek*)

¹⁰¹ Accuracy-mistranslation-MWE (*need not be* is mistranslated. Should be *gerek yoktur*)

¹⁰² Fluency-grammar-word form (should be *çevresel*)

ve sosyal uyarıcı bir davranışı güçlendirebilir¹⁰³. Örneğin,¹⁰⁴ eş düzeydeki¹⁰⁵ çalışma arkadaşlarının¹⁰⁶ onayı, bazı insanlar için madde kullanımını olumlu bir şekilde pekiştirir. Aynı şekilde,¹⁰⁷ alkol veya uyuşturucu kullanımı sosyal izolasyondan kurtulmanızı¹⁰⁸ sağlarsa madde kullanım davranışı olumsuz yönde desteklenmiş¹⁰⁹ olabilir.

Maddelerin pozitif¹¹⁰ takviye¹¹¹ etkileri, tekrarlanan kullanımla azalır. Buna tolerans denir ve ilk takviye seviyesini tecrübe etmek için maddenin daha büyük miktarlarda ve/veya daha sık kullanılmasını sağlar^{112,113}. Sonuç olarak^{114, 115} maddenin yokluğunda¹¹⁶, bir¹¹⁷ kişi stres, endişe veya depresyon gibi olumsuz duygularla karşılaşabilir veya fiziksel olarak hasta olabilir. Buna, çekilme¹¹⁸ belirtilerini hafifletmek için genellikle kişinin maddeyi tekrar kullanmasına yol açan çekilme¹¹⁹ adı verilir.

6.2.1. Analysis of Reverso

Fluency Errors: 52

1. Grammar: 13
 - a. Multi-word Syntax: 0
 - b. Word Form: 3
 - c. Word Order: 1
 - d. Extra word: 7
 - e. Missing Word: 1
 - f. Other: 1
2. Lexicon: 21
 - a. Non-Existing: 2
 - b. Lexical Choice: 19
3. Orthography: 17
 - a. Spelling: 1
 - b. Capitalization: 1

¹⁰³ Accuracy-mistranslation-WSD (the term is *olumlu pekiştirme*, so *güçlendirmek* is the wrong choice)

¹⁰⁴ Fluency-orthography-punctuation (unnecessary comma)

¹⁰⁵ Accuracy-mistranslation-WSD (*peers* is mistranslated should be *akran*)

¹⁰⁶ accuracy-addition (*çalışma arkadaşları* is added)

¹⁰⁷ Fluency-orthography-punctuation (unnecessary comma)

¹⁰⁸ Accuracy-addition (there is an added *you* in *kurtulmanızı*, which should have been *kurtulmayı*)

¹⁰⁹ Accuracy-mistranslation-WSD (should be *pekiştirilmiş*)

¹¹⁰ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

¹¹¹ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

¹¹² Fluency-lexicon-lexical choice (*sağlar* sounds positive whereas the sentence should involve a negative meaning)

¹¹³ Accuracy-mistranslation-WSD (should be *yol açar*)

¹¹⁴ Accuracy-mistranslation-WSD (should be *sonunda*)

¹¹⁵ Fluency-orthography-punctuation (unnecessary comma)

¹¹⁶ Fluency-grammar-word order (should be [...] *kişi maddenin yokluğunda stres*, [...])

¹¹⁷ Fluency-grammar-extra word (unnecessary indefinite article)

¹¹⁸ Accuracy-mistranslation-WSD (should be *yoksunluk*)

¹¹⁹ Accuracy-mistranslation-WSD (should be *yoksunluk*)

- c. Punctuation: 15
 - d. Other: 0
- 4. Multiple Errors: 0
- 5. Other: 1

Accuracy Errors: 67

- 1. Addition: 2
- 2. Omission: 2
- 3. Untranslated: 1
- 4. DNT: 0
- 5. Mistranslation: 45
 - a. MWE: 2
 - b. POS: 1
 - c. WSD: 32
 - d. Semantically Unrelated: 6
 - e. Other: 4
- 6. Mechanical: 17
 - a. Capitalization: 6
 - b. Punctuation: 0
 - c. Other: 11
- 7. Other: 0

6.3. YANDEX TRANSLATE

Bağımlılık Döngüsü¹

Bağımlılık, üç aşamalı tekrarlanan bir döngü olarak tanımlanabilir. Her aşama özellikle² yukarıda tarif edilen beyin bölgelerinden biri ile ilişkilidir —³ bazal ganglionlar, genişletilmiş amigdala ve prefrontal korteks (Şekil 2.3).¹⁰ Bu üç aşamalı model, on yıllardır süren insan ve hayvan araştırmalarına dayanmakta ve bağımlılığın belirtilerini, nasıl önlenilebileceğini ve tedavi edilebileceğini ve insanların bundan nasıl kurtulabileceğini anlamak için yararlı bir yol sunmaktadır.¹⁴ Bağımlılığın üç aşaması şunlardır:

6• Sarhoşluk⁷ / Sarhoşluk⁸⁹¹⁰, bireyin sarhoş edici bir maddeyi tükettiği ve ödüllendirici¹¹ veya zevkli etkilerini yaşadığı aşama;¹²

13*¹⁴ Bireyin maddenin yokluğunda olumsuz bir duygusal durum yaşadığı aşama olan Geri Çekilme¹⁵ / Olumsuz Etki^{16171819,20} ve

21*²² Meşguliyet²³ / Beklenti²⁴²⁵, kişinin bir yoksunluk döneminden sonra tekrar madde aradığı aşamadır.

