Hacettepe University Graduate School of Social Sciences

Department of English Linguistics

BOOSTING AND HEDGING IN TURKISH RESEARCH ARTICLES

Çiğdem YALAVAÇ

Master's Thesis

Ankara, 2021

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ABSTRACT

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Stance refers to "different kinds of personal feelings and assessments, including attitudes that a speaker has about certain information" (Biber, 2006b: 99). Using appropriate linguistic conventions helps the author convey his stance. Metadiscourse is one of them. Among the metadiscourse markers, hedges and boosters are the noteworthy tools allowing the writers to present their stance in their texts (Hyland, 2009a). Therefore, the main purpose of this study is to examine the use of hedges and boosters in the results and discussion sections of research articles (RAs) produced in natural sciences (NS) and social sciences (SS). In the study, a total of forty RAs published in peer-reviewed journals in 2017 and 2018 were chosen from four academic disciplines: biology, chemistry, linguistics and psychological counseling and guidance and the selected RAs were analyzed quantitatively by adopting Hyland's (2005) interactional metadiscourse taxonomy. The occurrences of hedges and boosters in the sample were identified manually. Then, they were reanalyzed by an interrater to obtain more reliable results. The frequencies of hedges and boosters were calculated by a non-parametric test, Mann-Whitney U. The findings of the study revealed that the possibility structures have the highest frequencies in NS and SS. Passives are also found to occur frequently in NS and SS. Adverbial phrases and conditional clauses are the least frequent hedges in the sample. Regarding boosters, the study indicated that the private verbs and suasive verbs are the most common boosters. It was also found out that necessity/obligation modals are the second most frequent boosters. Adjectival phrases are also quite frequent in both fields. However, nominal sentences are found to be the least preferred boosters in both fields. Regarding the statistical differences in frequencies within the scope of fields, no significant difference was observed in the frequency of hedges and boosters.

Keywords

Metadiscourse, hedge, booster, interactional metadiscourse, stance

ÖZET

YALAVAÇ, Çiğdem. *Türkçe Araştırma Makalelerinde Vurgulama ve Önlem Alma Yapıları*, Yüksek Lisans Tezi, Ankara, 2021.

Duruş "konuşmacının belirli bilgiler hakkında sahip olduğu tutum dahil olmak üzere birçok farklı kişisel duygu ve değerlendirmeyi ifade eder." (Biber, 2006b: 99). Uygun dilsel yazın kurallarının kullanılması, yazarın duruşunu ifade etmesini sağlar. Bu dilsel yazın kurallarından biri de üstsöylem öğeleridir. Üstsöylem öğeleri arasında yer alan önlem alma ve vurgulama yapıları metinde duruş ifade edilmesini sağlayan iki önemli araçtır. Bu nedenle, bu çalışmanın temel amacı, Fen Bilimleri ve Sosyal Bilimler alanında üretilen araştırma makalelerinde önlem alma ve vurgulama yapılarının sonuç ve tartışma bölümlerinde kullanımı incelemek ve değişik bilim dallarında üretilen makalelerde bu açıdan bir fark olup olmadığını belirlemektir. Bu amaçla, biyoloji, kimya, dilbilim ve psikolojik danışmanlık ve rehberlik olmak üzere dört akademik alandan 2017 ve 2018 yılları arasında hakemli dergilerde yayınlanan toplam kırk araştırma makalesi seçilmiştir ve makaleler Hyland (2005)' in Kişilerarası Üstsöylem Modeli kullanılarak nicel yöntem benimsenerek incelenmiştir. Örneklemdeki önlem alma ve vurgulama yapıları elle sayılarak belirlenip, daha güvenilir sonuçlar elde etmek için bulunan yapılar kodlayıcı tarafından tekrar incelenmiştir. Tespit edilen önlem alma ve vurgulama yapılarının sıklıkları non-parametrik bir test olan Mann-Whitney U ile bulunmuştur. Çalışmanın bulgularına göre olasılık yapıları Fen Bilimleri ve Sosyal bilimler alanlarında önlem alma yapıları olarak en yüksek kullanım sıklığına sahiptir. Edilgen yapıların da Fen Bilimleri ve Sosyal Bilimler alanlarında önlem alma yapısı olarak sıklıkla kullanıldığı bulunmuştur. Belirteç öbekleri ve koşul tümceleri ise en az görülen önlem alma yapıları olarak karşımıza çıkmaktadır. Özel eylemler ve ikna edici eylemler Fen Bilimleri ve Sosyal Bilimler alanlarında kullanılan en yaygın vurgulama yapıları olarak ortaya çıkmıştır. Zorunluluk/yükümlülük yapılarının ikinci en sık vurgulama yapıları olduğu görülürken sıfat öbeklerinin kullanımının da sık olduğu bulunmuştur. Bununla birlikte, ad öbekleri her iki alanda en az tercih edilen vurgulama yapılarıdır. Fen Bilimleri ve Sosyal Bilimler alanları kapsamında incelen makalelerde kullanım sıklığı açısından önlem alma ve vurgulama yapılarının arasında istatistiksel olarak anlamlı bir fark olmadığı tespit edilmiştir.

Anahtar Sözcükler

Üstsöylem, önlem alma, vurgulama, kişilerarası üst söylem, duruş

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LIST OF ABBREVIATIONS

AD:	Academic Discourse
DA:	Discourse Analysis
CR:	Case Reports
EAP:	English for Academic Purposes
ELT:	English Language Teaching
ESP:	English for Specific Purpose
L1:	First Language
L2:	Second Language
NS:	Natural Sciences
SS:	Social Sciences
RAs:	Research Articles
RQs:	Research Questions

INTRODUCTION

Firstly, the background to the study is discussed in this section. Following this, statement of the problem, aim of the study and research questions is presented. Finally, limitations to the study, definitions of the terms and the study's outline are given respectively.

BACKGROUND TO THE STUDY

Academic discourse (AD) is one of the written genres that have become the focus of many studies (Hyland, 2005). It refers to "the ways of thinking and using language that exist in the academy" (Hyland, 2011: 171). AD is rhetorical and culturally conditioned. What in one culture seems effective can look chaotic in a new culture. Therefore, we need a careful textual text analysis of AD in different cultural context (Mauranen, 1993). AD constructs the social roles and relationships which create academics and students and which sustain the universities, disciplines, and the creation of knowledge (Hyland, 2011). Ph.D dissertations, master's thesis, student essays, and research articles (RAs) are analyzed under AD. These genres have their own rules such as being persuasive, having specific rhetorical preferences, and having different ways of expressing ideas. AD needs a particular language use that signals the author's identity (stance) and writer-reader interaction (engagement) (Hyland, 2005). With the growth of discourse analysis as a critical tool in understanding language use, the importance of interaction has been understood. The writer's efforts to convey their personality and show their presence in their texts led to the emergence of metadiscourse (Hyland, 2007a).

Metadiscourse can be defined as "a universal aspect of our everyday language and a major feature of the way we communicate in a range of genres and settings" (Hyland, 2005: 5). In other words, it enables the reader or listener to arrange, understand, and assess the information in a text (Chrismore, Markkanen & Steffensen, 1993). There are many distinct categorizations of metadiscourse, the details of which are presented in Chapter 1. Hyland (2005: 7) emphasizes the importance of metadiscourse in academic

discourse by arguing that "written texts not only concern people, places and activities in the world, but also acknowledge, construct and negotiate social relations." In the academic world, the use of metadiscourse and its meaning vary between fields in RAs since the fields are distinct (Hyland, 2000). The data obtained in social sciences (SS) is interpretative, whereas the data obtained in natural sciences (NS) is more reliable and consists of actual results (Hyland, 2005). The importance of metadiscourse and its relation to the audience lies in the fact that a text communicates effectively only when the writer has correctly assessed the readers' resources for interpreting (Hyland, 1999). Metadiscourse elements such as hedges and boosters play a fundamental role in contributing to knowledge-making and producing academic claims (Hyland, 2005). Hedges are defined by Hyland (2005: 52) as "devices that emphasize the subjectivity of a position by allowing information to be presented as an opinion rather than a fact and therefore open that position to negotiation." However, boosters "allow writers to close down alternatives, head off conflicting views, and express their certainty in what they say" (Hyland, 2005: 52). Therefore, these metadiscourse markers contribute to the persuasiveness of RAs in the academic world.

STATEMENT OF THE PROBLEM

Analyzing the hedges and boosters in RAs has become the focus of attention so far. 2011). A considerable amount of research has been conducted to account for the hedges and boosters in AD but there are few works covering a comparative study of distinct academic disciplines related to NS and SS. Despite the significance of hedging and boosting in AD, little is known about how hedges and boosters are expressed and how they function in different disciplines or genres (Hyland, 2005). The studies analyzing the hedges and boosters in Turkish academic discourse are very few, and such studies rarely focus on the differences across distinct disciplines. Therefore, this study is believed to contribute to raising awareness among Turkish researchers in terms of presenting their stance and conveying their personality in their RAs and by identifying the differences in the use of hedges and boosters across scientific fields, NS and SS, it is aimed to reveal the rhetorical conventions in Turkish academic world.

AIM OF THE STUDY

The study aims at examining the use of hedges and boosters, which are the indicators of stance, in Turkish RAs produced in the NS and SS. The second purpose of this study is to find out if there is any significant difference in the frequency of hedges and boosters across these fields and to reveal the rhetorical tendencies of Turkish academic authors.

RESEARCH QUESTIONS

In line with the aims given above, this study attempts to find answers to the research questions below.

1. What are the hedges in RAs in the fields of NS and SS, and is there any significant difference in the frequency of hedges in these fields?

2. What are the boosters in RAs in the fields of NS and SS and is there any significant difference in these fields?

LIMITATIONS OF THE STUDY

The study has a few limitations. First, the data were compiled from four academic disciplines: biology, chemistry, linguistics and psychological counselling and guidance. Therefore, the results of this study cannot be generalized across all academic disciplines.

Another limitation is that this study analyzes hedges and boosters which constitute two categories of Hyland's (2005) interactional metadiscourse strategies. The other interactional metadiscourse markers were excluded in the analysis, which can also be studied to provide a better insight into Turkish academic authors' rhetorical conventions.

Thirdly, in this study, the analysis was conducted on the results and discussion sections of the RAs and the other sections of the articles were not included in the analysis since the studies conducted on RAs in terms of interactional metadiscourse markers (Lau, 1999; Durik et al., 2008; Salager-Meyer, 1994; Kelly & Bazerman, 2003; Skelton,

1988) revealed that hedges and boosters have more frequent occurrence in the results and discussion sections of RAs (Hyland, 1999). However, the other sections of the RAs can also be analyzed to generalize about the frequencies of hedges and boosters in Turkish RAs.

Lastly, forty RAs were analyzed in this study. Therefore, the number of RAs included in the analysis may be another limitation as it may influence the study's results. If this study is carried out with more data, it is possible to obtain different results.

DEFINITIONS OF THE TERMS

The definitions of the terms that are used in this study are presented below.

Academic Discourse: It refers to "the ways of thinking and using language which exist in the academy" (Hyland, 2011: 174).

Stance: Stance refers to "the ways academics annotate their texts to comment on the possible accuracy or credibility of a claim, the extent they want to commit themselves to it" (Hyland, 2005: 178).

Metadiscourse: It is "the linguistic resources used to organize a discourse or the writer's stance towards either its content or the reader" (Hyland, 2000: 109).

Interactive Metadiscourse: "Writer's awareness of a participating audience and the ways he or she seeks to accommodate its probable knowledge, interests, rhetorical expectations and processing abilities" (Hyland, 2005: 49).

Interactional Metadiscourse: It is "the ways writers conduct interaction by intruding and commenting on their message" (Hyland, 2005: 49).

Hedges: Hedges signal "plausible reasoning rather than certain knowledge and degree of confidence" (Hyland 2005: 52). Related examples are given as follows:

(1) They *may* appear both with the positive meaning (*outstanding*, *fortunately*), and the negative one (*with little justification*)." (Blagojevic, 2009: 64)

(2) Many adverbs *could* be also found either in comparative or superlative forms.

(Blagojevic, 2009: 66)

(3) Asymmetrical logos are *likely* to be more arousing than symmetrical logos, and, in turn, have a positive effect onconsumers' evaluations and the market's financial valuations of brands because of the exciting brand personality elicited by the asymmetricity of logo shape.

(Loi & Lim, 2019: 13)

Boosters: "Boosters are words that allow writers to express their certainty in what they say and to mark involvement with the topic and solidarity with their audience" (Hyland, 2005: 141). Related examples are given as follows:

(4) The result *shows* that firms whose logos with warm color and simple design are associated with lower levels of earnings management and higher firm value.

(Loi & Lim, 2019: 15)

(5) Hyland (1996) presented core examples to *demonstrate* notable features (lexical signals and hedging strategies) which realize the different hedging orientations.

(Loi &Lim, 2019: 20)

(6) Prior research *indicates* that a company's image can be influenced by three components: how stakeholders perceive a company's acts in the market.

(Loi & Lim, 2019: 6)

OUTLINE OF THE STUDY

This study has five chapters. The content of each is summarized as follows:

In the introduction, the background of the study is presented. This study concerns the analysis of hedges and boosters analyzed under the category of interactional metadiscourse, some background information about the field is presented. The basis of the study, namely hedges and boosters, are also briefly introduced here. Other than these, the statement of the problem, aim of the study, research questions, and limitations to the study and the definitions of the term used in the study are given in this chapter.

Chapter 1 commences by presenting information on discourse and discourse analysis. Then the concepts of AD and metadiscourse are discussed. It also contains information about metadiscourse approaches and taxonomies and the previous studies on hedges and boosters in English and in Turkish from different genres, including AD. Also, the linguistic structures functioning as hedges and boosters in Turkish AD are explained in this setion.

Chapter 2 presents the methodology of this study. This part provides details about the theoretical framework, sample, data collection, data analysis, and the inter-rater reliability test results.

In Chapter 3, the statistical data of the study and the discussion of the findings are presented. The findings are examined according to Hyland's (2005) interactional metadiscourse category. The analyses of hedges and boosters in the results and discussion sections of Turkish RAs taken from four disciplines, namely biology, chemistry, linguistics and psychological counseling and guidance are given in this chapter.

In Chapter 4, the conclusions and answers to the research questions are reported. Also, implications of the study and suggestions for future studies are given here.

CHAPTER 1

REVIEW OF LITERATURE

In this chapter, the first part covers the definitions and scope of discourse analysis (DA). It is followed by a discussion on academic discourse (AD) and metadiscourse taxonomies. Next, hedges and boosters which are the subject of this study are presented in detail with their definitions and examples taken from research articles (RAs). The chapter ends with the references to the previous studies on hedges and boosters from different genres in English and in Turkish.

1.1. DISCOURSE ANALYSIS

Discourse is "language use relative to social, political and cultural formations – it is language reflecting social order but also language shaping social order and shaping individuals' interaction with society" (Jaworski & Coupland 1999: 3). For many linguists, discourse is defined as "anything beyond the sentence" (Schiffrin, Tannen & Hamilton, 2001). Cameron & Panovic (2014: 70) also present some definitions of discourse. For them, discourse is "the language above the sentence." This definition is related to linguistics. It means that DA is interested in structural patterns in units that are larger than a sentence. They also define discourse as "language in use." It is the broadest and the most social definition. It still has an interest in linguistic form, but it suggests that there should be other questions to be asked, such as who the user of language is and what purpose language serves for its users in the context it is used. (Cameron & Panovic, 2014).

Some researchers such as Osoba & Sobola (2014) go along with the first definition. They claim that grammatical study of language is limited to the analysis of the sentence, and the need to analyze language beyond the sentence level leads to discourse. They also state that connected sentences have a vital role in the development of discourse.

Van Dijk (1997) asserts that discourse usually refers to the analysis of spoken form by the analysts. However, for him language is not restricted only to spoken form, but the

written form must be considered as well. For instance, in daily newspapers, textbooks, emails, letters, or in academic reports, we depend on the written form of language. He also states that besides the distinctions between spoken and written forms, there are also similarities. Therefore, these two means of discourse should be included in the concept of 'discourse', and discourse studies should be interested in the properties of both text and talk (Van Dijk, 1997).

The term DA was first presented by Zellig Harris in 1952 (Hyland, 2005). He was interested in analyzing languages beyond sentence level and the relation between the linguistic forms and non-linguistic forms in a language. For him, discourses share meanings and linguistic properties. These meanings and how they are realized in a language constitute DA's central interest (Paltridge, 2012). It is interested in a language-context relationship, and it is interested in spoken and written form descriptions. Furthermore, it focuses on how people arrange what they say first, next, and so on in a spoken and written discourse. This is something that has no specific structure across cultures (Paltridge, 2012).

In the same vein, Gee & Handford (2012:13) support the idea that discourse analysis DA is concerned with the language in use, and they define DA as "the study of meanings we give language and actions we carry out when we use language in specific contexts." Johnstone & Eisenhart (2008) share the same point of view as Gee & Handford (2012), and they state that the focus of DA is to analyze the structure and the function of talk or text which are larger than just a sentence. They also claim that DA is interested in understanding how social and linguistic concepts influence the structure of sentences. Drid (2010) mentions that discourse analysts consult to the study of language pieces in the context in which they are used to uncover the global structure of languages spoken or written. McCarty (1991: 55) cites the following as the significant DA studies: Zellig Harris' studies on text and structure, semiotics, and the approach of French structuralist to narrative studies, the analyses of Dell Hymes in 1960s related to speech, the interest of linguistic philosophers Austin, Searle, and Grice in speech act theory and maxims of conversation, paragmatics, Halliday's functional approach in 1970s, ethnomethodology, Sinclair and Coulthard's study of classroom talk in 1970s, conversation analysis, oral storytelling analysis, the study on written discourse by text-

grammarians, and the Prague School. Regarding meaning, discourse analysts follow two types of analyses. One of them is the form-function analysis, and the other is language-context analysis. The word form is used to specify the structural properties of language, such as parts of speech (verb and noun), types of phrases (noun phrases and verb phrases), and types of clauses (dependent and independent clauses). The word "function," on the other hand, is used to refer to the meanings that can be communicated by a given form or purposes that can be accomplished by it (Gee, 2005). In other words, certain types of language forms are related to specific types of actions or meanings. Most recent approaches support a reflexive view of the relations between language and context. It means that an utterance influences the context and context influences the meaning of our utterances (Gee, 2005). Similarly, Brown & Yule (1983) express that DA cannot be limited to the study of linguistic forms, but the purposes of these forms should also be taken into consideration.