Üç aşama birbiriyle bağlantılıdır ve birbirleriyle²⁶ beslenirler^{27,28} fakat aynı zamanda farklı beyin bölgelerini, devreleri (veya ağları) ve nörotransmitterleri de içerirler ve beyinde belirli türdeki²⁹ değişikliklere neden olurlar³⁰. Bir³¹ kişi bu üç aşamalı

¹ Accuracy-mechanical-other (should be red and bigger font)

² Accuracy-mistranslation-other (*özellikle* is mispositioned and it should be amended: *Her aşama, yukarıda tarif edilen beyin bölgelerinden biri ile özel olarak ilişkilidir*)

³ Fluency-orthography-punctuation (dash is not used in Turkish the way it is used in English. Colon would be better)

⁴ Accuracy-mechanical-other (*10* should be a superscript)

⁵ Accuracy-mechanical-other (*14* should be a superscript)

⁶ Accuracy-mechanical-other (should be indented)

⁷ Accuracy-mistranslation-WSD (Although this meaning can be inferred from *Binge*, it creates a repetition and the correct term would be *Kontrolsüz/Aşırı Tüketim/Kullanım*)

⁸ Fluency-grammar-extra word (*sarhoşluk* is repeated)

⁹ Accuracy-mechanical-other (slash is unnecessarily spaced on both sides)

¹⁰ Accuracy-mechanical-other (should be bold)

¹¹ Accuracy-mistranslation-WSD (*tatmin edici* would be a better choice)

¹² Fluency-orthography-punctuation (semicolon cannot be used here. A comma can be used)

¹³ Accuracy-mechanical-other (should be indented)

¹⁴ Accuracy-mechanical-other (the symbol should be a bullet point)

¹⁵ Accuracy-mistranslation-WSD (should be *Yoksunluk*)

¹⁶ Accuracy-other (the name of the stage should be at the beginning of the sentence)

¹⁷ Accuracy-mistranslation-WSD (the correct term is *Olumsuz Duygulanım*)

¹⁸ Accuracy-mechanical-other (should be bold)

¹⁹ Accuracy-mechanical-other (slash is unnecessarily spaced on both sides)

²⁰ Fluency-orthography-punctuation (semicolon cannot be used here)

²¹ Accuracy-mechanical-other (should be indented)

²² Accuracy-mechanical-other (the symbol should be a bullet point)

²³ Accuracy-mistranslation-WSD (should be *kaygı/endişe*)

²⁴ Accuracy-mechanical-other (should be bold)

²⁵ Accuracy-mechanical-other (slash is unnecessarily spaced on both sides)

²⁶ Fluency-grammar-word form (*birbirinden*)

²⁷ Fluency-grammar-word form (should be singular, *beslenir*)

²⁸ Fluency-orthography-punctuation (unnecessary comma)

²⁹ Fluency-grammar-word form (should be *belirli türde*)

³⁰ Fluency-grammar-word form (should be singular, *olur*)

³¹ Fluency-grammar-extra word (unnecessary indefinite article)

döngüden haftalar veya aylar boyunca geçebilir veya günde birkaç kez ³² ilerleyebilir³³. İnsanların döngü boyunca nasıl ilerledikleri ve aşamaların her birini yaşadıkları³⁴ yoğunlukta³⁵ farklılıklar olabilir. Bununla birlikte,³⁶ bağımlılık döngüsü zamanla yoğunlaşarak daha fazla fiziksel ve psikolojik zarara yol açma eğilimindedir.¹⁰³⁷

Aşağıdaki bölümlerde aşamaların her biri daha ayrıntılı olarak açıklanmaktadır. Fakat önce,³⁸ bağımlılık döngüsünün merkezinde yer alan dört davranışı açıklamak gerekir: dürtüsellik, pozitif³⁹ pekiştirme, negatif⁴⁰ pekiştirme ve zorlayıcılık⁴¹.

Birçok insan için,⁴² ilk madde kullanımı ⁴³dürtüsellik unsurunu⁴⁴ içerir⁴⁵ veya sonuçları öngörmeden veya dikkate almadan hareket eder⁴⁶⁴⁷. Örneğin,⁴⁸ bir ergen dürtüsel olarak ilk içkiyi⁴⁹ alabilir, sigara içebilir, esrarla⁵⁰ denemeye başlayabilir veya bir parti ilacını⁵¹ denemek için akran baskısına yenik düşebilir. Deneyim zevkli ise,⁵² bu duygu madde kullanımını olumlu yönde güçlendirerek⁵³ kişinin maddeyi tekrar alma olasılığını artırır.

Başka bir kişi stres, endişe veya depresyon gibi olumsuz duyguları hafifletmek için bir⁵⁴ madde alabilir. Bu durumda maddenin olumsuz duygulardan⁵⁵ getirdiği geçici rahatlama madde kullanımını olumsuz yönde güçlendirerek⁵⁶ kişinin tekrar kullanma

³² Accuracy-omission (*it is omitted. This causes the below mentioned disagreement*)

³³ Fluency-grammar-missing word (the object *döngüden* and the verb *ilerleyebilir* do not agree. There should be a *döngüde* before the verb)

³⁴ Fluency-grammar-word form (should be *yaşama*)

³⁵ Fluency-grammar-word form (should be *yoğunluklarında*)

³⁶ Fluency-orthography-punctuation (unnecessary comma)

³⁷ Accuracy-mechanical-other (*10* should be a superscript)

³⁸ Fluency-orthography-punctuation (unnecessary comma)

³⁹ Fluency-lexicon-lexical choice (*olumlu* should be used for correct terminology)

⁴⁰ Fluency-lexicon-lexical choice (*olumsuz* should be used for correct terminology)

⁴¹ Accuracy-mistranslation-WSD (*Compulsivity* should be *zorlanti*)

⁴² Fluency-orthography-punctuation (unnecessary comma)

⁴³ Fluency-grammar-missing word (the sentence sounds like there is only one impulsivity element. There should be a *bir* before *dürtüsellik*)

⁴⁴ Fluency-grammar-word form (the sentence sounds like there is only one impulsivity element. It should be *unsuru*)

⁴⁵ Accuracy-other (the verb *içerir* is misplaced. It should be at the end of the sentence)

⁴⁶ Fluency-grammar-other (there is a verb-subject disagreement)

⁴⁷ Accuracy-mistranslation-POS (*acting* is turned into a verb in the target where as it should be a noun)

⁴⁸ Fluency-orthography-punctuation (unnecessary comma)

⁴⁹ Fluency-grammar-word form (should be *içkisini*)

⁵⁰ Fluency-grammar-word form (should be *esrar*)

⁵¹ Accuracy-mistranslation-WSD (*drug* should be translated as *uyuşturucu*)

⁵² Fluency-orthography-punctuation (unnecessary comma)

⁵³ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

⁵⁴ Fluency-grammar-extra word (unnecessary indefinite article)

⁵⁵ Fluency-grammar-word form (should be *duygulara*)

⁵⁶ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

olasılığını artırır. Önemli olarak^{57,58,59} pozitif⁶⁰ ve negatif⁶¹ takviyenin⁶² sadece ilaçların⁶³ etkilerinden kaynaklanması gerekmez. Diğer birçok çevresel ve sosyal uyaran bir davranışı güçlendirebilir⁶⁴. Örneğin,⁶⁵ akranların onayı, bazı insanlar için madde kullanımını olumlu yönde güçlendirir⁶⁶. Benzer şekilde,⁶⁷ başkalarıyla birlikte uyuşturucu içmek veya kullanmak⁶⁸ sosyal izolasyondan rahatlama sağlıyorsa,⁶⁹ madde kullanım davranışı olumsuz yönde güçlendirilebilir⁷⁰. Maddelerin olumlu takviye edici⁷¹ etkileri, tekrarlanan kullanımla azalmaya eğilimlidir. Buna tolerans denir ve ilk takviye⁷² seviyesini deneyimlemek için maddenin daha fazla miktarda ve / veya⁷³ daha sık kullanılmasına neden olabilir. Sonunda,⁷⁴ maddenin yokluğunda,⁷⁵ bir⁷⁶ kişi stres, endişe veya depresyon gibi olumsuz duygular yaşayabilir veya fiziksel olarak hasta hissedebilir. Buna yoksunluk denir, bu da kişinin yoksunluk belirtilerini hafifletmek için maddeyi tekrar kullanmasına neden olur.

6.3.1. Analysis of Yandex Translate

Fluency Errors: 36

1. Grammar: 19
 - a. Multi-word Syntax: 0
 - b. Word Form: 10
 - c. Word Order: 2
 - d. Extra word: 4
 - e. Missing Word: 2
 - f. Other: 1
2. Lexicon: 3
 - a. Non-Existing: 0

⁵⁷ Fluency-lexicon-lexical choice (*önemli olarak* cannot be used here in Turkish, it does not have a meaningful role in the sentence and it disrupts the fluency)

⁵⁸ Accuracy-mistranslation-WSD (*Daha da önemlisi* can be a better option)

⁵⁹ Fluency-orthography-punctuation (unnecessary comma)

⁶⁰ Accuracy-mistranslation-WSD (should be *olumlu*)

⁶¹ Accuracy-mistranslation-WSD (should be *olumsuz*)

⁶² Accuracy-mistranslation-WSD (should be *pekiştirme*)

⁶³ Accuracy-mistranslation-WSD (drug is used as in *uyuşturucu*)

⁶⁴ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

⁶⁵ Fluency-orthography-punctuation (unnecessary comma)

⁶⁶ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

⁶⁷ Fluency-orthography-punctuation (unnecessary comma)

⁶⁸ Fluency-grammar-word order (*kullanmak* is the correct term for *uyuşturucu*, therefore it should be reordered as “[...] *başkalarıyla birlikte içmek veya uyuşturucu kullanmak* [...]”)

⁶⁹ Fluency-orthography-punctuation (unnecessary comma)

⁷⁰ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

⁷¹ Accuracy-mistranslation-WSD (should be *pekiştirici*)

⁷² Accuracy-mistranslation-WSD (should be *pekiştirme*)

⁷³ Accuracy-mechanical-other (slash is unnecessarily spaced on both sides)

⁷⁴ Fluency-orthography-punctuation (unnecessary comma)

⁷⁵ Fluency-grammar-word order (frequent use of comma, can be ordered: *Sonunda kişi maddenin yokluğunda stres, [...]*)

⁷⁶ Fluency-grammar-extra word (unnecessary indefinite article)

- b. Lexical Choice: 3
- 3. Orthography: 14
 - a. Spelling: 0
 - b. Capitalization: 0
 - c. Punctuation: 14
 - d. Other: 0
- 4. Multiple Errors: 0
- 5. Other: 0

Accuracy Errors: 40

- 1. Addition: 0
- 2. Omission: 1
- 3. Untranslated: 0
- 4. DNT: 0
- 5. Mistranslation: 21
 - a. MWE: 0
 - b. POS: 1
 - c. WSD: 19
 - d. Semantically Unrelated: 0
 - e. Other: 1
- 6. Mechanical: 16
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 16
- 7. Other: 2

6.4. BING TRANSLATOR

Bağımlılık Döngüsü¹

Bağımlılık, üç aşamalı tekrarlanan bir döngü olarak tanımlanabilir. Her aşama özellikle² yukarıda açıklanan beyin bölgelerinden biri olan³ bazal gangliyon, genişletilmiş amigdala ve prefrontal korteks ile ilişkilidir (Şekil 2.3).¹⁰ Bu üç aşamalı model, onlarca yıllık insan ve hayvan araştırmalarına dayanır ve bağımlılığın belirtilerini, nasıl önlenebileceğini ve tedavi edilebileceğini ve insanların bundan nasıl kurtulabileceğini anlamak için yararlı bir yol sağlar.¹⁴⁵ Bağımlılığın üç aşaması şunlardır:

⁶• Tıkanma⁷⁸ / Sarhoşluk⁹¹⁰, bir¹¹ bireyin sarhoş edici bir maddeyi tükettiği ve ödüllendirici¹² veya zevkli etkilerini yaşadığı aşama;¹³

¹⁴• Geri Çekilme¹⁵ / Olumsuz Duygulanım¹⁶¹⁷, bireyin maddenin yokluğunda olumsuz bir duygusal durum yaşadığı aşama;¹⁸ ve

¹⁹• Meşguliyet²⁰/Beklenti²¹, kişinin bir yoksunluk döneminden sonra tekrar madde aradığı aşama.