Discourse analysts exhibit differences in their analyses. Some of them support textually oriented DA and the others favor socially oriented DA (Gee, 2005). The analysts who are interested in textually oriented discourse analysis focus on how language is presented in mind, how we can model the production, and interpretation of discourse, the changes of languages, whereas the analysts who support socially oriented DA explore the links between discursive and social concepts in various contexts, such as institutional communication, family conversations, the discourse of politics and so on.

1.2. ACADEMIC DISCOURSE

It is not so easy to define the AD and to state its scope. Many scholars have regarded it as the variety of style that represents academic production (Malmström et al., 2016). A typical AD "presents clear claims, reasons, and evidence, but not in the presence of pure, timeless, platonic dialectic but in the context of arguments that have been or might be made in reply" (Elbow, 1991: 140).

Burke (2010: 40), on the other hand, defines the AD as "what academics do most, through publishing, communicating, and contributing to their knowledge." Jiang & Hyland (2005) describe a significant component of the AD claiming that academic

writing is not equal and impersonal. Scholars in their writing aim to take an exclusive position concerning their disciplines and attempt to convince their readers with their claims and to form their presence in the text they have written. They follow certain rules and a system to organize their texts, convey their opinions, set up relationships with their readers. Their success depends on how they reflect their existence in the text and how they establish relationship with their readers. Hyland (2004) states that the AD is not an objective and unnamed, but rather a personal form of discourse. In this sense, it is a rhetorical attempt including engagement between writer and reader.

Majority of the academic discourse analysis have been based on the studies of Swales (1988 and 1990) who studied the discourse structures of distinct text types, including the RAs master's and Ph. D dissertations, job-application letters, legislative letters, and so on. Among these, the RAs are one of the most popular genres in the field of genre analysis. They have their own unique rules and system. Hyland (2011) argues that the AD has some significant and distinctive properties. First, it is persuasive and aims to secure the readers. Secondly, the AD has specific rhetorical choices. Also, each language group has its own way to express ideas, and present arguments. In addition, the AD includes both interpersonal negotiations, and persuading ideas.

Similarly, Mestre-Mestre (2017) reports the following most repetitive properties used in the RAs: the use of impersonal language, third party expressions, passive- structured times, complex structures, various notes, a certain reference system and understandable and objective expressions. Another significant characteristic of an AD is to follow the argument and deduce from the data. As stated earlier, AD is not completely objective, but it includes some features in the text that signal the writer's point of view (Hyland, 1995). These features lead scientific texts to be recognizable. Because of being a significant academic genre, the RAs have gained a considerable amount of attention. The RAs are essential due to their roles as vehicles for the generation of knowledge and they are the indicators of academic achievement and professional success (Flowerdew, 2002).

Recently, the AD has been a focus of interest. Hyland (2011) argued that this interest is due to the three crucial developments that have realized for the past twenty years. One of these developments is the changes in higher education because these changes resulted

in an increasing interest in writing. The increased use of English as the international research and scholarship language is another reason for the interest in the AD. The emergence of theoretical perspectives is the third development that led to a growing interest in AD. As a result, people have started to recognize the significance of AD for knowledge. Therefore, many scholars have carried out research on English for academic purposes (EAP). For instance, Swales (1990) studied move structures. In addition, Hinkel (1997) focused on indirectness in L1 and L2 academic writing and Ramathan & Kaplan (2000) analyzed theory and applications for the instructors of L1 and L2 writing. The informal characteristics in AD in English were analyzed by Chang & Swales (1999).

English for academic purposes (EAP) has been popular among Turkish researchers as well. For instance, Olgun (2004) studied the influence of thematic instruction on the motivation of students. Muşlu (2007) investigated the formative evaluation of process-genre writing curriculum. Yazıcıoğlu (2004) carried on a research on required writing skills used in English medium departments of Hacettepe University.

Concerning the distinctive features of the AD, Hyland (2009) states that the persuasion in this specific type of discourse is partly achieved by originality and appropriateness and specific use of language properties and the persuasion is modified by cultural traditions. Such a language use indicates the existence of the authors and their manners to their readers. Hyland (2009) claims that authors need a reliable representation of themselves and their work, and they also need to admit alternative views properly. They can achieve these interactions through stance and engagement.

Hyland (1999: 101) defines stance as "the ways that writers project themselves into their texts to communicate their integrity, credibility, involvement and a relationship to their subject matter and their readers." It refers to the way authors express themselves and declare their judgments, opinions, and commitments. There are three elements of stance. These are: evidentiality, affect, and presence (Hyland, 2004). Stance markers do not allow the reader to make appropriate deductions, but they tell the reader the writer's opinion (Hyland, 2004). There are four ways to express stance: boosters, hedges, attitude markers, and self-mention. Among them, hedges and boosters are the two

critical forms that make it possible for authors to exhibit their stance in their works (Hyland, 2004).

Hyland (2005: 176) further adds that engagement features provide "an alignment dimension where authors acknowledge and connect to others, recognizing the presence of their readers, pulling them along with their argument, including them as discourse participants, and guiding them to interpretations." He also states that stance have gained interest in the literature, but engagement has been unnoticed compared to stance but pulling readers into discourse is as important as expressing attitudes and presenting persona (Hyland, 2011). The rhetorical sources that realize stance and engagement in the framework of Hyland (2009) are presented in Table 1 below.

Table 1. Rhetorical sources to produce stance and engagement (adapted from Hyland, (2009))

Interaction	
Stance	Engagement
Hedges	Reader
Boosters	Directives
Atttitude markers	Questions
Self mention	Shared knowledge
	Asides

As Table 1 demonstrates, both stance and engagement markers provide interaction in academic writing. Of them, the stance markers include hedges, boosters, attitude markers, and self-mentions. Engagement markers cover reader pronouns, directives, questions reference, shared knowledge, and asides.

1.3. METADISCOURSE

In RAs, authors attempt to employ persuasive language to convey their views. Rhetoric is an essential characteristic of the RAs in that it is vital to be familiar with the persuasive practices, and the mastery of the preferred language pattern is significant (Hyland, 2000). Metadiscourse is a significant persuasive writing device which enables the authors or speakers to establish a relationship with their listeners or readers. It shows

the existence of the listener /reader in the text, or at least how the writer/speaker accepts him or her (Hyland, 2004). The term metadiscourse was coined by Zellig Harris in 1959 to present a way of understanding language in use, showing the writer's or speaker's purpose, and managing the reader's or the listener's feelings related to a text (Hyland, 2005). The scope of the concept was expanded by several authors, including Van De Kopple (1985) and Crismore (1989). There are numerous studies concerning metadiscourse (Beauvois, 1989; Crismore, 1989; Mauranen, 1993; Vande Kopple, 1985; Hyland, 1998, 1999, 2004, 2005). Nearly in each study a different definition of metadiscourse was developed and employed (Hyland, 2005). Hyland's (2005: 13) defines metadiscourse as "an important link between a text and its context as it points to the expectations readers have for certain forms of interactions and engagement."

Crismore, Markkanen & Steffensen (1993), on the other hand, argue that metadiscourse is a linguistic material in both spoken and written texts and it does not make any contribution to the propositional content but tends to enable the listener or reader order, understand, and assess the information presented in a text or speech. In that vein, Halliday (1973) claims that metadiscourse consists of linguistic elements that are not related to external reality but to discourse organization, and the interaction developed between the writer and the reader of the texts. For Williams (1981: 212), it is "writing about writing, whatever does not refer to the subject matter being addressed."

Ädel (2006: 2) states "metadiscourse is discourse about the evolving discourse or writer's explicit commentary on her ongoing text." As can be clearly understood from the definitions presented, metadiscourse is not considered merely as linguistic materials that help organize texts in a cohesive way but also as linguistic devices that reflect the author's stance and make it possible for authors to involve readers in the text and form writer-reader interaction. Hyland & Tse (2004) indicate that it is required to seperate a propositional content from metadiscourse as a starting point to explore metadiscourse in academic discourse. However, it is not so wise to push this distinction too far because metadiscoursal and propositional elements occur in a text together and each one expresses its content.

The common point in all these metadiscourse definitions is that "it is interested in meanings other than propositional ones" (Hyland, 2005: 18). Propositional meaning

transmits information to the reader about a particular topic, whereas metadiscourse meaning attracts reader's attention to the writing act (Williams, 1981). In every communicative atmosphere, readers have a chance to re-interpret propositional content and refuse the writer's perspective. Therefore, the authors need to predict and respond to possible rejections to their view. Metadiscourse provides this opportunity for the authors (Hyland, 2005). A critical function of metadiscourse is that it has a role of an interpersonal element in communication by supporting the addressees' accurate interpretation related to the content presented and admitting a relationship between speakers and addressees (Malmström et al., 2016).

Metadiscourse embodies the required interactions to reach successful communication. Al-Zubeiry (2019: 9) describes metadiscourse as follows: "metadiscourse brings out the fact that the writer acknowledges the audience' need for explanation, confirmation, and engagement. Such traits imply the critical role metadiscourse plays in passing the desired message to the audience via text and enlightening people." Therefore, using metadiscourse markers in writing leads a text to be a more successful paper as they build a relationship with the reader and encourage comprehension.

In metadiscourse studies, researchers generally disagree on how to delimit the category. Some of them see metadiscourse as including both textual and interpersonal functions. This approach is called as broad approach which is also termed as integral approach (Ädel, 2006). It analyzes metadiscourse markers not only in terms of text organization but also in terms of modal expressions. It is basically a quantitative approach since the metadiscourse examples are counted and compared, but not analyzed in detail. Hyland (2005, 2010) is one of the representatives of the broad approach. The studies by Vande Kopple (1985, 1988), Markanen, et al. (1993) and Crismore et al. (1993) also follow this broad approach (Bogdanovic & Mirovic, 2018).

Hyland & Tse (2004) state that metadiscourse is interpersonal since it concerns the reader's knowledge, and textual experiences. It also equips the author with rhetorical charm. Hyland & Tse (2004) reject the ambiguity of textual and interpersonal functions because, according to them, the distinction between the textual and interpersonal functions ignores the fact that meanings can overlap and make different contributions to the academic argument. Therefore, this distinction is misleading. An author shows his

/her sensitivity to context and predicts the knowledge of the readers and their probable response, so textual metadiscourse is the result of the writer's decision to underline the relationships and the organization of a text that guides readers and to emphasize writer's intentions. Textual metadiscourse makes significant contributions to interpersonal functions (Hyland & Tse, 2004).

On the other hand, narrow approach or non-integrative approach claims that metadiscourse covers only textual function and exclude the interpersonal features of the text. It is a qualitative approach since the examples of metadiscourse markers are found, but only relevant ones are further analyzed contextually. Mauranen (1993) is the primary representative of this approach (Bogdanovic, 2015). The supporters of the narrow approach adopt the term metatext instead of metadiscourse. Schiffrin (1980), Bunton (1999) and Dahl (2004) are among the scholars who adopt the narrow approach in their studies on metadiscourse (Ädel, 2006).

1.3.1. Metadiscourse Taxonomies

There are various metadiscourse taxonomies (Beauvois, 1989; Crismore, 1989; Mauranen, 1993). However, most of them are based on the taxonomy proposed by Vande Kopple (1985) which includes four types of metadiscourse markers under the category of textual markers. These are text connectives, code glosses, validity markers, and narrators. In the category of interpersonal markers, there are illocution markers, attitude markers, and commentaries (Hyland, 2005: 32). Vande Kopple's model was the first systematic endeavor to present a taxonomy concerning metadiscourse. However, the categories covered in this taxonomy are not clear and overlap in terms of their functions. For instance, citation can be used to improve a position by presenting the support of a credible other (validity markers), and the source of information can be shown by citation (Hyland, 2005). The taxonomy of Vande Kopple (1985) is given in Table 2 below.

Table 2. Metadiscourse classification system developed by Vande Kopple (1985)

Textual Metadiscourse	1. Text Connectives that enable readers to understand the organization of texts, and the way different parts of the text are connected (e.g., first, next, however, but) 2. Code Glosses that help readers understand and analyze the words' and phrases' meanings (e.g., X means Y) 3. Illocution markers that show speech act in texts (e.g., to sum up, to give an example) 4. Narrators that inform the readers about the producer of a text (e.g., according to X)
Interpersonal Metadiscourse	1. Validity markers that assess the truth value of the propositional content and show the author's degree of commitment, i.e., hedges (e.g., might, perhaps), emphatics (e.g., clearly, obviously), and attributors (e.g., according to X) 2. Attitude markers that are used to show the writer's stance towards the propositional content (e.g., surprisingly, it is fortunate that) 3. Commentaries, which enable readers to be in an implicit dialogue with the author (e.g., you may disagree that dear reader, you might wish to read the last section first)

The taxonomy presented in Table 2 was revised since its categories were vague. Hyland (2005) stated that the most substantial revisions in this taxonomy were made by Crismore et al. (1993) and Hyland (1998, 1998, 1999). They significantly modified Vande Kopple's (1985) categories. For example, in his early taxonomy, Crismore (1985) listed metadiscourse markers under two major categories: informational and attitudinal metadiscourse markers. Informational metadiscourse has three sub-goals: goals, pre-plans, and post-plan. Attitudinal metadiscourse has four sub-types: saliency, emphatics, hedges, and evaluative. However, this taxonomy was found to be vague in that it was tough for researchers to put it into practice. Markkanen, Steffensen & Crismore (1993) also modified Vande Kopple's (1985) taxonomy and reorganized the subcategories. Their revised taxonomy is presented in Table 3 below.

Table 3. The metadiscourse classification by Markkanen, Steffensen & Crismore (1993)

Textual Metadiscourse (logical and ethical appeals)	1. Textual Markers	Logical Connectives Sequencers Reminders Topicalizers
	2. Interpretive Markers	Code Glosses Illocution Markers Announcements
Interpersonal Metadiscourse (emotional and ethical appeals)	3. Hedges 4. Certainty Markers 5. Attributors 6. Attitude Markers 7. Commentary	

As seen in Table 3, Markkanen, Steffensen & Crismore (1993) eliminated the subcategories of narrators and temporal connectives covered in Vande Kopple's (1985) taxonomy. However, they kept the following components: sequencers, reminders, logical connectives, and topicalizers. On the other hand, they renamed the category of these components as textual metadiscourse. In addition, code glosses, announcements, and illocution markers were put under a new category which was called interpretive markers. As for interpersonal markers, validity markers were divided into three subcategories: hedges, certainty markers, and attributors. Attitude markers and commentaries were kept under the category of interpersonal markers.

On the other hand, Halliday's (1973) concept "metafunctions of language use" expresses three rather separate and independent sets of underlying options, which he calls Macro Functions. They are given as follows:

(1) Ideational Function: Related to the content of language,

(2) Interpersonal Function: Covers elements that express the personality and the individual feelings of the speaker/writer.

(3) Textual Function: Components that help the speaker organize his speech or writing in such a way that it makes sense in the context and realizes its function as a message.

Hyland (2005) states that these metafunctions do not work alone, but they exist in every utterance. Instead, the meaning of a text is hidden in the combination of three of them. He also asserts that many metadiscourse analysts have used Halliday's metafunctions for their taxonomies. Therefore, they have separated metadiscourse from ideational content and categorized it as either having textual functions or interactional functions (Hyland, 2005).

Ädel (2006) is one of the scholars who proposed metadiscourse taxonomy as well. In her model, there are two categories called as metatext and writer-reader. Her metadiscourse taxonomy is presented in Table 4 below.

Table 4. Metadiscourse taxonomy by Ädel (2006)

METADISCOURSE					
META-TEXT				**WRITER-READER INTERACTION**	
Impersonal	Personal			Participant-oriented	Reader-oriented
Text/code-oriented	Participant-oriented	Writer-oriented	Reader-oriented	I know you think that , correct me if I am wrong but	Now dear reader, you probably, does this sound ... to you?
Thirdly, the above-mentioned list, in other words, the question is....	As we have seen if we take.....as an example	As I have shown, by .....I mean	As you have seen, you may want to read ... the first		

Table 4 demonstrates that Ädel's (2006) first category, metatext, has two subcategories: text/code-oriented and personal markers. Personal markers, on the other hand, have three subcategories as participant-oriented, writer-oriented, and reader-oriented markers. Ädel (2006) asserts that meta-text expresses the author's discourse acts or refers to the organization or writing of a text. She states that meta-text has the following functions:

(1) Reminds the reader of the previous statements in the text (*as I stated above, as I said*)

(2) Announces what is going to be discussed in the following sections (*finally, I would like to*)

(3) Expresses conclusion (*to sum up, I would like to*)

(4) Signals rephrasing of statements (*by this, I mean*)

Ädel's (2006) taxonomy includes linguistic expressions used to address readers and engage them with the text. *But how did it start,* and *your second question may be* are the examples of these linguistic expressions. Writer-reader interaction has two subcategories as participant-oriented and reader-oriented in her taxonomy.

On the other hand, in the taxonomy of Dafouz-Milne (2003), there are seven sub-categories of textual and five subcategories of interpersonal metadiscourse markers. These subcategories enable us to demonstrate not only the pragmatic functions of metadiscourse markers but also inform us about the linguistic devices that are used to realize these functions. According to her classification, textual metadiscourse markers have sub-categories such as logical markers (additive, adversative, consecutive, conclusive), sequencers, reminders, topicalisers and code glosses (paranthesis, punctuation devices, reformulators, exemplifiers), illocutionary markers and announcements. Table 5 presents textual metadiscourse taxonomy of Dafouz (2003).

Table 5. Textual metadiscourse categories by Dafouz (2003)

1) Logical Markers		
Indicates semantic relationships	a) Additive	and/ furthermore/ In addition…
Between discourse stretches	b) Adversative	or/however/but…….
	c) Consecutive	so/therefore/consequently
	d) Conclusive	Finally/in any case……
2) Sequencer		
Mark particular positions in a series		First/ second /on the one hand.
3) Reminders		
Refer to previous sections		Let us return/as was mentioned.
4) Topicalisers		
Demonstrate topic shifts		in political terms/ in the case of
5) Code glosses		
Explain, rephrase, or exemplify textual	a) parentheses	When (as with Tories now)
Material	b) punctuation devices	Tax evasion: it is……
	c) Reformulators	in other words/that is
	d) Exemplifiers	for example/for instance
6) Illocutionary markers		
Explicitly name the act the writer performs		I propose/I hope to persuade.
7) Announcements		
Refer towards to future sections in the text		There are many good reasons

As can be seen in Table 5, logical markers demonstrate semantic relationships between discourses. Sequencers indicate positions in a series. Reminders, on the other hand, refer to previous sections, topicalisers express topics shifts, code glosses explain textual materials, illocutionary markers explicitly name the writer's act, and announcements

refer towards the future units. In her taxonomy, five main categories comprise interpersonal metadiscourse categories. Table 6 demonstrates these categories.