Üç aşama birbirine bağlıdır ve birbirleriyle²² beslenir,²³ ancak aynı zamanda farklı beyin bölgelerini, devreleri (veya ağları) ve nörotransmitterleri içerir ve beyinde belirli değişikliklere neden olur. Bir²⁴ kişi bu üç aşamalı döngüden haftalar veya aylar boyunca geçebilir veya günde birkaç kez ilerleyebilir²⁵²⁶. İnsanların döngü boyunca nasıl ilerledikleri ve aşamaların her birini deneyimledikleri²⁷ yoğunlukta²⁸ farklılıklar

¹ Accuracy-mechanical-other (should be bigger font and red)

² Accuracy-mistranslation-other (*özellikle* is mispositioned and it should be amended: *Her aşama, yukarıda açıklanan beyin bölgelerinden [...] ile özel olarak ilişkilidir*)

³ Fluency-grammar-word order (the sentence says one of the brain regions but counts three of them, illogical. It should be reordered: *Her aşama, yukarıda açıklanan bazal gangliyon, genişletilmiş amigdala ve prefrontal korteks beyin bölgelerinden biri ile özel olarak ilişkilidir.*)

⁴ Accuracy-mechanical-other (*10* should be a superscript)

⁵ Accuracy-mechanical-other (*14* should be a superscript)

⁶ Accuracy-mechanical-other (should be indented)

⁷ Fluency-lexicon-lexical choice (*Tıkanma* does not fit the context)

⁸ Accuracy-mistranslation-SU (*Kontrolsüz/Aşırı Tüketim/Kullanım*)

⁹ Accuracy-mechanical-other (should be bold)

¹⁰ Accuracy-mechanical-other (slash is unnecessarily spaced on both sides)

¹¹ Fluency-grammar-extra word (unnecessary indefinite article)

¹² Accuracy-mistranslation-WSD (*tatmin edici* would be a better choice)

¹³ Fluency-orthography-punctuation (semicolon cannot be used here. A comma can be used)

¹⁴ Accuracy-mechanical-other (should be indented)

¹⁵ Accuracy-mistranslation-WSD (should be *yoksunluk*)

¹⁶ Accuracy-mechanical-other (slash is unnecessarily spaced on both sides)

¹⁷ Accuracy-mechanical-other (should be bold)

¹⁸ Fluency-orthography-punctuation (semicolon cannot be used here)

¹⁹ Accuracy-mechanical-other (should be indented)

²⁰ Accuracy-mistranslation-WSD (should be *kaygı/endişe*)

²¹ Accuracy-mechanical-other (should be bold)

²² Fluency-grammar-word form (*birbirinden*)

²³ Fluency-orthography-punctuation (unnecessary comma)

²⁴ Fluency-grammar-extra word (unnecessary indefinite article)

²⁵ Accuracy-omission (*it* is omitted. This causes the below mentioned disagreement)

²⁶ Fluency-grammar-missing word (the object *döngüden* and the verb *ilerleyebilir* do not agree. There should be a *döngüde* before the verb)

²⁷ Fluency-grammar-word form (*deneyimleme*)

²⁸ Fluency-grammar-word form (*yoğunluklarında*)

olabilir. Bununla birlikte,²⁹ bağımlılık döngüsü zamanla yoğunlaşma eğilimindedir ve bu da daha fazla fiziksel ve psikolojik zarara yol açar.¹⁰³⁰

Aşağıdaki bölümlerde aşamaların her biri daha ayrıntılı olarak açıklanmaktadır. Ama önce,³¹ bağımlılık döngüsünün merkezinde yer alan dört davranışı açıklamak gerekir: dürtüsellik, olumlu pekiştirme, olumsuz pekiştirme ve kompulsiflik.

Birçok insan için,³² ilk madde kullanımı dürtüsellik unsurunu içerir³³ veya öngörü olmadan veya sonuçları dikkate almadan hareket eder³⁴³⁵. Örneğin,³⁶ bir ergen dürtüsel olarak ilk içkiyi³⁷ alabilir, sigara içebilir, esrarla deney yapmaya³⁸³⁹ başlayabilir veya bir parti ilacını⁴⁰ denemek için akran baskısına yenik düşebilir. Deneyim zevkliyse,⁴¹ bu duygu madde kullanımını olumlu yönde güçlendirir⁴² ve kişinin maddeyi tekrar alma olasılığını artırır.

Başka bir kişi stres, endişe veya depresyon gibi olumsuz duyguları hafifletmek için bir⁴³ madde alabilir. Bu durumda maddenin olumsuz duygulardan⁴⁴ getirdiği geçici rahatlama, madde kullanımını olumsuz yönde güçlendirerek⁴⁵ kişinin tekrar kullanma ihtimalini artırır. Önemli olarak⁴⁶⁴⁷,⁴⁸ olumlu ve olumsuz takviyenin⁴⁹ yalnızca ilaçların⁵⁰ etkileriyle yönlendirilmesi gerekmez. Diğer birçok çevresel ve sosyal uyaran bir davranışı güçlendirebilir⁵¹. Örneğin,⁵² akranların onayı, bazı insanlar için madde kullanımını olumlu yönde güçlendirir⁵³. Aynı şekilde,⁵⁴ başkalarıyla birlikte uyuşturucu içmek veya kullanmak⁵⁵ sosyal izolasyondan kurtulmayı sağlıyorsa,⁵⁶ madde kullanım davranışı olumsuz olarak güçlendirilebilir⁵⁷.