Table 6. Interpersonal metadiscourse markers by Dafouz (2003)

Macro Category	Sub-Categories	Examples
Hedges (Express partial commitment to the to the truth-value of the text	Epistemic verbs	May / might
	Probability adverbs	Probably / perhaps / maybe
	Epistemic expressions	It is likely
Certainty Markers/ Express total commitment to the truth-value of the text		Undoubtedly / clearly / certainly
Attributors Refer to the source of information		X' claims that. . . / As the Prime Minister remarked…..
Attitude Markers Express writers' affective values towards text and readers	Deontic verbs	Have to / we must understand
	Attitudinal adverbs	Unfortunately / remarkably
	Attitudinal adjectives	It is absurd / it is surprising
	Cognitive verbs	I feel / I think / I believe
Commentaries Help to establish reader-writer rapport through the text	Rhetorical questions	What is the future of Europe,
	Direct address to reader	You must understand
	Inclusive expressions	We all believe
	Personalisations	What the polls are telling me
	Asides	Diana (ironically for a Spencer) was not

As demonstrated in Table 6, with the use of hedges, authors retain their full commitment to the propositional content and hedges have three subcategories such as epistemic verbs (*may, might*…), probability adverbs (*possible, maybe…*), and epistemic expressions (*it is likely*). Contrary to hedges, certainty markers express full commitment. Attributors enable authors to refer to the source of information. Attitude

markers express authors' values towards text and readers, and these forms can be used in the form of deontic verbs (*have to, must*), attitudinal adjectives (*it is surprising*), attitudinal adverbs (*unfortunately*) and cognitive verbs (*I feel, I think*). Finally, commentaries enable authors to set up a reader-writer rapport utilizing rhetorical questions (*is this right attitude?),* direct address to the reader (*dear reader*), inclusive expressions (*We all believe/let us summarise*), personalizations (*I, me, my feelings*) and asides (*Diana -ironically for a Spencer-*).

Hyland (2005) and Hyland & Tse (2004) presented a more powerful interpersonal view on metadiscourse and claimed that all metadiscourse taxonomies are interpersonal because their function is to consider the readers' knowledge, experiences on a text, and readers' needs to proceed. Therefore, Hyland (2005) and Hyland & Tse (2004) suggested an alteration in the terminology by adopting Thompson's (2001) term of interactive (instead of textual) and interactional (instead of interpersonal) metadiscourse (Dafouz & Milne, 2008). This model was more comprehensive and straightforward than the previous models. Therefore, it gained popularity among researchers because it was a solution to the problem of vagueness and removed the existing problems. The model of metadiscourse proposed by Hyland (2005) listed metadiscourse under two distinct categories as interactive and interpersonal metadiscourse markers. The taxonomy of Hyland (2005) will be presented in the following section.

1.3.1.1. Hyland's Metadiscourse Taxonomies (2005)

Hyland's earlier model of metadiscourse taxonomies adopted Hallidayan (1973) textual and interpersonal level. However, later in his new model, Hyland (2005) took up Thompson's (2001) metadiscourse model, which has two categories as interactive and interactional metadiscourse markers, and he views all metadiscourse as interpersonal. Within this new classification, metadiscourse is a self-reflective linguistic item and guides the reader's sense of a text and focuses on the way authors present themselves in their texts to reflect their stance (Gholam et al., 2012). Hyland (2013) listed three critical principles of metadiscourse as follows:

(1) Metadiscourse is different from the propositional content,

(2) Metadiscourse refers to the aspect of the text that include a writer-reader relation,

(3) Metadiscourse refers only to internal relations.

Based on these principles, Hyland (2005) developed his interpersonal metadiscourse taxonomy. In his model of metadiscourse, Hyland (2005) accepts the two sides of interaction which are interactive metadiscourse and interactional metadiscourse. Hyland (2005) separates interactive metadiscourse elements from interactional metadiscourse elements. The interactive markers refer to the efforts of the speaker to use language that contributes to the addressee's structural and reasonable perception, understanding, and further interpretation of an utterance. Interactive metadiscursive elements are necessary for the organization of the propositional content coherently and appropriately. Interactional metadiscourse, on the other hand, enables authors to present stance towards the propositional information and the readers. It expresses the writer's persona and influences the author's closeness, attitude, dependence to propositions, and reader involvement degree (Malmström, 2017). Hyland's (2005) metadiscourse taxonomy is given in Table 7 below.

Table 7. Metadiscourse taxonomy by Hyland (2005)

Category	Function	Examples
Interactive	Help to guide reader through the text	Resources
Transitions	Express relations between main clauses	In addition/but/thus/and
Frame markers	Refer to discourse acts, sequences, or stages	Finally/ to conclude/my purpose is
Endophoric markers	Refer to information in other parts of the text	Noted above/see Figure/in section 2
Evidentials	Refer to information from other texts	According to X/Z states
Code glosses	Elaborate propositional meanings	Namely /e.g./such as/in other words
Interactional	Involve the reader in the text	Resources
Hedges	Withhold commitment and open	Might /perhaps/possible/about

	dialogue	
Boosters	Emphasize certainty or close dialogue	In fact /definitely/it is clear that
Attitude markers	Express writer's attitude to proposition	Unfortunately /agree/surprisingly
Self mentions	First-person pronouns	I, me, my, mine
Engagement markers	Explicitly build relationship with reader	Consider /note/you can see that

As Table 7 indicates, interactive metadiscourse markers include transitions, frame markers, endophoric markers, evidentials and code glosses. Interactional metadiscourse markers, on the other hand, include hedges, boosters, attitude markers, self- mentions, and engagement markers. Interactive markers assist the readers through the text, and interactional markers engage the reader with the text and provide writer-reader interaction (Hyland, 2004).

1.3.1.1.1. Interactive Metadiscourse Markers

Hyland (2005) states that interactive metadiscourse markers are about the ways of organizing discourse. The writer's aim is to shape and limit a text to fulfill the needs his/ her readers and provide a chance for readers to understand the writer's goals and remarks. The markers of this category present the organization of discourse. These markers are generally used to organize the propositional content consistently and persuasively across the texts (Hyland, 2005). What distinguishes Hyland's model from other categories is its comprehensiveness and straightforwardness (Kan, 2016). The subcategories of interactive metadiscourse markers and descriptions are given in Table 8 below.

Table 8. Interactive metadiscourse markers by Hyland (2005)

Macro Category	Subcategory	Examples
Transitions	a) addition	And, moreover, also.....
	b) Comparison	In contrast, however...
	c) Consequence	After all, then, consequently
Frame markers	a) to sequence	First, next, lastly, I begin with....
	b) to label stages	All in all, at this point.....
	c) to announce goals	My focus, I seek to.....
	d) to shift topics	Back to, in return to, turn to....
Endophoric markers		Noted above, see fig, in section 2
Evidentials		According to X, Z states.....
Code glosses		Namely, such as, that is.....

As can be seen in Table 8, interactive metadiscourse markers have five subcategories. These are transitions, frame markers, endophoric markers, evidentials and code glosses. Transitions have three subcategories as addition, comparison, and consequence. Transition markers are "words or phrases that connect the idea in one sentence with the idea in another sentence" (Oshima & Hoque, 1988: 45). *Furthermore, and, so, but, however* are some of the transition markers. Frame markers, on the other hand, have four functions. They are applied to order, label stages, declare goals, and show topic shifts. They are words that mark positions in a text and guide the readers for different arguments and their order (Dafouz-Milne, 2008). This group includes items to show the sequence in a text (such as *first, firstly, then,* numbers and letter), to emphasize the following stages (*to conclude, in sum*), and to name the discourse goals (*I argue here, my purpose is*) (Hyland, 1998). For Hyland & Tse (2004), endophoric markers provide more information by refering to the other parts of the text. *Noted above, see figure 1, below, see table 2 …*etc. are in the group of endophoric markers. Hyland (2005) states that evidentials refer to the external source of information. They offer reliability to that information source by calling attention to the trustworthiness of its origin. *According to X (1998), Y states that…. are* some of these evidentials. Code glosses are used to detail what has just been presented by the writer in a text, so they provide an opportunity to form coherent, reader-friendly text and convey the writer's sensitivity towards the audience (Hyland, 2007). *Particularly, especially, that is, like, for instance* are some

examples of code glosses. The predominance of interactive devices demonstrates the importance of guiding the reading process by indicating showing organization and defining prepositional connections and meanings (Hyland, 2005).

1.3.1.1.2. Interpersonal Metadiscourse Markers

Interpersonal metadiscourse markers are concerned with the writer's attempts to control the level of personality in a text and form a harmonious relationship to his or her data, arguments, and audience, identifying the degree of sincerity, the expression of attitude, the communication of commitments, and the extent of reader involvement (Hyland, 2015). They enable the writer to form a relation with the reader through choosing either a persona or a stance and give the reader a chance to be involved in the text, so the text becomes an interactive material. With these markers, authors provide clues about their certainty or just the opposite towards the propositional information (Hyland, 2005). The subcategories of interactional metadiscourse markers are given in Table 9 below:

Table 9. Interactional metadiscourse markers by Hyland (2005)

Macro category	Subcategory	Examples
1. Hedges	a) epistemic verbs	May, might, it must be 2pm
	b) Probability adverbs	Probably, perhaps, maybe
	c) Epistemic expressions	Unlikely, unclear
2. Boosters	a) emphatics	Certainly, really, demonstrate.
	b) amplifying adverbs	Totally, always, in fact
	c) cognitive verbs	it is clear that
3. Attitude markers	a) deontic verbs	Have to, need to
	b) attitudinal adverbs	Unfortunately, remarkably
	c) attitudinal adjectives	It is surprising, it is absurd.
	d) cognitive verbs	I feel I believe; I think
4. Self-mentions	First-person pronouns	I, me, my, mine
5. Engagement markers	a) second-person pronouns	You, your, yourself
	b) interjection	By the way, you may notice.
	c) imperative verbs	Consider, note that see.
	d) necessity modals	have to, should

As can be seen in Table 9 interactional metadiscourse has five subcategories. These are hedges, boosters, attitude markers, self-mentions, and engagement markers. Hedges are strategies for minimizing the threat to face. Boosters, on the other hand, are forms of expressing positive politeness (Brown & Levinson 1987). Attitude markers demonstrate the writer's attitude to propositional content (Hyland, 2005). The fourth category, self-mentions, is referred to the degree of author's explicit presence in the text and the frequency of first-person pronouns and possessive adjectives in a text are the signs of self-mentions (Hyland, 2011). Engagement markers are defined as "devices that explicitly address the readers, either to focus their attention or include them as discourse participants" (Hyland, 2005: 54). Hedges and boosters, which are the focus of this study, will be discussed in detail with the related examples from the RAs.

1.3.1.1.2.1. Hedges

Stance is one of the ways that create interaction in a text. Hyland (2008: 5) defines stance as "a writer-oriented aspect of interaction." Hedges are among the stance features, and they are the most frequently used metadiscourse marker by experts in English (Dobakhti, 2013). Scientific writing is associated with accuracy, and many people believe that authors in the scientific world have a role of conveying information explicitly and precisely (Hyland, 2004). Nevertheless, these authors have some reasons for not being clear and confident. They may think about the results of inadequacy in their propositions, or they may be in a tendency to express their uncertainty about a scientific matter. (Benham, Naeimi & Darvishzade, 2012). Brown & Levinson (1987) claim that hedges are the strategies to minimize the threat to face (cited in Doyuran, 2009: 86). Similarly, Hyland (1998) states with the help of hedges, authors withhold their full commitment to the propositional content. In other words, hedges help the authors soften their claims, and they are essential features for academics to predict the reader's objections to heir propositions (Hyland, 1998). Several studies have revealed that hedging is the common property of academic texts (e.g., Hyland, 1996, Skelton, 1988). Hyland (1996: 434) argues "we still know little about how it functions or is typically realized in specific academic domains, so a greater attention needs to be paid to the fact that hedging represents an author's attitude within a particular context."

Hyland & Tse (2004: 38) presented another definition for hedges and define hedges as follows: “devices that signal author’s unwillingness to express propositional content categorically and function as an escape route for the writers”. With the use of hedges, authors can withhold complete commitment to a proposition so information can be presented as an opinion rather than an accredited fact. *Perhaps, possible, probable, about, seem, may,* and *might* are some of the hedging devices that are used to show the fact that a statement is not based on rather certain knowledge but a rational judgment (Hyland, 2005: 7). Hyland (1996) classifies hedges under two categories: content-oriented and reader-oriented hedges. Content-oriented hedges have two subcategories as accuracy-oriented and writer-oriented hedges. Accuracy-oriented hedges have also two subcategories; attribute and reality hedges. Attribute hedges include boosters and reality hedges consist of stance hedges such as modal auxiliaries, full verbs, adjectives, and nouns. Attitude markers and self- mentions are writer-oriented hedges. Reader-oriented hedges include reader pronouns, directives, and questions.

Regarding the functions of hedges, there are different ideas among scholars. Crystal (1987) puts forward the idea that authors employ hedges for three reasons as follows: (1) they may not always wish to be precise, (2) on some occasions the writer figures out that the readers need only half the truth, (3) employing hedges can serve as a protection from further questions. Furthermore, speakers may employ hedges to (1) communicate politely or (2) identify actual values or findings which may be inexact or otherwise not well-defined – i.e., to reflect “necessary imprecision” (Salager-Meyer 1994: 150). For Lakoff (1973) they have two functions: to show lack of certainty and to alleviate the claim of writer for politeness. Cabanes (2007) state that there are three persuasive goals to use hedges in RAs such as showing politeness to the readers, self-protection from the possible results of unsuitable propositions and the consideration of some degrees of accuracy.

1.3.1.1.2.2. Boosters

Boosting is an issue that is investigated under metadiscourse. It leads to an impression of sureness. It can be considered as metadiscourse marker that is employed to strengthen writer’s claims (Namaziandost, 2017). In other words, boosters are words that enable

authors to present their certainty in what they say and to mark involvement with the topic and unity with their readers. On the contrary to hedges, boosters show full commitment of the writer to the propositional content and enable writer to close the alternatives (Hyland, 2005). As Hyland (1999) claims, boosters accentuate certainty and establish rapport by marking involvement with the topic and unity with a reader, taking a collective position against other voices. Along with the same lines, the term *booster* refers to lexical items that authors can use to demonstrate strong confidence for their statement (Holmes, 1982). Brown & Levinson (1987) consider boosters as tools used by the authors to express positive politeness. Lexical items as *certainly, without doubt, of course, definitely*. Moreover, verbs such as *demonstrate, reveal, show are* used to show the certainty of the writer. With the use of these items in a text, authors can strengthen their proposition and express their ideas with a strong conviction.

1.4. PREVIOUS STUDIES ON HEDGES AND BOOSTERS ENGLISH

This section includes previous studies carried on hedges and boosters from different genres in English, such as political discourse, business letters, online news articles, legal texts, and so on. Furthermore, the studies on hedges and boosters in AD are presented in this section.

1.4.1. Previous Studies on Hedges and Boosters from Different Genres

There are many studies to shed light on the rhetorical structure of the texts and try to figure out how authors convey their perspectives and form connections with their readers in written texts such as newspaper editorials, newspaper articles, textbooks, business letters…. etc. For instance, Laurinaityte (2001) focused on the use of hedges in political discourse in her study. She analysed the political speeches under two categories: pre-election speeches and post-election ones. The methods of descriptive – inductive, critical discourse analysis and quantitative analysis were used in the study. The findings of the study revealed that the frequency of hedges was higher in pre-election speeches. Also, it was found out that modal verbs, modal lexical verbs, passive constructions, and introductory phrases were more common in pre-election speeches

than post-election speeches. Approximators, adjectival phrases, adverbial phrases, and nominal sentences were more frequently used in post-election speeches.

Slogans and headlines are also investigated in terms of metadiscourse markers by the researchers. Olivera et al. (2001) analyzed typical women's magazines, and their purpose was to find out textual and interpersonal metadiscourse markers in the sample taken from those magazines. The results of their study demonstrated that copywriters use person markers, hedges, and emphatics to alert the readers about the unnatural relations with the advertisers and they use endophoric markers and evidentials to produce coherent texts and set up intertextuality.

Another interesting research was conducted by Camiciottoli (2003). He investigated the effects of metadiscourse markers on English for specific purposes (ESP) reading comprehension. Two groups of students were given extracts from two versions of the same texts. The number and the types of metadiscourse markers were different in each text. After they read the extracts, they took a comprehension test. The findings revealed that the frequent use of metadiscourse markers leads to better comprehension of the text while reading it.

The use of metadiscourse markers in legal discourse has also been the centre of interest among scholars. Vass (2004) investigated the use of hedges in the field of law. His purpose was to analyze hedging strategies in two legal texts, namely, US Supreme Court opinions and American law review articles. The findings revealed that the use of modal verbs was frequent in the latter while non-verbal hedging was common in the former. Therefore, it is possible to assume that hedging is a genre-specific product.

The authorial stance in newspapers was also analyzed by researchers. Trajkova (2011) examined linguistic forms and functions of hedges in English and Macedonian newspaper editorials. Nine editorials from American quality newspapers and nine editorials from Macedonian newspapers were collected. The results showed that the most frequently used hedges were modal verbs and that the auxillary verbs such as *will* and *would* were more frequent.

A study that dealt with the political speeches was conducted by Jalilifar & Alavi-Nia (2012). They analysed the use of hedges and boosters by the winners of American and

Iranian presidential elections. The speeches of the winners during a debate on television were examined. The study demonstrated that the frequencies of hedges and boosters were significantly different, and the winners had different tendencies towards the use of hedges and boosters.

Granqvist (2013) studied spoken discourse and analyzed the employement of hedges, boosters, and tag questions. Her aim was to analyze the overall frequency of hedges, boosters, and tag questions in some of the episodes of TV show *Bing Bang Theory*. Her second purpose was to find out whether there are gender differences or not in the use of these linguistic devices. The results of the study revealed that female characters used hedges and boosters more than male characters do. No statistical difference was observed in the use of tag questions between women and men in the episodes.

Business letters are another genre that is studied by researchers. Hooi & Shuib (2014) analysed complaint business letters for hedging devices. They analysed thirty business complaint letters written by thirty native speakers of English who are experienced in Business context. Their purpose was to determine the types and forms of hedges in rhetorical sections (introduction, body, and closure). The researchers adopted Hyland's (1996) model. Hyland's (1996) model of hedges consists of two categories, namely, content-oriented, and reader-oriented. Content-oriented hedges have two subcategories as accuracy-oriented and writer-oriented. Accuracy-oriented hedges divide into two groups as attribute and reality. The findings showed that content- oriented hedges were used more than reader-oriented hedges. They were mostly used in rhetorical sections. Also, reader pronouns were frequently used. Especially accuracy-oriented hedges were preferred very commonly because the purpose of the authors to use hedges was to convey messages clearly and correctly.

Similar to Trajkova (2011), Dheskali (2017) investigated the use of hedges and boosters in Albanian, British, and Italian news articles on the refugee crisis. The results of the study demonstrated that hedges and boosters were used frequently in similar amounts in the British and Albanian corpora. However, hedges were found to occur more frequently in the Italian corpora. The researcher concluded that The British and Albanian journalists demonstrated full commitment, as well as partial commitment on the issue whilst Italian journalists were more careful and uncertain.

The studies based on gender differences on the use of hedges and boosters are also frequent in the literature. As an example, Engström (2018) conducted a study claiming that women use more hedges than men do and reexamined Lakoff's (1973) claim that women use more hedges than men. In his study, Engström (2018) focused on the use of two certain hedges which are *'I think'* and *'I'm sure'.* The British National Corpus 2014 was used as the database for the study. Authentic conversations that include these hedges were identified and the findings showed that 63% of *I think* tokens and 67% of *I 'm sure* tokens were used by women. Beside these studies, the studies on hedges and boosters in academic genres are also in the center of interest for researchers.

1.4.2. Previous Studies on Hedges and Boosters in Academic Genres

Analyzing AD has been popular among researchers who are engaged with metadiscourse studies. RAs, Ph.D dissertations, master's dissertations or students' essays are among the written academic texts that are analyzed in terms of metadiscursive elements.The related studies will be presented based on their years.

Salager & Meyer (1994) studied hedges in medical English discourse. They analysed RAs and case reports (CR) in medical English and aimed to find out the frequency and categorical distribution. Their data included fifteen articles from five leading journals. Hedges were classified into five categories for the analysis as shields, compounds, approximators, emotionally charged expressions and author's doubt. According to the results of the study, shields, approximators and compound hedges were found as the most common hedges both in RAs and CR.

Similarly, Hyland (1998) studied fifty-six RAs taken from philosophy, marketing, applied linguistics, physics, mechanical engineering, sociology, biology, and electrical engineering. The purpose of this study was to analyze boosters in academic texts. The results of the study indicated that the most frequent boosters were *will, the fact that, show,* and *clear(ly)*. The highest number of boosters was used in philosophy articles whereas the lowest number was found in electrical engineering articles.

Doctoral and master's dissertations were also examined in terms of authorial stance. Hyland (2004) examined the use and the frequency of hedges and boosters in doctoral

and master's dissertations of the students from Hongkong. The analysis revealed how the authors in academia use language to represent their existence and their attitudes towards their work and their readers.

To find out interdisciplinary differences in the form of boosters, Peacock (2006) conducted a study to identify the use of boosters in RAs across six disciplines. The articles were chosen from business, language and linguistics, public and social administration, law, physics, and environmental science. Six journals from each discipline were identified and six articles from each journal were taken as the data of the study. Total 216 articles were examined. The results of the study indicated that boosters played an important role in persuasion of the truth of the claims made by authors. The highest number of boosters was found in language and linguistics and the lowest number was identified in environmental science.

While researchers analyze RAs, they may focus on different sections such as introduction, method, results, and discussion. Abstracts of RAs are among those sections that attract researchers. In the literature, it is possible to find many studies related to the use of metadiscourse markers in abstracts of RAs. Gilliaerts & Velde (2010) analysed interactional metadiscourse markers in RA abstracts. They adopted the model of Hyland (2005) to conduct their studies. The researchers investigated the use of hedges, boosters, and attitude markers. The articles were compiled from Journal of Pragmatics and it was a diachronic study because the journals dated back to 1982. The result of the study revealed that boosters are the most significant device of interaction since abstracts are some type of advertisements to take readers' attention to the rest of the RAs.

In metadiscourse studies, students' essays are also common academic texts to be analyzed in terms of metadiscourse markers. Many researchers have studied the essays of students from different levels. In her study, Serholt (2012) aimed to find out how Swedish students employ hedges and boosters in their academic writings. These students were advanced learners of English. Her first aim was to analyze the overall frequency of hedges and boosters and her second purpose was to determine if there are any gender-related differences in the use of these markers. Also, she tried to understand if the frequency of the hedges and boosters exhibit variations in different sections. The

data consisted of twenty essays (ten female students' essays and ten male students' essays). The findings of the study revealed that male students used hedges more often than female students. However, female students used booster more than male students.

In the literature, it is possible to find comparative studies that investigate the use of hedges and boosters. Generally, the authors aimed at finding out the similarities and differences in the use of these markers in academic texts among different authors of different cultures. Yağız & Demir (2014) analyzed the trends of Turkish scholars and the scholars of Anglo-sphere countries in using hedges and boosters. Their data included 100 articles published in English. Fifty of them were produced by Turkish authors and the rest fifty were produced by native speakers of English. Introduction, discussion, and conclusion sections were included in the analysis. MANOVA and Mann-Whitney U test were used to compare the findings. They categorized the findings according to nine hedge types. These are adverbs of frequency, quantifiers, modal auxiliary verbs, epistemic verbs, adjectives and adverbs, nouns, conversational-informal markers, introductory phrases, and vague references. The findings revealed that native authors used more hedges. Conversational-informal markers and nouns were the most frequently employed hedges. Non-native authors used vague references while native authors did not use any.

Similar to Hyland (2004), Kawase (2015) investigated how researchers establish stance in the introductions of their Ph.D dissertations and published RAs immediately afterwards. He analysed eight Ph.D dissertations and eight RAs. His study revealed that majority of the researchers use hedges and boosters extensively in the introduction section of their dissertations.

Gender has been the focus of attention in most of the studies. The researchers tried to find out if the use of metadiscourse markers shows any differences according to gender or not. Pasaribu (2017) aimed at investigating metadiscourse markers in academic essays in terms of gender differences in their use. To conduct her study, twenty essays of female students and twenty essays of male students were collected. She adopted Hyland's (2005) taxonomy to analyse the data. The findings indicated that both female and male students use interactive markers more than interactional marker to guide their reader through the text. Also, the study revealed that both genders used transitional

markers more frequently. Male students were observed to use more self-mentions to present their existence compared to female students.

Duruk (2017) analysed metadiscourse markers used by Turkish authors in master's dissertations from English Language Teaching (ELT). She examined twenty dissertations from the corpus. These dissertations were produced by Turkish authors in English. Methodology, results, and discussion sections were the focus of the study. The analysis demonstrated that the most frequently used metadiscourse marker was attitude markers and hedges follow them. Relational markers and personal markers were not very frequent.

1.5. PREVIOUS STUDIES ON HEDGES AND BOOSTERS IN TURKISH

This section includes previous studies carried on hedges and boosters from different genres, such as newspaper articles and newspaper columns. Furthermore, the studies on hedges and boosters in Turkish academic discourse are presented in this section.

1.5.1. Previous Studies on Hedges and Boosters in Different Genres

In literature, the studies conducted on Turkish written or spoken discourse are really few compared to the studies conducted in English. These studies need to be increased to shed light on the rhetorical conventions of Turkish authors in the academic world.

Doyuran (2009) analyzed Turkish newspaper articles in terms of the use of hedges. The corpus of her study included forty-three articles from different daily Turkish newspapers. Both qualitative and quantitative analyses were used. The results of the study demonstrated that newspaper writers do not use hedges very frequently. This shows that the social status of both the writer and the reader was identified very well. The writer's informant status is expressed very clearly, and the reader is totally in the position of the informed. It was also revealed that the hedging markers used in newspaper articles are not like the ones employed in RAs since their main function is to establish uncertainty and make sure the reader accepts the propositional content in RAs.

In newspaper articles, on the other hand, their main function is to use a more comprehensible language for the topic about which the readers have less information.

Similarly, Oktay (2020) conducted a study on newspapers about the use of hedges and boosters. She analysed traditional agony aunt's column 'Güzin abla' to find out the occurrences of hedges and boosters. The results of the study revealed that hedges in these texts are employed to reduce the force of advice-giving by the agony aunt and that the extensive use of boosters can be considered to convince advice-seekers to realize the given advice.

1.5.2. Previous Studies on Hedges and Boosters in Academic Genres

From all appearances, much attention has been given to the analysis of metadiscoursal properties in the literature so far. The significant role of metadiscourse markers for authors in academic world has been unveiled through these studies. These markers enable authors to present their findings in a purposeful and a proper way and demonstrate their existence. Hyland (2005) states that the RAs are still the main genre of academia. Therefore, they are the focus of the studies in the literature. Loi & Kim (2019) stated the researchers are generally motivated by the fact that English is the language of research and there is a significant interest in the use of hedges and boosters in AD in English. Therefore, the studies investigating the use of hedges and boosters in Turkish contexts are relatively very few compared to the studies in English. However, some Turkish academicians conducted studies on the use of metadiscourse markers as the act of persuasion in Turkish academic proses. These studies will be given according to the years in which they were produced.

Can (2006) conducted a study on argumentative essays produced by Turkish and American university students. He analyzed these essays in terms of metadiscoursal features. In the analysis, data was composed of two sets of essays. One set included essays written in Turkish by monolingual students and in both Turkish and in English by bilingual students. The second set included essays written in English by monolingual American students. The results revealed that monolingual American students used more boosters while Turkish students used fewer hedges in their English essays. American

students seemed to demonstrate their existence in their texts using boosters such as *I believe, obviously, of course*. Also, it was revealed that Turkish students used more emphatics in their essays written Turkish.

Doyuran (2009) studied hedges in Turkish scientific articles and identified the purpose, frequency, and common forms. The data consisted of articles from geological engineering and linguistics (ten articles from each field). The results of the study showed that the number of the hedges in linguistics papers is 1.4 times more than the hedges in geological engineering. However, articles belonged to scientific genre and it was observed that hedges were used to strengthen arguments and seek acceptance for knowledge claims.

Similar to the study carried out by Can (2006), Algı (2012) analyzed hedges and boosters in Turkish and English argumentative paragraphs produced by Turkish L2 learners. The study concluded that the types and the functions of these rhetorical devices showed variation in terms of percentages and frequencies due to cultural differences.

In her research, Bayyurt (2010) aimed to enlighten the use of hedges and boosters RAs written by Turkish university students in two languages; Turkish and English. Hyland's (1998) taxonomy was applied to the corpus. The results of the study showed that participants of the study used more hedges than boosters in their argumentations, which shows that students preferred to highlight their statements while obscuring their identity in their essays.

In his study, Kan (2016) investigated the use of interactional metadiscourse markers in the RAs. He analyzed twenty articles in total. Ten of them were from the field of Turkish literature and the other ten were from the field of Turkish language and education. The taxonomy of Hyland & Tse (2004) was adopted. The results indicated that the use of hedges and boosters were more frequent in articles of Turkish language education and Turkish literature compared to other types of interactional metadiscourse markers. However, in terms of other interactional markers, not a significant difference was observed.

Hatipoglu & Algı (2017) analyzed argumentative paragraphs written by Turkish native speakers and investigated the use of epistemic hedges. The participants were given six

prompts from TOEFL's web page and were asked to write an argumentative essay about that prompt. Then, all the paragraphs were coded and formatted for the analysis in CLAN CHILDES. They adopted the taxonomies developed by Bayyurt (2010), Doyuran (2009) and Yarar (2001). The findings of the study revealed that epistemic hedges in Turkish are rich which have various roles in different sections of argumentative texts. The results also showed that the participants do not use higher number of hedges in contrary to those in Anglo-saxonic cultures. It was also added that the possibility and necessity modals are the major (un)certainty devices in Turkish argumentative texts

Another study analyzing essays written by students was conducted by Esmer (2018). She studied the persuasive texts of students who are the learners of Turkish as a foreign language. She analyzed thirty texts written by the students. The findings demonstrated that the learners of Turkish as a foreign language do not use metadiscourse markers in their writings effectively. Therefore, they are not able to produce persuasive texts.

Dağ-Tarcan (2020) studied interactional metadiscourse markers in Turkish RAs produced in social sciences (SS). The study concluded that hedges and boosters are the least frequent markers.The authors employed engagement markers the most frequently.

1.6. THE LINGUISTICS STRUCTURES FUNCTIONING AS HEDGES AND BOOSTERS IN TURKISH ACADEMIC DISCOURSE

According to the results of the current study, possibility structures, passive structures, adverbial phrases, and conditional clauses help the authors in Turkish academic world tone down their propositions and open a platform for the discussion on the side of the readers. Private and suassive verbs, necessity/ obligation modals, adjectival clauses and nominal sentences are employed by Turkish authors to close down alternatives and reflect their certainty. The detailed information about these items is given as follows:

1.6.1. Possibility Modals

The term modality is "the expression of the speaker's attitude towards the content of a proposition" (Heine, 1995: 17). Modality is also defined as "the grammaticalization of speakers' subjective attitudes and opinions concerning the content of the sentence" (Palmer, 1986: 16). Similarly, Quirk et al. (1987: 219) define modality as "a manner in which the meaning of a clause is qualified in order to reflect the speakers' judgments of the likelihood of the proposition it expresses being true." For Lyons (1977: 793), "possibility modals are involved with knowledge and belief." Crismore & Farnsworth (1990) argue that texts have two levels: (1) informational content and (2) metadiscourse. Modality markers are considered to be a part of the interpersonal metadiscourse, and they do not convey information but demonstrate the speaker's or writer's attitudes. They can be accepted as a signal of producer and receiver interaction (Crismore & Farnsworth, 1990). According to Biber (1988: 241) modals have three functions; (1) they mark possibility, (2) they mark necessity and obligation, and (3) they mark predictions. The speaker's subjective evaluation towards the occurrence of an action or an event is indicated by possibility modals such as *may*, *can*, *might*, *etc.*, in English (Palmer, 1986).

May and *might* express epistemic possibility. They present the degree of a speaker's commitment to the truth of propositional content in a discourse (Heine, 1995). In Turkish, the morpheme *-AbIl* is the chief grammatical marker of possibility (Kerslake, 1996: 86). Related examples are given as follows:

(7) Yağmur yağ*abilir*.

It *may* rain.

(8) Köy soğuk ol*abilir*.

The village *might* be cold.

Kerslake (1996: 87) states that if we want to achieve impossibility, the possibility marker *–(y)A* is inserted immediately to the left of the negative suffix *–mAz* as exemplified as follows:

(9) Bu hata tekrarlan*amaz.*

This mistake cannot be repeated.

(10) Bu alanda futbol oynanamaz.

Football cannot be played in this area.

The negative marker *–mA* is used with the possibility marker *–AbIl* to express negative possibility in Turkish (Kerslake, 1996) as can be seen in examples (11) and (12).

(11) Ahmet bugün ara*mayabilir*.

Ahmet *may not* call today.

(12) Patron projeyi onayla*mayabilir*.

The boss *may not* approve of the new project.

In Turkish, there are also possibility predicates such as *mümkün*- (to be possible), *olanaklı*- (to be possible), and *muhtemel*- (to be probable). Their function is to tone down the proposition and to express the degree of the author's certainty (Adam-Smith 1984). Related examples are given as follows:

(13) Bu alanda gül yetiştirmek *mümkün*dür.

It is *possible* to grow roses in this area.

(14) Bir insan için güzel olanın, daha birçok insan için de güzel olması *muhtemel*dir.

It is very *likely* that what is beautiful for one person is also beautiful for many more people.

(15) Bu tren ile Sibirya'ya yolculuk etmek *olanaklı* mı?

Is it *possible* to travel to Siberia by this train?

As shown above, Turkish employs various ways to express possibility.

1.6.2. Passive Structures

Passive structures are accepted as one of the distinctive properties of scientific texts because an impersonal style of objective perspective can be created using passive voice. Passive structures are mostly preferred in written communication (Leckie-Terry, 1995). The frequent use of passive structures can demonstrate that the authors avoid subjective viewpoints (Emeksiz, 2015). "Passives are used to present propositions with reduced emphasis on the agent. Thus, the patient of the verb is given importance" (Biber, 1988: 228). He also states that with the use of passive structures, information can be given in an abstract way. Authors can hide their identity and help the reader focus on the subject matter by using passive structures (Emeksiz, 2015). Similarly, Göksel & Kerslake (2005: 476) define passives as "a verb form which expresses that an action is (was) done rather than that someone or something does (or did) it (even though an agent may optionally be expressed within a clause)."

(16) A book was written (by Peter).

Passivation has three steps in English as follows: (1) the active turns into the passive agent, (2) the active object becomes the passive subject and (3) the preposition *by* is used before the agent but it is not necessary.

(17) John admired Mary.

Mary *was admired* by John.

By using passive, the authors do not introduce themselves as trustworthy source of information. Hence, this tendency can be interpreted as a strategy of hedging in Turkish academic discourse as well (Emeksiz, 2015). In Turkish, passive structures are reached using three suffixes: *-n, -In, -IL*. The suffix *–n* is attached to stems that end with a vowel. For example, ara-*n*, yıka-*n*, boya-*n*, *etc*. The suffix *–In* is attached to stems that end with a consonant *'L'*. For example, bil-*in*, sil-*in*, *etc*. The suffix *–IL* is attached to stems that end with other consonants. For instance, gör-*ül* and yap- *ıl*, etc. (Göksel & Kerslake, 2005: 72). In Turkish as in English, passive structures are analyzed under two major classes as by-passives and agentless passives. However, in Turkish, the agent is expressed by using a postpositional phrase, namely *tarafından*, or the adverbial suffix –

CA (Göksel & Kerslake, 2005: 135). In *tarafından* phrase, the agent acts as the complement of the postposition and a tarafından phrase usually comes immediately before the verb in a passive sentence. This phrase is equivalent to by phrase in English.

(18) En iyi oyun birinci sınıf öğrencileri *tarafından* sergilenmiştir.

The best play was performed *by* the first-year students.

By attaching the suffix *-CA* to agentive noun phrase, the agent in a passive construction can be expressed as well. This suffix can be used only when there is an official agent. In other words, the agent can be ministry, an organization, or a group of people. This use of the suffix *-CA* is a common structure for formal discourse rather than informal discourse.

(19) Bu toplantı okulumuz*ca* düzenlendi.

This meeting was organized *by* our school.

In agentless passive constructions, the agent is not expressed (Özsoy, 1999: 34). Hyland (1998) states that agentless passives are the indicators of objectivity. For example, kapılar kapandı (doors are closed).

In academic prose, the initiator of an action remains unexpressed if agentless passive is employed because generalizations rather than specific individuals carrying out an action are the properties of an academic prose (Biber et al., 1999).