²⁹ Fluency-orthography-punctuation (unnecessary comma)

³⁰ Accuracy-mechanical-other (10 should be a superscript)

³¹ Fluency-orthography-punctuation (unnecessary comma)

³² Fluency-orthography-punctuation (unnecessary comma)

³³ Accuracy-other (the verb *içerir* is misplaced. It should be at the end of the sentence)

³⁴ Fluency-grammar-word form (*hareket eder* does not conform with the subject *ilk madde kullanımı*. Source text should be checked)

³⁵ Accuracy-mistranslation-POS (*acting* is turned into a verb in the target text while it should have been a noun)

³⁶ Fluency-orthography-punctuation (unnecessary comma)

³⁷ Fluency-grammar-word form (*içkisini*)

³⁸ Fluency-lexicon-lexical choice (*deney yapmaya* does not fit here)

³⁹ Accuracy-mistranslation-WSD (should be *denemeye*)

⁴⁰ Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁴¹ Fluency-orthography-punctuation (unnecessary comma)

⁴² Accuracy-mistranslation-WSD (correct term is *pekiştirmek*)

⁴³ Fluency-grammar-extra word (unnecessary indefinite article)

⁴⁴ Fluency-grammar-word form (*duygulara*)

⁴⁵ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

⁴⁶ Fluency-lexicon-lexical choice (*önemli olarak* cannot be used here in Turkish, it does not have a meaningful role in the sentence and it disrupts the fluency)

⁴⁷ Accuracy-mistranslation-WSD (*Daha da önemlisi* can be a better option)

⁴⁸ Fluency-orthography-punctuation (unnecessary comma)

⁴⁹ Accuracy-mistranslation-WSD (should be *pekiştirme*)

⁵⁰ Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁵¹ Accuracy-mistranslation-WSD (should be *pekiştirebilir*)

⁵² Fluency-orthography-punctuation (unnecessary comma)

⁵³ Accuracy-mistranslation-WSD (should be *pekiştirir*)

⁵⁴ Fluency-orthography-punctuation (unnecessary comma)

⁵⁵ Fluency-grammar-word order (*kullanmak* is the correct term for *uyuşturucu*, therefore it should be reordered as “[...] başkalarıyla birlikte içmek veya uyuşturucu kullanmak [...]”)

⁵⁶ Fluency-orthography-punctuation (unnecessary comma)

⁵⁷ Accuracy-mistranslation-WSD (correct term is *pekiştirmek*)

Maddelerin olumlu pekiştirici etkileri, tekrarlanan kullanımla azalma eğilimindedir. Buna tolerans denir ve ilk takviye seviyesini deneyimlemek amacıyla maddenin daha fazla miktarda ve / veya⁵⁸ daha sık kullanılmasına yol açabilir. Sonunda,⁵⁹ maddenin yokluğunda,⁶⁰ bir⁶¹ kişi stres, endişe veya depresyon gibi olumsuz duygular yaşayabilir veya fiziksel olarak hasta hissedebilir. Buna geri çekilme⁶² denir, bu da genellikle kişinin yoksunluk semptomlarını hafifletmek için maddeyi tekrar kullanmasına neden olur.

6.4.1. Analysis of Bing Translator

Fluency Errors: 31

1. Grammar: 14
 - a. Multi-word Syntax: 0
 - b. Word Form: 6
 - c. Word Order: 3
 - d. Extra word: 4
 - e. Missing Word: 1
 - f. Other: 0
2. Lexicon: 3
 - a. Non-Existing: 0
 - b. Lexical Choice: 3
3. Orthography: 14
 - a. Spelling: 0
 - b. Capitalization: 0
 - c. Punctuation: 14
 - d. Other: 0
4. Multiple Errors: 0
5. Other: 0

Accuracy Errors: 31

1. Addition: 0
2. Omission: 1
3. Untranslated: 0
4. DNT: 0
5. Mistranslation: 17
 - a. MWE: 0
 - b. POS: 1
 - c. WSD: 14
 - d. Semantically Unrelated: 1

⁵⁸ Fluency-orthography-punctuation (slash is unnecessarily spaced)

⁵⁹ Fluency-orthography-punctuation (unnecessary comma)

⁶⁰ Fluency-grammar-word order (frequent use of comma, can be ordered: *Sonunda kişi maddenin yokluğunda stres, [...]*)

⁶¹ Fluency-grammar-extra word (unnecessary indefinite article)

⁶² Accuracy-mistranslation-WSD (should be *yoksunluk*)

- e. Other: 1
- 6. Mechanical: 12
 - a. Capitalization: 0
 - b. Punctuation: 0
 - c. Other: 12
- 7. Other: 1



6.5. WATSON TRANSLATOR

Bağımlılık Döngüsü¹ ²Bağımlılığı³, üç aşamadan oluşan yinelenen bir döngü olarak tanımlanabilir. Her aşama, özellikle⁴ yukarıda anlatılan beyin bölgelerinden biriyle ilişkili^{5, 6, 7, 8} amigdala ve prefrontal korteks (Figure^{9, 10} 2.3).^{11, 10, 12} Bu üç aşamalı model, onlarca yıllık insan ve hayvan araştırmaları üzerine çizim yapar^{13, 14} ve bağımlılık belirtilerini, nasıl önlenebileceğini ve nasıl tedavi edilebileceğini ve insanların it^{15, 16, 17, 18, 14, 19, 20} bağımlılığın²¹ üç aşamasını nasıl kurtarabileceğini anlamının yararlı bir yolunu sağlar^{22, 23, 24, 25}. ^{26, 27}Binge^{28, 29}/Intoksilasyon^{30, 31}, ³² bir³³ bireyin tatmin edici³⁴

¹ Accuracy-mechanical-other (should be bigger font and red)

² Accuracy-mechanical-other (should start as a separate paragraph)

³ Fluency-grammar-word form (should be *Bağımlılık*)

⁴ Accuracy-mistranslation-other (*özellikle* is mispositioned and it should be amended: *Her aşama, yukarıda anlatılan beyin bölgelerinden biriyle özel olarak ilişkilidir*)

⁵ Fluency-grammar-word form (missing copula: *ilişkilidir*)

⁶ Accuracy-mechanical-punctuation (a colon would be the correct choice)

⁷ Accuracy-omission (*basal ganglia* is omitted)

⁸ Accuracy-omission (*expanded* is omitted)

⁹ Fluency-lexicon-non-existing/foreign word (*Figure* is not a Turkish word)

¹⁰ Accuracy-untranslated (should be *Figür*)

¹¹ Fluency-orthography-punctuation (unnecessary space before the full stop)

¹² Accuracy-mechanical-other (*10* should be a superscript)

¹³ Fluency-lexicon-lexical choice (*çizim yapar* does not fit the context)

¹⁴ Accuracy-mistranslation-MWE (*draw upon* is mistranslated. should be *yararlanır/dayanır*)

¹⁵ Fluency-lexicon-non-existing/foreign word (*it* is a foreign word since it cannot be used in its Turkish meaning)