Hyland (1994) considers passivization as a hedging device. In other words, passive structures are employed in academic discourse by the researchers to mitigate their claims and be cautious. With the help of passive structures, the authors do not show a lack of confidence, but they display politeness towards the discourse community (Cromptons, 1997). The employment of passive voice in RAs eases the author's existence in the text, the author's involvement is mitigated, and the probability of refutation is minimized (Doyuran, 2009).

1.6.3. Adverbial Phrases

Adverbial phrases usually precede the verbs, the adjectival phrases or the adverbial phrases they modify in Turkish (Erguvanlı, 1984: 136). Adverbial phrases modify verbs and present information about the manner, time or degree of the occurrence. The ones modifying adjectival phrases or other adverbial phrases specify the degree to which theconcepts they denote apply, i.e., *biraz* (somewhat) (Göksel & Kerslake, 2005). There are certain types of words that are marked as adverbial phrases.

These are adverbial phrases derived from adjectival phrases or nouns by the suffixes *-cA* or *-cAsInA* and adverbial phrases, which are produced through the suffixes as *-(y)ArAk* and *-(y)IncA* (Kornfilt, 1997: 211). Related examples are given as follows:

(20) Hasan yavaş-*cA* yürür.

Hasan walks *slowly.*

(21) Ayşe çocuk-*cAsInA* davranışlarda bulundu.

Ayşe acted *childishly.*

In example (20), the adverbial phrase was derived from an adjectival phrase by the suffix *-cA.* In example (21), the adverbial phrase was derived from the noun by the suffix *-cAsInA.*

Adverbial phrases have different functions in Turkish. They may function as a premodifier of noun phrases, verb phrases, and adjectival phrases, other adverbial phrases, and clause elements (Erguvanlı Taylan & Özsoy, 1994). Some adverbial phrases function as downtoners in that they reduce the force of the verb (Quirk et al., 1985: 597). The adverbial phrases are reported to be used in AD to show probability and belong to interpersonal metadiscourse (Chafe & Daniclewics, 1986). Some of the adverbial phrases that function as downtoners in Turkish are as follows: *hemen hemen* (almost), *neredeyse* (nearly), *kısmen* (partly), *aşağı yukarı* (somewhat), and *şöyle böyle* (somewhat) (Atabay, Kutluk & Özel, 1983: 112).

1.6.4. Conditional Clauses

A conditional sentence is formed using two clauses: an initial clause and a final clause (Kornfilt, 1997). "Conditional sentences are sentences that describe implications or hypothetical situations and their consequences "(Narayanan et al., 2009: 180). They also express cognitive reasoning, semantic nuances through factual or nonfactual events, i.e. if you heat water at 100 degrees C, it boils. Conditional sentences are also considered to reflect the user's ability to reason about alternatives or uncertainties (Traugot & Trousdale, 2010). The truth of a proposition in the matrixclause depends on the realization of the condition given in the conditional clause (Göksel & Kerslake, 2005).

(22) If you put the baby down, she will cry.

In English, the common conditional subordinators are if and unless. In addition to these, *as long as, in case, provided (that)* are other conditional subordinators. However, conditional clauses are constructed in the following ways in Turkish (Göksel & Kerslake, 2005).

(A) By attaching the suffix *–sA* to the verb.

(23) Biraz erken uyan*sa*n, iyi olur

If you woke up abit earlier, it would be nice.

(B) By using the copular marker *–(y) sA* or ise.

(24) Bu evi alır*sa*nız, gelecekte kolay satarsınız.

If you buy this house, you can sell easily in the future.

The free-standing alternate *ise* is used very rarely, but it is preferred when an emphasisis needed. The suffix *–sA* occurs only in predicative type of conditional clauses, whereas *–(y) sA* is used in both predicative conditional clauses and knowable conditionalclauses. Predicative clauses assert that if an event occurs, another will follow it. On the other hand, knowable conditional clauses refer to planned events (Göksel & Kerslake, 2005).

(25) Ahmet geç uyurs*a*, sabah geç uyanır (Predicative conditional clause)

If Ahmet sleeps late, he wakes up late in the morning.

(26) Şükrü gelmeyecek*se*, bir yedek biletimiz var (Knowable conditional clause)

If Şükrü is not going to come, we have a spare ticket.

Although the suffix –s*A* is considered as the main form of conditional in Turkish, it is not the primary way to form conditional clauses (Yarar, 2002; Göksel & Kerslake, 2005). The linguistic structures such as *halinde* (if), *takdirde* (if), *durumunda* (in case), *şayet* (if), and *eğer* (if) also function as a conditional clause in Turkish but *şayet* and *eğer* are grammatically redundant in Turkish. Of the two, *eğer* (if) is much more common (Göksel & Kerslake, 2005). Gencan (2001) argues that *eğer* (if) is used to reinforce the meaning of propositions in antecedent phrases. *Şayet* (if), on the other hand, is more uncertain, meaning something like 'if by any chance'. It occurs only with-*(y)sA.* Related examples are given below.

(27) *Şayet* küçük bir evde oturabiliyorsanız, Kadıköy'de güzel bir ev gördüm.

If you can live in a small house, I saw a beautiful house in Kadıköy.

(28) *Eğer* seviyorsan, onunla konuşmalısın.

If you love him, you should talk to him.

(29) Teklifimi kabul ettiğin *takdirde*, sana yardım edebilirim.

If you accept my offer, I can help you.

(30) Siparişlerin geç gelmesi *halinde* büyük problem yasarız.

If the orders arrive late, we will have a big problem.

1.6.5. Private and Suassive Verbs

Private verbs express non-observable intellectual states (Biber, 1988). For Halliday (1985), private verbs indicate the processes of feeling, thinking and perceiving. They

express attitudes, ideas and feelings overtly (Biber, 1988). These verbs demonstrate a close relationship between the participants of discourse and the topic (Bayyurt, 2000). The verbs *anticipate, assume, believe, conclude, demonstrate, determine, indicate, prove, show,* and *think* are among private verbs in English (Biber, 1988: 242). The verbs *inan-* (to believe), *anlamına gel-* (to mean), *görül-* (to be seen), *hisset-* (to feel), *bekle-* (to expect), *düşün-* (to think), *tahmin et-* (to estimate), *anla-* (to understand), *bil-* (to know) and *göster-* (to show) are some of the private verbs in Turkish. Hyland (1998a) argued that the authors employ verbs such as show, conclude, and determine to emphasize the strength and suggest the efficiency of the relationship between the data and claims.

(31) Deprem olumsuz etkilerini yakında *göster*ecektir.

The earthquake will *show* its negative effects soon.

Biber (1988) argues that suassive verbs show intentions about the future events and mark the speaker's attempt to convince the listener that certain events are probable and desirable. Therefore, these verbs may serve as an expression of persuasion. Some of the suassive verbs in English are *agree, ask, decide, insist, instruct, recommend, suggest* demand, propose, etc. In Turkish, the verbs *belirle-* (to identify), *öner-* (to suggest), *kararlaştır-* (to decide), *iste-* (to wish), *sapta-* (to detect), and *tespit et-* (to identify) function as suassive verbs.

(32) Doktorların bazı mesleki hataları *tespit edilmiştir.*

Some professional errors of doctors *have been identified.*

1.6.6. Nominal Sentences

Nominal sentences are commonly used in Turkish, which include four word classes: noun phrases, pronouns, adjectival phrases and adverbial phrases. When the aorist *–DIr* is attached to nominals, it constructs nominal sentences (Göksel & Kerslake, 2005).

(33) Kartal yırtıcı bir *kuştur*.

An eagle is a predatory bird.

(34) Hayat *zordur.*

Life is hard.

Non-verbal sentences marked by the aorist *-DIr* in Turkish usually present generic facts, universal truth, permanent generalizations or assertions (Göksel & Kerslake, 2005).

1.6.7. Necessity/Obligation Modals

Modals are strategic linguistic devices used to construct social reality (Gerhardt, 1985). Necessity modals reflect the author's attempt to persuade the readers that certain events are necessary and need to be performed. Therefore, these modals can be considered as an indicator of writer-reader/producer-receiver interaction (Biber, 1988). In English epistemic necessity is expressed by must i.e. you must clean your room. *Must* expresses meanings of obligation, necessity and requirement imposed by a source of authority (Palmer 1986). In Turkish, the suffix *-mAlI* attached to the verb stem serves as a necessity morpheme (Kornfilt, 1997).

(35) Ahmet odasını topla*malı*.

Ahmet *must* tidy up his room.

(36) Bulaşıkları yıka*malı*sın.

You *must* wash the dishes.

Kocaman (1996) states that the use of *–DIr* after the necessitative marker *–mAlI* emphasizes the force of necessity/obligation in Turkish.

(37) Ayşe gerçeği anlat*malı*dır.

Ayşe *must* tell the truth.

The authors use *–mAlI–DIr* when an additional strength is required in a proposition (Sansa Tura, 1986). In Turkish, the nominal predicates *gerekli-* (to be necessary), *mecbur-* (to be obliged), *zorunda-* (have to) and *zorunlu-* (to be required) also function

as necessity /obligation markers (Özsoy, 1999). Some examples for these predicates are given below:

(38) Evrakları yarın teslim etmek *zorunda*sın.

You *have to* hand-in the documents tomorrow.

(39) Okulda üniforma giymeye *mecbur*sun.

You *are obliged to* wear a uniform at school.

(40) Hastaneye girişlerde kimlik kartı göstermek *gerekli*dir.

Identification card is *necessary* at hospital entrances.

The necessitative morpheme *-mAlI* expresses perceived or imposed obligation by the speaker while the lexicalized constructions such as *zorunda-* (have to) present an objective obligation caused by external factors (Göksel & Kerslake, 2005). They also state that this suffix demonstrates speaker generated obligation. "A sentence marked with *–mAlI* that has the 1st person subject expresses an action which the speaker feels obliged to perform." (Göksel & Kerslake 2005: 306). However, if the suffix is attached to a 3rd person singular subject, a more impersonal meaning appears (Göksel & Kerslake, 2005). The negated necessity/obligation modals indicate prohibitions (Kocaman, 1996). In the negative form of necessity/obligation modals, the necessity marker *–mAlI* is added to the negative marker *–mA* and followed by *–DIr* (verb+ *-mA*+ *-mAlI*+ *-DIr*).

(41) Öğrenciler bu kitaba dokun*mamalı*dır.

The students *must not* touch this book.

1.6.8. Adjectival Phrases

Adjectival phrases expand the information presented in a text (Biber, 1988). In Turkish, adjectival phrases take place in the nominal category (Atabay, Kutluk & Özel, 1983). If a lexical item has a qualifying function, it is considered as an adjectival phrase. Quirk et al. (1987: 402-403) state four properties of adjectival phrases as follows:

(A) They can be observed in attributive function, i.e., they can modify a noun, appear between the determiner and the head of noun phrase. For example, an ugly painting, dirty linen.

(B) They can occur in predicative function, i.e., they can function as subject or object complement. For example, the painting is ugly. He thought the painting ugly.

(C) They can be premodified by the intensifier ‘very’ i.e., the child is very tired.

(D) They can take comparative and superlative forms.

(42) John is *taller* than Tom (comparative Form)

John is *the tallest* boy in the class (superlative form)

CHAPTER 2

METHODOLOGY OF THE STUDY

The purpose of this study is to analyze hedges and boosters employed in Turkish research articles (RAs) compiled from natural sciences (NS) and social sciences (SS) according to Hyland's (2005) taxonomy and reveal their frequencies in these RAs. The theoretical framework, sample, data collection procedure, and analysis methods are presented thoroughly in separate sections. More precisely, the statistical techniques are given in this chapter.

2.1. THEORETICAL FRAMEWORK

In this study, the theoretical framework adopted is Hyland's (2005) interactional metadisourse taxonomy, the details of which are presented in Table 10 below.

Table 10. Interactional metadiscourse markers by Hyland (2005).

Macro category	Subcategory	Examples
1. Hedges	a) epistemic verbs	May, might, it must be 2pm
	b) Probability adverbs	Probably, perhaps, maybe
	c) Epistemic expressions	Unlikely, unclear
2. Boosters	a) emphatics	Certainly, really, demonstrate.
	b) amplifying adverbs	Totally, always, in fact
	c) cognitive verbs	it is clear that
3. Attitude markers	a) deontic verbs	Have to, need to
	b) attitudinal adverbs	Unfortunately, remarkably
	c) attitudinal adjectives	it is surprising, it is absurd.
	d) cognitive verbs	I feel I believe; I think
4. Self-mentions	First-person pronouns	I, me, my, mine
5. Engagement markers	a) second-person pronouns	You, your, yourself
	b) interjection	By the way, you may notice.
	c) imperative verbs	Consider, note that see.
	d) necessity modals	have to, should

This study is carried on the use of hedges and boosters in Turkish RAs. The hedges employed in Turkish academic discourse are presented as follows:

- Possibility structures, including the possibility suffix *–AbIl* and the predicate *mümkün-* (to be possible),

- Passive structures,

- Adverbial phrases,

- Conditional clauses.

The boosters employed in Turkish academic discourse are given as follows:

- Private and suassive verbs,

- Necessity/obligation modals including the suffix *–mAlI* and the predicate *gerekli-* (to be necessary),

- Adjectival phrases,

- Nominal sentences.

2.2. SAMPLE

The sample of the study consists of forty RAs from four disciplines, namely, chemistry, biology, linguistics, and psychological counseling and guidance. These disciplines represent two broad fields of NS and SS. From each of these disciplines, ten RAs that were published in peer-reviewed journals were selected. All journals are peer-reviewed journals and have the publishing frequency between twice and four times year. Many open access journals have a reputation for being of low quality and being dishonest with regard to peer review and publishing costs. Such journals are labeled "predatory" journals (Xia et al., 2015). None of the RAs analysed were taken from the predator journals. Instead, all were published in the journals that are indexed in Türkiye Atıf Dizini, Ulakbim TR Dizini, EBSCO host, Scopus, Index Copernicus, and DOAJ. The detailed information (the first publishing year, the publishing frequency, and the publisher) related to the journals included in the study is presented in Appendix 1.

Therefore, it may be suggested that the articles analyzed in this study are quality research articles.

In the analysis, only the results and discussion sections of the RAs were included since the authorial stance is mostly reflected in these sections by the authors (Hyland, 2000). The other sections, such as abstract, introduction, literature review, and methodology, were excluded.

In the selection of the articles, two criteria were considered. More specifically, the articles produced by a single author and published between 2017 and 2018 were chosen. From each year, twenty articles were compiled (see Appendix 2). To obtain comparable data, the results and discussion sections of the articles were nearly matched in length. The word numbers of the RAs from each discipline obtained by Word Metry 1.55 are given in Table 11 below.

Table 11. Total number of words in the research articles in NS and SS

FIELDS	TOTAL NUMBER OF WORDS
Chemistry	9174 words
Biology	8738 words
Linguistics	8760 words
Psychological Counselling and Guidance.	9268 words
Total Number of Words	36.465 words

As it is clearly seen in Table 11, there are slight differences in the number of words in the results and discussion sections of the selected articles. The number of words is calculated by the software program, Word Metry 1.55. It is a tool for word statistics and calculates word frequency and finding out words' functions. It was found out that there are 9174 words in chemistry RAs, 8738 words in biology RAs, 8760 words in linguistics RAs and 9268 words in psychological counseling and guidance RAs. Therefore, the total number of words for the NS is 18.440 and 18.025 for the SS. The total number of words in both fields is 36.465.

2.3. DATA COLLECTION PROCEDURE

As mentioned before, the present study basically aimed to compare hedges and boosters employed in the results and discussion sections of the RAs taken from NS and SS and calculate the frequencies and percentages of hedges and boosters in these RAs. The

reason for choosing the RAs as the sample of the study is that the they possess conventions about organizational issues and linguistic features (Hyland, 2000). Specifically, this study focuses on RAs produced in Turkish because the comparative studies analyzing the hedges and boosters in Turkish RAs from distinct disciplines are very few. The following steps were used in the data collection process:

(1)Articles are to be selected from journals covered in NS and SS.

(2) The articles that include the result and discussion sections were kept because the authorial stance is reflected in these sections (Hyland, 2005).

(3) Before the sample was formed, articles from NS and SS were downloaded and analyzed separately in terms of word counts.

(4) Forty RAs having closer word numbers were decided as the sample of the study to obtain more reliable results (ten articles from each discipline).

(5) The selected articles were single authored and published in quality peer-reviewed journals between 2017- 2018.

2.4. DATA ANALYSIS

Hyland's (2005) interactional metadiscourse taxonomy was adopted for the coding of hedges and boosters in RAs. The reason for choosing this taxonomy was that it is a simple, clear and comprehensive model. Although the related structures were translated from English into Turkish, it was not possible to have the exact data set related to hedges and boosters in Turkish. Therefore, some of the markers that are reported in Çapar's (2014) and Tarcan's (2019) studies for Turkish hedges and boosters were also employed. In these two data sets, hedges include *–AbIl-Ir*, *mümkün-* (to be possible), *belki* (maybe), *muhtemelen* (probably), *neredeyse* (nearly), *yaklaşık* (approximately) and *bazen* (sometimes) and passive structures. Boosters include *yadsınamaz* (is undeniable), *-mAlI*, *pek* (quite), *aşikar* (obvious), *kesinlikle* (absolutely) and *gerekli-* (to be necessary). The related studies were also investigated to find out the most frequently used markers in Turkish, and those markers were also added to the list. Then, the hedges and boosters identified in the data were listed and counted. For the reliability of

the study, 100% of the findings were rechecked by an inter-rater. To find out if the data follow a normal distribution, kolmogorov-Smirnov and Shapiro-Wilk tests were employed. The results of the normality tests revealed that the hedges ($D(40) = 0.14$, $p = 0.048 < 0.05$) and boosters ($D(40) = 0.185$, $p = 0.001 < 0.05$) do not follow a normal distribution in the sample. Therefore, a non-parametric test, namely the Mann Whitney U, was employed to determine if there is a statistically significant difference in the use of hedges and boosters across NS and SS.

2.5. THE INTER-RATER RELIABILITY

For the reliability of the study, the data were coded by both the researcher and a subject-area expert, and then, the codes were reviewed and compared for consistency. The inter-rater is a faculty member who has twenty-four years of experience in linguistics and has knowledge about the linguistic structures analyzed in the study. The inter-rater coding consists of the following phases:

- The researcher read the results and discussion sections of each selected (RAs) word by word and highlighted the linguistic features functioning as hedges and boosters.

- The researcher's findings were reviewed by the inter-rater who coded 100% of the findings. Then, the researcher and the inter-rater met in person to discuss the analyses and paid attention to the examples that they disagreed on the functions of hedges and boosters. In this way, the interpretations were discussed, and the discrepancy is resolved. After the researcher and the inter-rater agreed on the findings, the level of reliability was calculated by the following formula developed by Miles & Huberman (1994).

$$\text{Reliability} = [\text{Consensus} / (\text{Consensus} + \text{Disagreement})] \times 100$$

In this study, the reliability coefficient was calculated as 0.97. According to Miles & Huberman (1994), inter-rater reliability of 80% between coders is a satisfactory agreement.

CHAPTER 3

DISCUSSION OF FINDINGS

This study investigates the use of hedges and boosters in Turkish research articles (RAs) according to Hyland's (2005) interactional metadiscourse taxonomy. Therefore, this section presents the findings based on hedges and boosters in natural sciences (NS) and social sciences (SS).

3.1. LEXICO-GRAMMATICAL FEATURES FUNCTIONING AS HEDGES IN NATURAL SCIENCES AND SOCIAL SCIENCES RESEARCH ARTICLES

In this section, findings related to the frequency and percentage of hedges in NS and SS are discussed. To recall, Hyland & Tse (2004: 6) define hedges as "devices that signal the author's unwillingness to express propositional content categorically and function as an escape route for the writers." In the analysis, the following lexico-grammatical features were identified as hedging devices.

(1) Possibility Modals

(2) Passive structures

(3) Adverbial Phrases

(4) Conditional Clauses

Firstly, a detailed analysis of each category will be presented with their number, frequency, meanings, and functions attributed to them by NS and SS authors. Secondly, the overall frequency and percentage of these devices will be presented.

3.1.1. Possibility Modals Used in Natural Science and Social Science Research Articles

In the study, the total number of sentences analyzed in NS is 728 and 690 in SS. Among these sentences, 213 hedges were identified in total. Of 213 hedges, 147 possibility structures were identified. These structures included the possibility suffix *-AbIl* and the possibility predicate *mümkün-* (to be possible). There are 132 possibility modals expressed by two combinations of suffixes, which all included the possibility marker *-AbIl:* (1) V (erb) + *-AbIl+ -Ir,* and (2) V (erb) + passive marker + *-AbIl +- Ir*. Also, there are fifteen possibility predicates *mümkün-* (to be possible). The frequency and percentage of these structures are presented separately in Tables 12 and 13 as follows:

Table 12. The frequency and percentage of possibility suffix *-AbIl* in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	59	8.10 %
Social sciences	n= 690	73	10.57 %

As seen in Table 12, among 728 sentences analyzed in NS, there are fifty-nine occurrences of the possibility suffix *-AbIl.* They constituted 8.10 % of the total sample in NS. Regarding SS, among 690 sentences, there are seventy-three sentences constructed with possibility suffix *-AbIl* and comprise 10.57 % of the total samples. The results of the study revealed that besides the possibility suffix- *AbIl,* the possibility predicate *mümkün-* (to be possible) is also employed by the authors to be cautious against possible refutations on the side of the reader. The frequency and percentage of the possibility predicate *mümkün-* (to be possible) is presented in Table 13 below.

Table 13. The frequency and percentage of possibility predicate *mümkün-* (to be possible) in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	5	0.68 %
Social sciences	n= 690	10	1.44 %

As demonstrated in Table 13, among 728 sentences examined, there are only five occurrences of the possibility predicate *mümkün-* (to be possible) in NS, and they

accounted for 0.68 % of the total number of sentences examined. Ten occurrences of the possibility predicate *mümkün-* (to be possible) are identified in SS in 690 sentences examined in the analysis. They constituted 1.44 % of the total number of sentences analyzed in the SS. So far, the findings related to the possibility structures, such as the possibility suffix *-AbIl* and the possibility predicate *mümkün-* (to be possible) have been presented separately. Regarding the overall figure of possibility structures in NS and SS, the findings demonstrated that there are sixty-four occurrences of possibility structures in NS and eighty-three occurrences in SS. The total frequency and percentage of possibility structures are given in Table 14 below.

Table 14. The overall frequency and percentage of possibility structures in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	64	8.79 %
Social sciences	n= 690	83	12.02%

As Table 14 indicates, possibility structures comprised 8.79 % of the sample in NS and 12.02 % of the sample in SS. This difference might occur to the nature of the fields as NS is a fact-oriented and a more impersonal field, whereas SS is more interpretative (Takimato, 2015). Related examples are given as follows:

(43) Bu kanıtlara dayanarak, bir CaSR mutasyonunun serum Trigliserit düzeylerinin duzenlenmesinde rol oynadığı kabul edil*ebilir*.

(Kargün, 2018: 122)

Based on this evidence, it *might* be assumed that a CaSR mutation plays a role in regulating serum triglyceride levels.

(44) Çalışmamızın bazı kısıtlılıklara sahip olduğu söyley*ebilir*iz.

(Dülgeroğlu, 2018: 134)

We *may* state that our study has some limitations.

(45) Gövdenin daha hassas olduğu sonucuna ulaş*abilir*iz.

(Özay, 2018: 73)

We *may* conclude that the body is more sensitive.

(46) Bu sayede ürün bünyesindeki nem hızlı bir şekilde uzaklaşmakta ve daha kaliteli kuru ürün elde edilmesi *mümkündür.*

(Yoğurtçu, 2018: 3)

In this way, the moisture in the product is quickly removed, and it is *possible* to obtain a higher quality dry product.

As can be clearly seen in examples from (43) to (46), the suffix *–AbIl is* employed by the authors of the RAs to indicate their stance in their texts. Possibility predicate *mümkün-* (to be possible) is also employed to show possibility. It is clearly seen that the authors are not certain about their propositions and open their findings for discussion. Besides, it can be stated that such structures indicate the caution of the authors about the fact that their reports may be modified in future studies (Takimato, 2015).

The findings also indicate that the combination of *–AbIl + Ir* with passive markers is used more frequently than the combination of *–AbIl + Ir* in the corpus. The reason for the common use of the combination of *–AbIl+ Ir* with passive markers can be the fact that passive structures show a more outstanding quality of detachment (Leckie-Terry, 1995) and that the authors may wish to strengthen their withdrawal to their propositions. Related examples are presented as follows:

(47) Farklı renklerdeki laboratuvar önlükleri bu amaçla tercih *edilebilir*.

(Güldemir, 2018: 140)

Laboratory in different colors aprons *may be* preferred for this purpose.

(48) Difüzyon üstelinin değerine bağlı olarak difüzyon mekanizması *açıklanabilir.*

(Erdem, 2018: 15)

The diffusion mechanism *may be* explained Depending on the value of the diffusion exponent.

Examples (47) and (48) clearly indicate that the authors wish to soften their claims and make arguments tentative and cautious by employing possibility suffix *–AbIl* with passive markers.

The dominance of possibility modals confirms the argument by Ebadi & Khaskar (2015), who state that researchers do not directly involve in the results and discussion sections of RAs because academicians are expected to base their conclusions on academic findings rather than their personal opinions. Moreover, as stated in literature review section, the possibility is expressed by the possibility suffix *–AbIl* and the possibility predicates *mümkün-* (to be possible), *muhtemel-* (to be probable) and *olanaklı-* (to be possible) in Turkish. However, the study revealed that expressing the possibility with the suffix *–AbIl* and the predicate *mümkün-* (to be possible) is the rhetorical convention in Turkish academic world. It is clear that Turkish authors do not prefer the other possibility structures to hedge.

3.1.2. Passives Structures Used in Natural Sciences and Social Sciences Research Articles

As a result of the analysis, which focused on 728 sentences in NS and 690 sentences in SS, twenty-three passive structures are identified in the NS and thirteen passive structures are detected in the SS. The frequency and percentage of passive structures across these fields are given in Table 15.

Table 15. The frequency and percentage of passive structures in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	23	3.15 %
Social sciences	n= 690	13	2.01 %

As seen in Table 15, 3.15 % of 728 sentences contained passive structures in NS and 2.01% of 690 sentences included passive structures in SS. Therefore, there are twenty-three passives structures in NS, whereas there are thirteen occurrences in SS. The total occurrences of passives are thirty-six in both fields. The verbs *düşünül-* (to be thought), *tahmin edil-* (to be estimated), *beklen-* (to be expected) are the passive structures detected in the sample. To be more specific, the verb *düşünül-* (to be thought) has

twenty-eight occurrences, *tahmin edil-* (to be estimated), has one, and *beklen-* (to be expected) has seven occurrences in total. It is clearly seen that NS authors employ passive structures more frequently compared to authors in SS. We can conclude that the authors in NS focus on content more than the doer of the action as NS is a more fact-oriented field. The use of passive structures in NS and SS can be exemplified as follows:

(49) Bu ürünlerden söz varlığı çalışmalarında yararlanılmasıyla verimli bir konuşma eğitiminin destekleneceği *düşünülmektedir.* (Gülbahar, 2017: 22)

It *is thought* that an efficient speech education will be supported using these products in word presence studies.

(50) Alan yazına göre, sosyal bağlamda öz düzenleyici öğrenme becerilerinin daha yüksek olması *beklenmektedir*. (Yetik, 2017: 117)

Because, according to field writing, self-regulatory learning skills in social context *are expected* to be higher.

As stated in examples (49) and (50) above, the authors employ agentless passives to hedge their claims or statements. There is no occurrence of by-passives in the sample. As Biber et al. (1999) state, generalizations are the characteristics of academic prose, and the initiator of action is left unexpressed. Therefore, it may be concluded that authors give importance to the informational content rather than the agent. It can also be argued that the use of passive structures makes it possible for the authors to reduce their commitment to the propositions they assert without mentioning the agents (Biber et al., 1999). As mentioned in the literature section, there are two types of passive structures in Turkish: by-passives and agentless passives. Based on the findings of the study, employing agentless passives to hedge is the convention of Turkish academic discourse.

3.1.3. Adverbial Phrases Used in Natural Sciences and Social Sciences Research Articles

In the analysis, the adverbial phrases are analyzed on the word basis. The NS sample consists of 18.440 words, and the SS sample includes 18.025 words. The results of the study indicated that adverbial phrases are not employed frequently as hedges by Turkish authors. The total number of adverbial phrases in NS is thirteen, and in SS, it is three. The frequency and percentage of the adverbial phrases across NS and SS are as follows:

Table 16. The frequency and percentage of the adverbial phrases in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 18.440	13	0.07 %
Social sciences	n= 18.025	3	0.02 %

As seen in Table 16, adverbial phrases constitute 0.07 % of the total words in NS and 0.02 % in SS. As mentioned before, 213 hedges are identified in NS and SS. Of 213 hedges, sixteen adverbial phrases were detected totally. As indicated in Table 15, the adverbial phrases are employed nearly four times more in the results and discussion sections of the RAs analyzed in NS. Therefore, we can conclude that adverbial phrases do not perform as a significant hedging device in SS. This finding is not in line with the study of Takimato (2015) since he concluded in his study that adverbial phrases occur more in SS and less in NS. The adverbial phrases identified in the corpus are approximative adverbial phrases. These are: *yaklaşık* (approximately), *hemen hemen* (almost), *nerdeyse* (nearly), and *civarında* (about). The adverbial phrase *yaklaşık* (approximately) has eight occurrences, *hemen hemen* (almost) has three, *neredeyse* (nearly) has one and *civarında* (about) has four occurrences. These adverbial phrases are downtoners and indicate probability (Chafe & Daniclewicz, 1986). The reason why adverbial phrases occur more in NS may be due to the nature of the data analyzed. In NS, adverbial phrases are more frequently used because experimental evidence is usually given with numerical data and authors need to be cautious to highlight more accurate information (Takimato, 2015). In other words, the authors in NS use approximative adverbial phrases to demonstrate a real picture of how far their measurement varies from standard disciplinary norms, and they wish to create a shared

understanding with their readers (Takimato, 2015). The following examples indicate the use of adverbial phrases in NS and SS.

(51) Üçüncü denemede ise PbO üzerinden geçirilen SO2 gazı için elde edilen pik yoğunluğu boş reaktörden geçirilen SO2 yoğunluğuna *neredeyse* eşit olarak kaydedilmiştir. (Kanca, 2018: 172)

In the third experiment, the peak density obtained for SO2 gas passed through the PBO was recorded as *nearly* equal to the density of SO2 passed through the empty reactor.

(52) Kalma süresine karşın çizilen pik yoğunluğu grafiğinden de anlaşılacağı üzere SO2 gazı için kolonda kalma süresi *yaklaşık* 15, 5 saniyedir. (Kanca, 2018: 171)

As the peak density graph plotted against the duration of stay shows, the duration of stay in the column for SO2 gas is *approximately* 15.5 seconds. It is possible to state that NS authors wish to withdraw their commitment more than SS researchers as there were three adverbial phrases in SS. Moreover, this may be because the experimental proof is presented with quantitative data in NS (Takimato, 2015).

3.1.4. Conditional Clauses Used in Natural Sciences and Social Sciences Research Articles

In the study, among 728 sentences analyzed in NS and 690 sentences analyzed in SS, a total of fourteen conditional clauses are identified. Of fourteen conditional clauses, four occurrences are detected in NS and ten occurrences are searched out in SS. Therefore, it is possible to conclude that conditional clauses are not highly preferred linguistic structures by Turkish authors to display their stance in RAs. The frequency and percentage of conditional clauses across two fields are given in Table 17.

Table 17. The frequency and percentage of conditional clauses in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	4	0.55 %
Social sciences	n= 690	10	1.45 %

As demonstrated in Table 17, conditional clauses comprise 0.55 % of the total sentences examined in NS and 1.45 % sentences in SS. It was revealed in the analysis that the conditional clauses employed as hedges in the sample are the predicative ones rather than the knowable conditional clauses. Moreover, the findings indicated that the conditional clauses formed by the conditional suffix *–sA* are the most frequent conditional clauses since no occurrences of clauses formed by alternative structures, such as *halinde* (if), *takdirde* (if), *durumunda* (in case), *şayet* (if), and *eğer* (if) are detected in the sample. Conditional sentences might be used in RAs when the author expresses a statement that s/he considers being risky and so s/he tries to avoid any denial or refusal on the part of his or her reader (Myers, 1989). Related examples of the conditional clauses are presented as follows:

(53) Bu noktada ceviz kabuğunun selülozik içeriğinden dolayı hazırlanan ahşap kompozit levhalarda ceviz kabuğu miktarı artars*a* su tutma yüzdesinin de artması beklenmektedir.

(Kaya, 2018: 912)

At this point, the percentage of water retention is expected to increase *if* the amount of walnut shell increases in the wood composite sheets prepared due to the cellulosic content of walnut shell.

(54) Türkçeyi yabancı dil olarak öğretimi yazım derslerinde üstsöylem belirleyicileri ile ilgili bilgi ve aktivitelere ağırlık verilir*se,* öğrencilerin ikna metin üretim becerilerinde olumlu değişiklikler gözleneceği düşünülmektedir.

(Esmer, 2018: 227)

While teaching Turkish as a foreign language it is thought that positive changes will be observed in the persuasion text production skills of the students *if* the knowledge and activities related to the super statement determinants are given weight in the writing courses.

As shown in examples (53) and (54), the conditional clauses acting as hedges are predicative. They assert that if an event occurs, another will follow it so they function as hedges and enable authors to open a room for discussion.

Based on the findings of the study, it may be argued that the authors in both fields do have a strong tendency to hedge by using conditional clauses since they chose to present their findings with caution because in the academic world, there is always "non-finality and sense of uncertainties" (Mauranen, 1993: 115). Moreover, based on the information presented in literature section about conditional clauses in Turkish, we can conclude that conditional clauses formed by the suffix *–sA* rather than the other conditional structures is the convention of Turkish academic discourse to tone down.

3.1.5. The Overall Discussion of Hedges in Natural Science and Social Science Research Articles

In this section, the percentage and frequency of hedges in NS and SS will be presented. The overall results will be discussed on the basis of sentences because apart from adverbial phrases, the other hedges were analyzed on the basis of the sentence. The total number of sentences is 728 in the results and discussion sections in NS and 690 in the results and discussion sections in SS. The results revealed that a total of 213 hedges are found in the sample of NS and SS. The hedges identified in the fields will be presented separately to provide a better understanding. Firstly, the overall frequencies and percentages of the lexico-grammatical items functioning as hedges in NS are given in Table 18.

Table 18. The overall frequency and percentage of hedges in NS

Natural Sciences			
Hedges	The number of sentences	f	%
Possibility Structures	728	64	8.79 %
Adverbial Phrases	728	13	1.78 %
Conditional Clauses	728	4	0.57 %
Passive Structures	728	23	3.15 %
Other structures except hedges	728	624	85.71 %
Total	728	728	100 %

As presented in Table 18, the possibility structures are the most frequently employed hedging devices in NS and comprised 8.79 % of the total sentences. The frequent use of possibility structures in results and discussion sections of RAs likely gives readers some

confidence that although there is evidence to support the author's claim, there is still a platform for the readers to investigate further (Hyland, 2007). Passive structures are the second most common hedging devices in NS and constituted 3.15 % of the total sentence use. Adverbial clauses and conditional clauses have infrequent occurrences in NS since adverbial clauses have thirteen and conditional clauses have four occurrences in the overall sample. The total number of hedges is 104, and this comprised 15.07 % of the total sentences. The remaining 85.71 % of the sample consists of linguistic structures other than hedges. In SS, we have observed similar results. The overall frequency and percentage of hedges in SS is presented in Table 19 below.

Table 19. The overall frequency and percentage of hedges in SS

Social Sciences			
Hedges	The number of sentences	f	%
Possibility Structures	690	83	12.01 %
Adverbial Phrases	690	3	0.43 %
Conditional Clauses	690	10	1.46 %
Passive Structures	690	13	1.88 %
Other structures except hedges	690	581	84.22 %
Total	690	690	100 %

As seen in Table 19, similar to NS, possibility structures are the most frequent hedges and comprise 12.01 % of the sample analyzed. There are eighty-three occurrences. The authors in SS employed possibility structures more because they need to be more cautious while presenting their data to the reader (Takimato, 2015). We observe the same trend in both fields regarding the use of passive structures. They appear to be the second most frequent hedges both in NS and SS (see Tables 18 and 19). The results indicated that there are thirteen passive structures and constitute 1.88 % of the sample in SS and twenty-three passive structures comprising of 3.15 % of the sample in NS. Obviously, the NS authors employ more passive structures than the authors conducting studies in SS. Therefore, it may be concluded that authors in NS do not give importance to the agent. Instead, the information to be presented is more significant for them.

Regarding adverbial phrases and conditional clauses, a reverse ratio emerges since the number of conditional clauses is higher in SS but the number of adverbial clauses is

lower (see Tables 18 and 19). It is possible to conclude that the authors in NS and SS use probabilities, which the academic genre requires (Milton & Hyland, 1999). The conventional belief that science papers are purely impersonal (Boutellier et al., 2011) seems not real. In the academic world, an excessive reflection of certainty about claims or propositions may bring about the objection of readers (Yuvayapan, 2019), so it seems that both groups of authors are aware of the risk of claim-making in the academic world.