¹⁶ Accuracy-untranslated

¹⁷ Fluency-grammar-missing word (second part of the sentence, starting from *ve bağımlılık*, is probably missing a verb)

¹⁸ Accuracy-mechanical-punctuation (there is no full-stop here in the source text)

¹⁹ Accuracy-mechanical-other (*14* should be a superscript)

²⁰ Accuracy-mechanical-other (the reference is mispositioned)

²¹ Fluency-orthography-capitalization (first letter of the next word after a full stop should be capitalized)

²² Fluency-multiple errors (this sentence contains so many errors that it cannot be corrected only on the target text. Source should be checked)

²³ Fluency-grammar-missing word (it is not clear who or what provides this)

²⁴ Accuracy-omission (*are* is omitted)

²⁵ Accuracy-other (the last two sentences of the paragraph are interpenetrated in the target. Should be retranslated: *Bu üç aşamalı model, onlarca yıllık insan ve hayvan araştırmalarına dayanır ve bağımlılık belirtilerini, nasıl önlenebileceğini, nasıl tedavi edilebileceğini ve insanların ondan nasıl kurtarabileceğini anlamının yararlı bir yolunu sağlar. 14 Bağımlılığın üç aşaması şunlardır:)*

²⁶ Accuracy-mechanical-other (should start on a separate line)

²⁷ Accuracy-mechanical-other (a bullet point is missing)

²⁸ Fluency-lexicon-non-existing/foreign word (Binge is not a Turkish word. *Kontrolsüz/Aşırı Tüketim/Kullanım* could be used)

²⁹ Accuracy-untranslated

³⁰ Fluency-lexicon-non-existing/foreign word (*Intoksilasyon* is non-existing)

³¹ Accuracy-mistranslation-SU (should be *İntoksikasyon*)

³² Accuracy-mechanical-other (should be bold)

³³ Fluency-grammar-extra word (unnecessary indefinite article)

³⁴ Accuracy-mistranslation-SU (should be *sarhoş edici*)

bir madde tükettiği ve ödüllendirici³⁵ veya zevkli etkilerini deneyimleyen³⁶ aşama;³⁷
³⁸³⁹Geri çekilme⁴⁰/olumsuz⁴¹ etkiler^{4243, 44} hangi aşamada bir birey, maddenin
yokluğunda olumsuz bir duygusal durum yaşasın^{4546, 47} ve ⁴⁸⁴⁹bir süre sonra bir süre
sonra, bir süre sonra⁵⁰ bir kez daha madde arayan bir sahnedeki⁵¹
cisimler⁵²⁵³/beklenti⁵⁴⁵⁵⁵⁶⁵⁷⁵⁸.

Üç aşamanın birbiriyle bağlantılandırılması⁵⁹ ve beslenmesi^{60, 61} aynı zamanda farklı
beyin bölgelerini, devreleri (ya da ağları) ve nörotransmitterleri ve beyindeki belirli
türdeki değişimler ile sonuçlanmasını⁶² içerir⁶³⁶⁴. Bir kişi bu üç aşamalı döngüye
birkaç hafta veya ay boyunca devam edebilir ya da bir günde birkaç kez
⁶⁵⁶⁶ilerleyebilir. İnsanların döngüden⁶⁷ nasıl ilerlediği ve aşamaların her birini

³⁵ Accuracy-mistranslation-WSD (*tatmin edici* would be a better choice)

³⁶ Fluency-grammar-word form (should be *deneyimlediği*)

³⁷ Fluency-orthography-punctuation (semicolon cannot be used here)

³⁸ Accuracy-mechanical-other (should start on a separate line)

³⁹ Accuracy-mechanical-other (a bullet point is missing)

⁴⁰ Accuracy-mistranslation-WSD (should be *yoksunluk*)

⁴¹ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁴² Accuracy-mechanical-capitalization (first letter should be capitalized)

⁴³ Accuracy-mistranslation-WSD (should be *Olumsuz Duygulanım*)

⁴⁴ Accuracy-mechanical-other (should be bold)

⁴⁵ Fluency-multiple errors (the sentence reads like an uncalled for question and none of the errors can be annotated. The source should be checked)

⁴⁶ Accuracy-other (this sentence must be restated: ***Yoksunluk/Olumsuz Duygulanım***, bireyin maddenin yokluğunda olumsuz bir duygusal durum yaşadığı aşama)

⁴⁷ Fluency-orthography-punctuation (semicolon cannot be used here)

⁴⁸ Accuracy-mechanical-other (should start on a separate line)

⁴⁹ Accuracy-mechanical-other (a bullet point is missing)

⁵⁰ Fluency-grammar-extra word (*bir süre sonra* is repeated three times)

⁵¹ Fluency-other (the sentence reads *the stage which seeks substances once again*. It is illogical and the source should be checked)

⁵² Accuracy-mistranslation-SU (should be *Endişe*)

⁵³ Accuracy-mechanical-capitalization (first letter should be capitalized)

⁵⁴ Fluency-multiple errors (isolated corrections cannot amend the sentence. Source should be checked)

⁵⁵ Accuracy-mechanical-capitalization (first letter of *beklenti* should be capitalized)

⁵⁶ Accuracy-other (name of the stage should be at the beginning)

⁵⁷ Accuracy-mechanical-other (should be bold)

⁵⁸ Accuracy-other (the sentence should be restated: • ***Endişe/Beklenti***, kişinin belli bir süre yoksunluktan sonra tekrar madde aradığı aşama.)

⁵⁹ Accuracy-mistranslation-POS (It should have been a verb)

⁶⁰ Accuracy-mistranslation-POS (It should have been a verb)

⁶¹ Accuracy-omission (*but* is omitted)

⁶² Accuracy-mistranslation-POS (It should have been a verb)

⁶³ Accuracy-other (*içerir* is misplaced. It should be right after *nörotransmitterleri*)

⁶⁴ Accuracy-other (this sentence should be restated: *Üç aşama birbiriyle bağlantılıdır ve birbirinden beslenir fakat aynı zamanda farklı beyin bölgelerini, devreleri (veya ağları) ve nörotransmitterleri içerir ve beyinde belirli türde değişikliklere sebep olur.*)

⁶⁵ Fluency-grammar-missing word (*döngüye* and *ilerleyebilir* do not agree. There should be a second object before the verb: *döngüde ilerleyebilir*).

⁶⁶ Accuracy-omission (*it* is omitted and this leads to above mentioned disagreement)

⁶⁷ Fluency-grammar-word form (should be *döngüde*)

deneyimledikleri yoğunlukta çeşitlilik⁶⁸ olabilir. Yine de,⁶⁹ bağımlılık döngüsü zaman içinde yoğunlaşma⁷⁰⁷¹, daha büyük fiziksel ve psikolojik harcile⁷²⁷³ yol gösterir⁷⁴⁷⁵⁷⁶. Aşağıdaki kısımlarda aşamaların her biri daha ayrıntılı bir şekilde açıklanmıştır. Fakat öncelikle bağımlılık döngülerinin merkezi⁷⁷ olan dört davranışı açıklamak gereklidir: dürtüsellik, pozitif⁷⁸ güçlendirme⁷⁹, negatif⁸⁰ güçlendirme⁸¹, ve dürtüsellik⁸²⁸³. Birçok insan için, ilk madde kullanımı bir dürtüsellik unsuru içerir^{84, 85} ya da öngörülmeden hareket eder⁸⁶⁸⁷ ya da sonuçları dikkate almaksızın hareket eder⁸⁸⁸⁹. Örneğin,⁹⁰ ergen⁹¹ bir şekilde ilk içeceği⁹² içebilir, sigara içebilir, marihuana ile deneyler yapmaya⁹³⁹⁴ başlar ya da bir parti ilacını⁹⁵ denemek için eş⁹⁶⁹⁷ baskısına yenik düşebilir. Eğer deneyim zevk verici ise,⁹⁸ bu his madde kullanımını olumlu yönde güçlendirir⁹⁹, kişiyi daha çok madde almaya daha yatkın hale¹⁰⁰ getirecektir¹⁰¹. bir¹⁰² diğer kişi de stres, kaygı ya da depresyon gibi olumsuz duyguları rahatlatan¹⁰³ bir madde alabilir. bu¹⁰⁴ durumda,¹⁰⁵ maddenin negatif duygulardan¹⁰⁶ getirdiği geçici

⁶⁸ Accuracy-mistranslation-WSD (*farklılık* would be better)

⁶⁹ Fluency-orthography-punctuation (unnecessary comma)

⁷⁰ Fluency-grammar-word form (should be *yoğunlaşmaya*)

⁷¹ Accuracy-omission (*tend to* is omitted)

⁷² Fluency-lexicon-non-existing/foreign word (*harcile* is a non-existing word)

⁷³ Accuracy-mistranslation-SU (*harm* is mistranslated into a non-existing word. It should be *zarar*)

⁷⁴ Fluency-lexicon-lexical choice (*yol gösterir* does not fit here)

⁷⁵ Fluency-other (the sentence is not clear, need to check the source text)

⁷⁶ Accuracy-mistranslation-WSD (*leading* is mistranslated. Should be *yol açar*)

⁷⁷ Fluency-grammar-word form (should be *merkezinde*)

⁷⁸ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

⁷⁹ Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

⁸⁰ Accuracy-mistranslation-WSD (the correct term is *olumsuz pekiştirme*)

⁸¹ Accuracy-mistranslation-WSD (the correct term is *olumsuz pekiştirme*)

⁸² Fluency-lexicon-lexical choice (first and the last behaviours are translated the same. One of them must be a mistranslation)

⁸³ Accuracy-mistranslation-other (both *impulsivity* and *compulsivity* is translated into *dürtüsellik*. *Compulsivity* should be *zorlantı*.)

⁸⁴ Accuracy-other (*içerir* is misplaced. It should be the verb of the whole sentence and go at the end)

⁸⁵ Fluency-orthography-punctuation (unnecessary comma)

⁸⁶ Fluency-grammar-other (the verb do not agree with the subject)

⁸⁷ Accuracy-addition (there is only one *acting* in the source text)

⁸⁸ Accuracy-mistranslation-POS (*acting* is turned into a verb)

⁸⁹ Fluency-grammar-other (the verb do not agree with the subject)

⁹⁰ Fluency-orthography-punctuation (unnecessary comma)

⁹¹ Accuracy-omission (*impulsively* is omitted)

⁹² Accuracy-mistranslation-WSD (should be *içki*)

⁹³ Fluency-lexicon-lexical choice (*deneyler yapmak* does not fit here)

⁹⁴ Accuracy-mistranslation-WSD (should be *denemeye başlar*)

⁹⁵ Accuracy-mistranslation-WSD (*drug* is used as in *uyuşturucu*)

⁹⁶ Fluency-lexicon-lexical choice (*eş* does not fit here)

⁹⁷ Accuracy-mistranslation-WSD (should be *akran*)

⁹⁸ Fluency-orthography-punctuation (unnecessary comma)

⁹⁹ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

¹⁰⁰ Fluency-orthography-spelling (circumflex accent is missing, *hâle*)

¹⁰¹ Fluency-grammar-word form (should be *getirir* in order to fit the previous verb conjugation)

¹⁰² Fluency-orthography-capitalization (should start with a capital letter)

¹⁰³ Accuracy-mistranslation-POS (it should be *rahatlatmak için*)

¹⁰⁴ Fluency-orthography-capitalization (should start with a capital letter)

¹⁰⁵ Fluency-orthography-punctuation (unnecessary comma)

¹⁰⁶ Fluency-grammar-word form (should be *duygulara*)

rahatlama, madde kullanımını olumsuz yönde güçlendirir¹⁰⁷, kişinin tekrar kullanacağı¹⁰⁸ ihtimalin¹⁰⁹ artırılır¹¹⁰. Daha da önemlisi,¹¹¹ pozitif¹¹² ve negatif¹¹³ güçlendirme¹¹⁴, sadece ilaçların¹¹⁵ etkilerinden kaynaklanmaması¹¹⁶ gerekiyor¹¹⁷. Diğer pek çok çevresel ve sosyal uyarıcı bir davranışı pekiştirebilir. Örneğin,¹¹⁸ akranların onayı bazı insanlar için madde kullanımını olumlu yönde güçlendirir¹¹⁹. Aynı şekilde,¹²⁰ alkol veya diğerleriyle¹²¹ uyuşturucu kullanmak sosyal izolasyondan rahatlama sağlarken¹²², madde kullanım davranışları da olumsuz şekilde güçlendirilebilecek¹²³¹²⁴.