Metadiscourse eases the social interactions that contribute to knowledge production within disciplines and since disciplines are distinct, its use and meaning vary between disciplines (Hyland, 2005). Therefore, in the current study, it was assumed that the nature of the two fields, namely NS and SS may lead to possible differences in the frequency of hedges. To determine if there is a significant difference in terms of hedges across fields, a non-parametric test Mann-Whitney U was employed. No significant difference in the distribution of hedges was detected across NS and SS ($U = 130.500$; $p = 0.06 > 0.05$). The results revealed that the researcher in NS and SS employed hedges in the same way while showing their commitment to their propositions.

Hyland (2005) argues that in SS, arguments must be expressed more cautiously, so hedges must be used more frequently. In a study carried out by Hyland (2004), hedges were more frequently used in SS. Our study is in line with his study since the findings revealed that the hedges were employed a bit more in SS. However, the difference is not striking. The high occurrences of hedges in both fields can be due to the fact that these markers provide an opportunity for the authors to control the possibility of the content. This finding is in line with the study conducted by Fidan (2002). In her study, she analyzed metadiscourse markers in RAs compiled from psychology, linguistics, and medicine. The results of the study revealed that there is a similarity in the frequency of hedges across fields, so she concluded that hedges are the only category constructed socially, not societally. Furthermore, the findings of our study are in line with the study of Sonjaya (2013), who investigated the occurrences of hedges in 104 RAs taken from linguistics and chemistry. Her findings revealed that the authors of both fields used hedges at comparable rates. Furthermore, in our study, no significant difference was detected in the use of hedges across fields. Even though NS largely depends on

verifiable data and facts, the authors that produce RAs in this field use hedges as much as SS authors.

3.2. LEXICO-GRAMMATICAL ITEMS FUNCTIONING AS BOOSTERS IN NATURAL SCIENCES AND SOCIAL SCIENCES RESEARCH ARTICLES

In this section, findings related to the frequency and percentage of boosters in NS and SS are discussed. To recall, authors show full commitment to their propositions by employing boosters (Hyland, 2005). In the analysis, the following lexico-grammatical items were identified as boosters.

(1) Private verbs and suassive verbs

(2) Nominal sentences

(3) Necessity/obligation modals

(4) Adjectival phrases

Firstly, a detailed analysis of each category will be presented together with their frequency, meanings, and functions attributed by Turkish authors in NS and SS. Secondly, the overall distribution of these devices will be presented.

3.2.1. Private Verbs and Suassive Verbs used in Natural Sciences and Social Sciences Research Articles

To figure out the tendencies of the Turkish authors regarding stance, 728 sentences were analyzed in NS and 690 sentences were examined in SS. As mentioned before, private verbs and suassive verbs are the indicators of stance (Biber, 1988). The results of the analysis revealed that private verbs and suassive verbs are quite frequent compared to other boosters. The frequency and percentage of private verbs and suassive verbs will be presented separately to provide better insight. In Table 20, the frequency and percentage of private verbs are given.

Table 20. The frequency and percentage of private verbs in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	113	15.52 %
Social sciences	n= 690	56	8.12 %

As indicated in Table 20, 113 private verbs are identified in 728 sentences examined in NS. They constituted 15.52 % of the total sentences analyzed. In the field of SS, fifty-six occurrences are found, and they correspond to 8.12 % of the sample. Given that private verbs express personal stances, the researchers of NS employed private verbs more frequently to express a full commitment to their proposition than SS authors and they show full confidence towards their texts. The private verbs detected are ortaya *çık-* (to show up), *bul-* (to find), *sonucuna ulaş-* (to conclude), and *göster-* (to show). The private verb *ortaya çık-* (to show up) has twenty-one occurrences, *bul-* (to find) has twenty-three, *sonucuna ulaş-* (to conclude) has six occurrences and *göster-* (to show) has fifthy-eight uses. It is the most frequent private verb detected in the sample. Some of the private verbs are employed in passive forms. These are; *gözlen-* (to be observed), *doğrulan-* (to be confirmed) and *görül-* (to be seen). The verb *gözlen-* (to be observed) has three, *doğrulan-* (to be confirmed) has eight and *görül-* (to be seen) has fifty occurrences in the data. Furthermore, it was observed that the the authors employed private verbs with the particular suffix *-mı) ştır/-mi) ştir* to demonstrate confidence over the propositions which were produced (Akbaş, 2014). Related examples are given as follows:

(55) Hazırlanan kompozit levhalara ipliksi yapıya sahip cam elyaf eklenmesinin üretilen kompozitlerin mekanik özelliklerini iyileştirdiği *görülmüştür.*

(Kaya, 2018: 913)

It *has been seen* that the addition of filamentous glass fiber to prepared composite sheets improved the mechanical properties of manufactured composites.

(56) 2015 de KAHlarda yaptığımız çalışma adiponektin rs2241766 genpolimorfizminin KAH riskini azalttığını, ancak leptin reseptörü rs1137101 ve rs7799039 gen polimorfizminin riski artırdığını *göstermiştir.*

(Kargün, 2018: 126)

Our study in Kahlar in 2015 *demonstrated* that adiponectin rs2241766 genpolimorphism reduces the risk of CAD, but leptin receptor rs1137101 and rs7799039 gene polymorphism increases the risk.

(57) Birincil niteliksel çalışmaların ikincil nitel analizi sonucunda iki genel temanın *ortaya çıkmıştır.*

(Gülüm, 2017: 115)

As a result of secondary qualitative analysis of primary qualitative studies, two general themes *emerged.*

As seen in examples (55), (56) and (57), the authors employed private verbs to show their full commitment to the proposition and preferred to use these private verbs with the suffix *-mı) ştır/-mi) ştir* to present confidence over their claims. Hyland (1998) claims that private verbs are used to emphasize strength and suggest effectiveness of the connection between the data and the propositions, so we can conclude that the authors in NS aims at showing the strong relation between their data and their propositions.

Besides private verbs, suassive verbs are identified in NS and SS as boosters. The frequency and percentage of suassive verbs are given in Table 21.

Table 21. The frequency and percentage of suassive verbs in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	43	5.91 %
Social sciences	n= 690	15	2.17 %

As seen in Table 21, forty-three suassive verbs are identified in NS sample of 728 sentences and fifteen occurrences are detected in 690 sentences in SS. The suassive verbs constituted 5.91 % of the sample analyzed in NS and 2.71 % of the SS sample. The suassive verbs identified in the corpus are; *sapta-* (to detect) and *tespit et-* (to identify). There is a total of thirty-nine occurrences of the verb *tespit et-* (to identify) and nineteen occurrences of the verb *sapta-* (to detect) in NS and SS. Given that suassive verbs are overt indicators of persuasion, the researchers of NS employed

suassive verbs more frequently to demonstrate certainty towards their propositions. Similar to private verbs, it was revealed that the authors employed suassive verbs with particular suffix *-mı) ştır/ -mi) ştir* to emphasize their confidence over a statement they had produced (Akbaş, 2014). Related examples are given as follows:

(58) Çalışmada, ülkemizde GD'lu ürünlere yönelik olumsuz tutumların, GD ürünlerinin satın alınmasını zorlaştırdığı *tespit edilmiştir.*

(Aygün, 2018: 154)

In our study, it *was identified* that the high level of negative attitudes towards GD products in our country makes it difficult to buy GD products.

(59) Çalışmaya katılanların %60,6'sının erkek, %56,6'sının 40 yaş üstü, %60,6'sının evli, %79,5'inin eğitim düzeyinin ilkokul ve okur-yazar olduğu *saptanmıştır.*

(Aygün, 2018: 154)

It *was detected* that 60.6% of the participants were male, 56.6% were over 40 years of age, 60.6% were married, and 79.5% were primary school and literate.

3.2.2. Nominal Sentences Used in Natural Sciences and Social Sciences Research Articles

In the analysis, nominal sentences are identified in small numbers compared to other hedges. Of 728 sentences analyzed in NS, only three of them are found to be nominal sentences. Regarding SS, only one nominal sentence was identified. The frequency and percentage of nominal sentences across NS and SS are presented in Table 22 below.

Table 22. The frequency and percentage of nominal sentences in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	3	0.41 %
Social sciences	n= 690	1	0.14 %

Table 22 indicates that nominal sentences are quite infrequent as boosters in NS and SS. As can be seen, there are three nominal sentences in NS and only one occurrence in SS.

The nominal sentences identified comprise 0.41 % of the total sample in NS and 0.14 % in SS. The nominal sentence employed by NS and SS authors is constructed with the predicate *kanıt-* (to be proof). Related examples are presented as follows:

(60) Pb'ye toleranslı olduğu bilinen yem şalgamının tohumlarında Mn'dan sonra en yüksek çimlenme yüzdesinin Pb uygulamasında görülmesi, bu türün toksisite eşik değerinin yüksek olduğunun *kanıtıdır.*

(Özay, 2018: 125)

The fact that the highest germination percentage after Mn in the seeds of feed turnips known to be tolerant of PB is observed in PB application *is proof* that the toxicity threshold value of this species is high.

(61) Model denklemine ait belirleme katsayılarının 1' e oldukça yakın oluşu Ek. (14)' deki model önermesinin uygun olduğunun *kanıtıdır.*

(Yoğurtçu, 2018: 13)

That the determination coefficients of the model equation are quite close to 1 *is proof* that the model proposition in (14) is appropriate.

Göksel & Kerslake (2005) state that modality marker *–DIr* generalizes when attached to nominals, so we can conclude that the authors in NS make more generalizations while discussing their findings and prefer more nominal verbs to give strength to their way of presenting their results.

3.2.3. Necessity/Obligation Modals Used in Natural Sciences and Social Sciences Research Articles

The analysis revealed that the necessity/obligation modals are the second most frequent boosting devices employed in NS and SS. It was found in the analyis that the necessitative mood is expressed by two different structures in the sample: (1) the necessity marker, *-mAlI (+DIr),* and (2) the necessity modal verb *gerekli-* (to be necessary). Table 23 demonstrates the frequency and percentage of the necessity/obligation suffix *-mAlI* in NS and SS.

Table 23. The frequency and percentage of the necessity/obligation suffix *-mAlI* in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	10	1.37 %
Social sciences	n= 690	19	2.75 %

As Table 23 indicates, the necessity/obligation suffix – *mAlI* comprise 1.37 % of the total sentences analyzed in NS and 2.75 % in SS. Nineteen occurrences are found in SS and ten in NS. As mentioned before, Emeksiz (2008) claims that *–mAlI* attached to 1st person subject is the least frequent marker of obligation/necessity in Turkish texts and that it is often preferred to be used in passive sentences and gives generalized meanings. The result of this study is in line with Emeksiz's (2008) statement on the suffix *–mAlI* in Turkish. In this study, no instances of *–mAlI* with the 1st person subject were found. The frequent uses of the suffix *-mAlI* in passive structures provide generalized opinions related to the topic discussed. In our study, the suffix *-mAlI* is followed with the aorist *–DIr*. The authors use *–mAlI–DIr* when additional strength is required in a proposition and it mentions certainty (Sansa Tura, 1986).

Besides the occurrences of *–mAlI–DIr*, the modal verb g*erekli-* (to be necessary) also marks necessity/obligation (Emeksiz 2008). It is derived from the modal auxiliary *gerek-* (Kerimoğlu, 2010). Table 24 demonstrates the frequency and percentage of the modal verb *gerekli-* (to be necessary) in NS and SS.

Table 24. The frequency and percentage of the modal verb *gerekli-* (to be necessary) in NS and SS

Fields	Total number of sentences	f	%
Natural sciences	n= 728	20	2.75 %
Social sciences	n= 690	27	3.91 %

Table 24 demonstrates that the modal verb *gerekli-* (to be necessary) has twenty occurrences in NS and constituted 2.75 % of the total number of sentences. However, the frequency is slightly higher in SS and it comprises 3.91 % of the total number of sentences.

As demonstrated in Tables 23 and 24, the necessity/obligation structures are slightly higher in SS. Kocaman (1996) argues that the verb *gerekli-* (to be necessary) refers to strong obligation. Therefore, it can be concluded that Turkish authors show their full commitment to their propositions. Moreover, the analysis revealed that SS authors employ necessity/obligation modals more frequently than the authors in NS. Since SS authors will have to interpret their data to analyze it, they exhibit their authorial stance more than authors in NS (Boutellier et al., 2011). Related examples are given as follows:

(62) Temiz alanda PZR ve benzeri uygulamaların reaktifleri uygun miktarlarda alikotlanmış olarak bulundurul*malıdır*.

(Güldemir, 2018: 140)

The reagents of PZR and similar applications *must be* kept alicoted in appropriate quantities in the clean area.

(62) Agaroz jelelektroforez ve görüntüleme gibi POST-IVAR işlemler için, PRE-IVAR odasından fiziksel olarak ayrılmış ikinci bir oda *gereklidir*.

(Güldemir, 2018: 140)

For POST-IVAR processes such as agarose gelelelectroforesis and imaging, a second chamber physically separated from the pre-IVAR chamber *is necessary*.

As can be understood from the findings, there is a convention in Turkish academic discourse to present certainty. The necessity/obligation suffix *–mAlI* and the predicate *gerekli-* (to be necessary) are preferred conventionally to demonstrate confidence by Turkish authors.

3.2.4. Adjectival Phrases used in Natural Sciences and Social Sciences Research Articles

The NS sample includes 18.440 words and the SS sample includes 18.025 words. In the analysis, seventeen occurrences of adjectival phrases in NS and twelve uses in SS are

detected. The frequency and percentage of adjectival phrases across NS and SS are presented in Table 25 below.

Table 25. The frequency and percentage of adjectival phrases in NS and SS

Fields	Total number of words	f	%
Natural sciences	n= 18.440	17	2.75 %
Social sciences	n= 18.025	12	3.91 %

Table 25 indicates that adjectival phrases constitute 2.75 % of the total sample with seventeen occurrences in NS. In SS, twelve adjectival phrases are identified, and they comprised 3.91 % of the total number of words. The adjectival phrase detected in the analysis is *önemli* (important). As Biber (1988) states, adjectival phrases are used to expand the information presented in a text. Therefore, we can conclude that NS authors use adjectival phrases to be more persuasive and informative than SS authors. Related examples of adjectival phrases are presented as follows:

(63) Ölçülen kök ve gövde uzunluklarındaki azalma *önemli* düzeydedir. (Özay, 2018: 76)

The decrease in measured stem and stem lengths is in an *important* level.

(64) Uygulanan maddelerin kimyasal yapısı ve ortaya çıkan biyolojik aktivite arasında *önemli* bir ilişki vardır. (Akyıl, 2018: 250)

There is an *important* relationship between the chemical structure of applied substances and the resulting biological activity.

Adjectival phrases are used to expand information (Biber, 1988), so it can be concluded that the authors in NS give more importance to persuade their readers by providing a detailed explanation.

3.2.5. The Overall Discussion of Boosters in Natural Sciences and Social Sciences Research Articles

In this section, the percentage and frequencies of boosters in NS and SS will be discussed. The overall discussion of boosters will be given on the basis of the total

sentences analyzed in NS and SS. The results of the study revealed that 206 boosters are employed in NS and 140 boosters are employed in SS. Total number of boosters are 346. It is observed that boosters are preferred by NS and SS authors to be cautious and accept the opinions of the readers. The overall frequencies and percentages of boosters in NS are given in Table 26.

Table 26. The overall frequency and percentage of boosters in NS

Natural Sciences			
Boosters	The number of sentences	f	%
Private verbs and suassive verbs	728	156	21.42 %
Necessity/obligation modals	728	30	4.12 %
Adjectival Phrases	728	17	2.34 %
Nominal sentences	728	3	0.43 %
Other structures apart from boosters	728	522	71.71 %
Total	728	728	100 %

As demonstrated in Table 26, private verbs and suassive verbs have the highest frequency in NS and comprise 21.42 % of the total sample. 156 private verbs and suassive verbs are identified as boosters. The private verbs identified are ortaya *çık*- (to show up), *bul*- (to find), *sonucuna ulaş*- (to conclude), and *göster*- (to show). Some of the private verbs are found in passive forms. These are; *gözlen*- (to be observed), *doğrulan*- (to be confirmed) and *görül*- (to be seen). The suassive verbs identified in the sample are; *sapta*- (to detect) and *tespit et*- (to identify). The analysis also revealed that the necessity/obligation markers including the suffix *-mAlI* and the modal verb *gerekli*- (to be necessary) are the common ways of boosting among Turkish authors. They have twenty occurrences and comprise 2.74 % of the total sample in NS. Adjectival phrases are relatively less used in NS with seventeen occurrences. The adjectival phrase identified is *önemli* (important). It constitutes 2.34 % of the sample in NS. Nominal sentences are the least common boosters with only three occurrences in 728 sentences in NS sample. The nominal sentence identified is *kanıt*- (to be proof).

In the analysis of SS sample, similar results are obtained in terms of the most frequent boosters. The overall frequency and percentage of boosters in SS are given as follows:

Table 27. The overall frequency and percentage of boosters in SS

Social Sciences			
Boosters	The number of sentences	f	%
Private verbs and Suassive verbs	690	81	11.73 %
Necessity/obligation modals	690	46	6.6 %
Adjectival Phrases	690	12	1.74 %
Nominal sentences	690	1	0.16 %
Other structures apart from boosters	690	550	79.77 %
Total	690	690	100%

As demonstrated in Table 27, private verbs and suassive verbs have the highest frequency in SS with the rate 11.73 % in the total sample. Eighty-one private verbs and suassive verbs are determined as boosters. The private verbs identified are ortaya *çık*- (to show up), *bul*- (to find), *sonucuna ulaş*- (to conclude), and *göster*- (to show). The suassive verbs identified in the sample are; *sapta*- (to detect) and *tespit et*- (to identify). The nature of the field may be the reason why NS authors use more private and suassive verbs because NS is a more fact-oriented field and the authors in this field are involved in the text more directly while presenting their findings (Vazquez & Giner, 2009), and they attach high value to certainty (Hinkel, 2013). Similar to NS, the necessity/obligation modals are detected as the second most frequent boosters in social sciences (SS). They have forty-six occurrences and constituted 6.6 % of the sample. As Biber (1988) argues the necessity/ obligation marker *-mAlI* is an indicator of writer-reader interaction and as can be clearly seen in Table 27, SS authors employ this marker more frequently and give more importance to writer-reader engagement. Unlike NS, the adjectival phrases are less frequently employed in SS. They have twelve occurrences and constitued 1.74 % of the total sentences in the sample. Furthermore, the findings revealed that nominal sentences are quite infrequently employed in SS. The nominal sentence identified is *kanıt*- (to be proof) and only one occurence is detected. If we considere the total occurrences of boosters in the fields, there are 206 boosters in NS and 140 boosters in SS. Vázquez & Giner (2008) claim that we should not expect many boosters in NS because the emprical evidence is presented with numerical data and statistics in this field. Therefore, the data itself is assertive enough. However, our

finding is not in line with this claim because boosters outnumbered in NS. We can conclude that Turkish authors in NS have their own convention while claim making and do not follow the standart norms. This finding is in line with Hinkel's (2013) claim. He states that the cultures, apart from Anglo-American ones give credit to certainty. Also, it seems that NS authors support the idea that there is no such thing as an absolute truth and everything needs to be interpreted from different perspectives.