Maddelerin olumlu olarak güçlendirilmesi¹²⁵¹²⁶, tekrarlanan kullanımla didişme¹²⁷ eğilimindedir. Buna tolerans denir ve ilk güçlendirme¹²⁸ düzeyini deneyimlemek için bu maddenin daha büyük miktarlarda ve/veya daha sık kullanılmasının öngörülmesine¹²⁹ yol açabilir. sonunda¹³⁰,¹³¹ madde yokluğunda bir¹³² kişi stres, anksiyete, depresyon gibi olumsuz duyguları yaşayabilir ya da fiziksel olarak hasta hissedebilir. Buna geri çekilme¹³³ denir, bu da kişinin geri çekilme¹³⁴ belirtilerini gidermesi için tekrar maddeyi kullanmasını¹³⁵ sağlar¹³⁶.

6.5.1. Analysis of Watson Translator

Fluency Errors: 52

1. Grammar: 19

a. Multi-word Syntax: 0

¹⁰⁷ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

¹⁰⁸ Fluency-grammar-word form (should be *kullanma*)

¹⁰⁹ Fluency-grammar-word form (should be *ihtimalini*)

¹¹⁰ Accuracy-mistranslation-other (this should not be a passive verb, *arttırır*)

¹¹¹ Fluency-orthography-punctuation (unnecessary comma)

¹¹² Accuracy-mistranslation-WSD (the correct term is *olumlu pekiştirme*)

¹¹³ Accuracy-mistranslation-WSD (the correct term is *olumsuz pekiştirme*)

¹¹⁴ Accuracy-mistranslation-WSD (the correct term is *pekiştirme*)

¹¹⁵ Accuracy-mistranslation-WSD (should be *uyuşturucuların*)

¹¹⁶ Accuracy-mistranslation-other (it should not include a negating suffix, *kaynaklanması*)

¹¹⁷ Accuracy-mistranslation-other (it should be negative, *gerekmiyor*)

¹¹⁸ Fluency-orthography-punctuation (unnecessary comma)

¹¹⁹ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

¹²⁰ Fluency-orthography-punctuation (unnecessary comma)

¹²¹ Accuracy-mistranslation-WSD (should be *başkalarıyla*)

¹²² Accuracy-mistranslation-other (should be *sağlarsa*)

¹²³ Accuracy-mistranslation-WSD (the correct term is *pekiştirmek*)

¹²⁴ Accuracy-mistranslation-other (wrong suffixes, should take *-ebilir*)

¹²⁵ Accuracy-mistranslation-WSD (the correct term is *pekiştirme*)

¹²⁶ Accuracy-omission (*effects* is omitted)

¹²⁷ Accuracy-mistranslation-SU (should be *azalma*)

¹²⁸ Accuracy-mistranslation-WSD (the correct term is *pekiştirme*)

¹²⁹ Accuracy-addition (*öngörülmesine* is added)

¹³⁰ Fluency-orthography-capitalization (first letter should be capitalized)

¹³¹ Fluency-orthography-punctuation (unnecessary comma)

¹³² Fluency-grammar-extra word (unnecessary indefinite article)

¹³³ Accuracy-mistranslation-WSD (should be *yoksunluk*)

¹³⁴ Accuracy-mistranslation-WSD (should be *yoksunluk*)

¹³⁵ Fluency-grammar-word form (correcting the next error requires word form change in this word, should be *kullanmasına*)

¹³⁶ Fluency-lexicon-lexical choice (*sağlar* sounds positive. It should be *yol açar/sebep olur*)

- b. Word Form: 11
 - c. Word Order: 0
 - d. Extra word: 3
 - e. Missing Word: 3
 - f. Other: 2
- 2. Lexicon: 11
 - a. Non-Existing: 5
 - b. Lexical Choice: 6
- 3. Orthography: 17
 - a. Spelling: 1
 - b. Capitalization: 4
 - c. Punctuation: 12
 - d. Other: 0
- 4. Multiple Errors: 3
- 5. Other: 2

Accuracy Errors: 84

- 1. Addition: 2
- 2. Omission: 8
- 3. Untranslated: 3
- 4. DNT: 0
- 5. Mistranslation: 44
 - a. MWE: 1
 - b. POS: 5
 - c. WSD: 26
 - d. Semantically Unrelated: 5
 - e. Other: 7
- 6. Mechanical: 20
 - a. Capitalization: 2
 - b. Punctuation: 4
 - c. Other: 14
- 7. Other: 7

6.6. OVERALL ANALYSIS OF THE SECOND MEDICAL TEXT

Fluency Errors: 202

- 1. Grammar: 78
 - a. Multi-word Syntax: 0
 - b. Word Form: 34
 - c. Word Order: 8
 - d. Extra word: 23
 - e. Missing Word: 9
 - f. Other: 4
- 2. Lexicon: 41

- a. Non-Existing: 8
 - b. Lexical Choice: 33
- 3. Orthography: 77
 - a. Spelling: 3
 - b. Capitalization: 5
 - c. Punctuation: 69
 - d. Other: 0
- 4. Multiple Errors: 3
- 5. Other: 3

Accuracy Errors: 248

- 1. Addition: 5
- 2. Omission: 13
- 3. Untranslated: 5
- 4. DNT: 0
- 5. Mistranslation: 140
 - a. MWE: 3
 - b. POS: 9
 - c. WSD: 101
 - d. Semantically Unrelated: 12
 - e. Other: 15
- 6. Mechanical: 75
 - a. Capitalization: 10
 - b. Punctuation: 2
 - c. Other: 63
- 7. Other: 10