Hyland (2009) claims that compared to the authors in NS, the authors in SS need to spend more effort to emphasize the significance of their work, so they need to restrict alternative voices by using boosters to establish the strength of their arguments, and persuade their readers. To determine if there is a statistically significant difference in terms of boosters across fields, a non-parametric test Mann-Whitney U was employed. The analysis revealed that although there are some differences in the frequencies of boosters across disciplines, no significant difference in the distribution of boosters was detected across NS and SS ($U = 130.500$; $p = 0.06 > 0.05$). The authors in NS also used boosters to present the importance of their work, although NS are more fact-oriented and depend on mathematically based methods (Boutellier et al., 2011). Therefore, it may be concluded that the authors in both fields demonstrate full commitment to their propositions and show certainty while presenting their findings. This is in line with Uysal's (2012) statement because the researcher claims that Turkish rhetoric is similar to Arabic rhetoric as it favours assertions and overstatements.

CHAPTER 4

CONCLUSION

In this study, hedges and boosters are examined according to Hyland's (2005) interactional metadiscourse category. The data were randomly collected from two fields: natural sciences (NS) and social sciences (SS) and four disciplines, namely biology, chemistry, linguistics and psychological counseling and guidance. A database was developed, including forty research articles (RAs) (ten articles from each discipline). In this section, answers to the research questions are given.

As stated in the discussion section, no significant difference in the frequency of hedges and boosters across fields was found. However, the findings revealed that the authors employ some lexico-grammatical items more frequently as hedges and boosters compared to the other structures detected. For example, possibility structures are employed more frequently in both fields as hedges with 147 occurrences and specialized verbs including private verbs and suassive verbs function as boosters very often with 237 occurrences in total.

4.1. CONCLUSION CONCERNING THE RESEARCH QUESTIONS

In this part, the research questions (RQs) of the study are answered and discussed based on the findings. The first research question is given as follows:

RQ1. What are the hedges in RAs in the fields of NS and SS, and is there any significant difference in the frequency of hedges in these fields?

Hedging is commonly regarded as "a typical trait of academic discourse because it is generally accepted that the members of academia cannot make categorical statements about their own findings" (Hyland, 1996: 433). The findings revealed that the suffix type of possibility *-AbIl* and possibility predicate *mümkün-* (to be possible) have the highest frequencies in NS and SS. The results of the study are in line with the study of Çapar (2014). Her analysis revealed that the most frequent hedges are the possibility suffix *-AbIl* and the possibility predicate *mümkün-* (to be possible). Moreover, the

findings of the study are supported by Vassileva (2001), who asserted that the most frequent surface forms of hedging are the modal verbs.

Besides possibility structures, passive structures are also found to occur frequently in NS and SS. The analyses revealed that the agentless passives are used to hedge by the authors in both fields instead of by- passives. No occurrences of by-passives are found in the sample. Hence, it can be concluded that the authors in both fields give importance to informational content rather than the agent.

Adverbial phrases are used to modify noun phrases, verb phrases, adjectival phrases, and adverbial phrases (Erguvanlı Taylan & Özsoy, 1994). Adverbial phrases were found to be less frequently used in NS and SS. Among 213 hedges in the study, only sixteen adverbial phrases were found as hedges totally. This finding is in line with the study of Akbaş (2014) who concluded that the number of approximative adverbial phrases was limited as hedges in Turkish texts.

Conditional clauses were employed less frequently in both fields as hedges. Among 213 hedges, only fourteen conditional clauses were found in the samples of NS and SS. However, the occurrences of conditional clauses were higher in SS.The reason for this could be the fact that the SS need to base findings on interpretations (Boutellier et al., 2011).

The analysis results revealed that the distribution of hedges with respect to two fields is not statistically different ($U = 188.500$; $p = 0.755 > 0.05$). This finding may indicate that the authors in academy tend to soften their claims to avoid probable opposition of the readers (Doyuran, 2009). Also, it can be said that the authors in NS and SS give importance to communicate with their readers and engage them with their texts.They are conscious of the significance of interaction with the readers and presenting their stance in their texts and tone down to open a discussion on the part of their readers by using hedges (Hyland, 2005). They are aware of the significance of hedges not only to establish a relationship between the writer and the reader but also to manifest authorial stance.

RQ2. What are the boosters in RAs in the fields of NS and SS and is there any significant difference in these fields?

With the purpose of finding the use of boosters, a sample of 728 sentences in NS and a sample of 690 sentences in SS are examined. Among the boosters identified in the samples, private verbs and suassive verbs were found to have the highest frequency in both fields but they were more frequently employed in NS. Thus, it is possible to state that the NS authors attempt to convince their readers more than the SS authors. Also, the difference in the frequency of private and suassive verbs across fields can be due to the fact that NS present empirical data rather than interpretations (Boutellier et al., 2011).

According to the findings, necessity/obligation modals are the second most frequent boosters in the fields of NS and SS but the occurrences were abit higher in SS. Biber (1988) claims that necessity /obligation modals demonstrate author's intention to persuade their readers that certain events need to be performed so we can conclude that the authors in SS use a more authoritative tone while presenting their findings and attempt to convince their readers. The findings also presented that adjectival phrases are employed as boosters by the authors of both fields. The adjectival phrases are more frequently used in NS than SS. Therefore, we can conclude that NS authors emphasize their certainty by using adjectival phrases while discussing their findings. In the analysis, nominal sentences are found to occur less frequently in both fields. Therefore, we can claim that nominal sentences are not preferred as stance indicators by Turkish authors.

The results of Mann-Whitney U test revealed that the distribution of boosters with respect to two fields is not statistically different ($U = 130.500$; $p = 0.06 > 0.05$). As can be understood, NS and SS authors showed certainty and belief in the idea they put forward by employing boosters. Like our study, Takimato (2015) investigated the use of hedges and boosters in NS and SS. His findings showed that hedges and boosters showed higher frequencies in SS. The findings of our study are not in line with his study because hedges and boosters do not show significant difference in terms of frequency.

In short, the data suggest that although there are some differences in the choice of the lexico-grammatical items functioning as hedges and boosters across fields, a straightforward distinction between NS and SS is not feasible if we consider the incidences of hedges and boosters. Our result is consistent with NamazianDost (2017)

who investigated the use of boosters in applied linguistics and medical RAs. He concluded that there is no significant difference between two fields.

4.2. IMPLICATIONS OF THE STUDY

This study aimed to make a contribution to the knowledge related to Turkish researchers' persuasive endavours. The rhetorical conventions of the researchers who produce texts in English have been unveiled through numerous studies. However, we do not have much knowledge related to the rhetorical tendency of Turkish authors in the academic world. Academic writing is objective and impersonal (Hyland, 2000). Therefore, the first thing should be to increase the authors' awareness of academic writing as a way of social act and interaction. Moreover, the authors should have knowledge about the cultural differences in academic writing. The author's stance and reader engagement are linked. It is probable that the authors will present their voice and interact with readers more precisely if they have a better notion of audience in writing. Therefore, if the academicians learn about the conventional ways to introduce a topic, identify sources and convey propositions, this may help them gain credibility in their community (Birkenstein & Graff, 2008).

4.3. SUGGESTIONS FOR FURTHER STUDIES

The current study has investigated the use of hedges and boosters in the results and discussion sections of RAs, so the other sections can be analyzed, and a bigger sample can be used to obtain more generalizable results.

Moreover, two disciplines from NS and two disciplines from SS were analyzed in the present study. More disciplines from each field can be included to reach more reliable results.

In the current study, only hedges and boosters were analyzed from the interactional metadiscourse category proposed by Hyland (2005). However, the other interactional metadiscourse markers can be analyzed to provide a better understanding of Turkish

researchers' rhetorical tendencies and attitudes towards their propositions and their readers.

Lastly, the differences that might appear due to gender in the use of hedges and boosters across the fields have not been in the scope of the analysis. However, the gender factor on rhetoric in RAs can be taken into consideration in the future studies.

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APPENDICES

APPENDIX 1

THE INFORMATION RELATED TO THE JOURNALS

The Name of The Journal	The first Publishing Year	The Publishing Frequency	Publisher
Genel Tıp Dergisi	1938	Four times a year	Selçuk Üniversitesi
Türk Hijyen ve Deneysel Biyoloji Dergisi	2012	Four times a year	Türkiye Halk Sağlığı Kurumu
Iğdır Üniversitesi Dergisi	2011	Four times a year	Iğdır Üniversitesi
Anadolu Briyoloji Dergisi	2015	Twice a year	Çankırı Karatekin Üniversitesi
Süleyman Demirel Üniversitesi Ziraat Fakültesi Dergisi	2006	Twice a year	Isparta Uygulamalı Bilimler Üniversitesi
Journal of Turkish Chemical Society	2014	Four times a year	Türkiye Kimya Derneği
Gazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi,	1986	Four times a year	Gazi Üniversitesi
Tekirdağ Ziraat Fakültesi Dergisi	2005	Three Times a year	Namık Kemal Üniversitesi
Trakya Üniversitesi İktisadi ve İdari Bilimler Fakültesi	2011	Twice a year	Trakya Üniversitesi
Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi	1998	Twice a year	Balıkesir Üniversitesi
Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi	2003	Four times a year	Atatürk Üniversitesi
Hacettepe Üniversitesi Türkiyat Araştırmaları Dergisi	2004	Twice a year	Hacettepe Üniversitesi Türkiyat Araştırmaları Enstitüsü
Dilbilim Araştırmaları Dergisi	1990	Twice a year	Bütek
Gazi Eğitim Dergisi	1985	Three times a year	Gazi Üniversitesi
Türk Psikolojik Danışma ve Rehberlik Dergisi	1990	Four times a year	Türk Psikolojik Danışma ve Rehberlik Derneği
Cumhuriyet Uluslararası Eğitim Dergisi	2011	Four times a year	Cumhuriyet Üniversitesi

APPENDIX 2

THE LIST OF THE RESEARCH ARTICLES

RESEARCH ARTICLES PUBLISHED IN 2017

Güldemir, D. (2017). Moleküler mikrobiyoloji laboratuvarında ortam kontrolü nasıl yapılır.? *Türk hijyen derneği biyoloji dergisi*, 75 (2), 135- 142.

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APPENDIX 3

THE LIST OF INTERACTIONAL METADISCOURSE MARKERS

1. HEDGES

-AbIl (may, might, can)

Beklen- (to be expected)

Civarında (about)

Düşünül- (to be thought)

Hemen hemen (almost)

Mümkün- (to be possible)

Neredeyse (nearly)

-sA (if)

Tahmin edil- (to be estimated)

Yaklaşık (approximately)

2. BOOSTERS

Bul- (to find)

Doğrulan- (to be confirmed)

Gerekli- (to be necessary)

Görül- (to be seen)

Göster- (to show)

Gözlen- (to be observed)

Kanıt- (to be proof)

-mAlI (must, have to)

Ortaya çık- (to show up)

Ortaya kon- (to be revealed)

Ortaya koy- (to reveal)

Önemli (important)

Sapta- (to detect)

Sonucuna ulaş- (to conclude)

Tespit et- (to identify)

APPENDIX 4

THE HEDGES AND BOOSTERS FOUND IN THE RESEARCH ARTICLES

BIOLOGY ARTICLES

B 1. Kargün, K. (2018). CaSR gen polimorfizmin koroner arter hastaların patogenezinde rolünün araştırılması. *Genel Tıp Dergisi*, 28 (3), 121-126.

RESULTS SECTION

1. Ayrıca birçok genetik varyantın farklı KAH risk faktörlerine farklı düzeylerde katkıda bulunduğu *düşünülmektedir*. (p.123)

In addition, many genetic variants *are believed* to contribute to different CAD risk factors at different levels.

2. Türk Kardiyoloji Derneği'nin öncülüğünde 1990 yılından itibaren yürütülmekte olan TEKHARF (Türk Erişkinlerinde Kalp Hastalığı ve Risk Faktörleri) çalışmasının izlem verilerine göre, Türkiye'de 2,0 milyon koroner kalp hastasının bulunduğu ve yaklaşık 160 bin kişinin koroner kalp hastalığından olduğu *düşünülmektedir.*(p.123)

According to follow-up data of the TEKHARF (heart disease and Risk Factors in Turkish Adults) study conducted since 1990 under the leadership of the Turkish Society of Cardiology, it *is thought* that there are 2.0 million coronary heart patients in Turkey and about 160 thousand people have coronary heart disease.

3. Bu çalışma, diyabetin KAH oluşumunda *önemli* bir yer aldığını *göstermektedir*. (p. 123)

This study *shows* that diabetes plays an *important* role in CAD formation.

4. Çalışmamızda diyabet benzer sonuç *göstermektedir*. (p.123)

Our study *shows* similar results in diabetes.

5. Lipit profili KAH patogenezinde *önemli* faktörlerden biridir. (p.123)

Lipid profile is one of the *important* factors in Kahpatogenesis.

6. Nakamura ve arkadaşlarının çalışması, Adiponektinin plazma konsantrasyonları KAH hatta AKS gelişimi üzerine bile etkili olduğunu *göstermektedir*. (p.124)

The study of Nakamura and colleagues *shows* that adiponectin is effective on plasma concentrations and even on axle development.

DISCUSSION SECTION

7. Adiponektinin plazma konsantrasyonunun ölçülmesi KAH riskini değerlendirmek adına önemli bir tamlayan ol*abil*mektedir. (p.124)

Measuring the plasma concentration of adiponectin *may* be an important complement to assess the risk of CAD.

8. Kalsiyum duyarlı reseptör (CASR), kalsiyum metabolizmasının düzenlenmesi için *önemli*dir. (p.127)

Calcium-sensitive receptor (CASR) is *important* for the regulation of calcium metabolism.

9. 2015 de KAHlarda yaptığımız çalışma adiponektin rs2241766 genpolimorfizminin KAH riskini azalttığını, ancak leptin reseptörü rs1137101 ve rs7799039 gen polimorfizminin riski artırdığını *göstermiştir*. (p.124)

Our study in Kahlar in 2015 *demonstrated* that adiponectin rs2241766 genpolimorphism reduces the risk of CAD, but leptin receptor rs1137101 and rs7799039 gene polymorphism increase the risk.

10. Kumada ve arkadaşları, Çinde 2169 obez hastada yaptıkları calışmada CaSR R990G polimorfizmihipertrigliseridemi ile ilişkili ve aynı zamanda serum trigliserit duzeylerinde anlamlı artış *tespit etmişlerdir*. (p.124)

Kumada et al. *have found* a significant increase in serum triglyceride levels associated with CaSR r990g polymorphismhypertrigyceridemia in their study of 2169 obese patients in China.

11. Kafkas toplumunun üzerine yapılan bir çalışmada koronerarter hastalığı (KAH), miyokard enfarktusu (MI) ve kardiyovaskuler mortalitenin bağımsız bir genetik belirleyicisi olduğu *tespit edilmiştir*. (p.124)

In a study of Caucasian society, it *was found* that coronararter disease (CAD), myocardial infarction (MI) and cardiovascular mortality are an independent genetic predictor.

12. CaSR genine ait rs1048213, ile KAH hastaları arasında anlamlılık *tespit edilmez* iken, KAH hastalarında tespit edilen, rs9883099 polimorfizmi ve A alleli kontrol grubu ile karşılaştırıldığında istatiksel olarak anlamlı *bulundu*. (p.124)

Rs1048213 of the CaSR gene *was found* to be statistically significant compared to the control group of rs9883099polimorphism and a allele detected in CAD patients, while no significance *was detected* between CAD patients and CAD patients.

13. 2015 yılında Babinsky VN ve ark. yapmış oldukları calışmada CASR SNP'leri serum glikoz ve fosfat konsantrasyonlarının bağımsız belirleyicileri olduğunu ancak vaskuler kalsifikasyon veya kardiyovaskuler sonucların belirleyicileri olmadığını *göstermişlerdir*. (p.124)

In 2015 Babinsky VN et al *showed* in their study that CASR SNPs are independent predictors of serum glucose and phosphate concentrations but not determinants of vascular calcification or cardiovascular results.

14. Biyokimyasal parametreler vücut kitle indeksi (VKİ), Hipertansiyon; Diyabet, Sigara içme, Toplam kolesterol, Trigliseritler, HDL kolesterol, LDL kolesterol değerleri arasında anlamlılık *tespit edilmiştir*. (p.124)

Biochemical parameters *were found* to be significant between body mass index (BMI), hypertension; diabetes, smoking, total cholesterol, triglycerides, HDL cholesterol, LDL cholesterol values.

15. Çalışmamız CaSR genin, rs9883099polimorfizmive A alleli ile KAH arasında bir ilişki olduğunu *göstermiştir*. (p.124)

Our study *demonstrated* that the CaSR gene has an association between RS9883099POLIMORPHISM and A allele and CAD.

16. Yapılan çalışmaların sonuçlarına bakıldığında, CaSR gen polimorfizminin sonuçları açısından çelişkili bilgiler *bulunmuştur*. (p.125)

Looking at the results of the studies, contradictory information *was found* in terms of the results of CaSR gene polymorphism.

17. Bu genetik çalışmalar arasındaki farklılık etnik farklılıklar nedeniyle veya kontrol ve hasta grupları için farklı secim kriterleri nedeni ile ol*abilir*. (p.125)

The difference between these genetic studies *might* be due to ethnic differences or due to different selection criteria for control and patient groups.

B 2. Dülgeroğlu, Y. (2018). Spotchem EZ SP-4430 kuru kimya cihazında çalışılan bazı biyokimya testlerin verifikasyonu. *Türk Hijyen ve Deneysel Biyoloji Dergisi*, 75(2), 127-134.

RESULTS SECTION

1. ALT ve kalsiyum için ikinci seviye kontrol değerleri ile yapılan analizlerin çalışma içi kesinlik değerlerinin kabul edilebilir sınırların dışında oluşu, bu testlerin oransal bir hataya sahip oldukları şeklinde yorum*lanabilir*. (p.132)

Analysis with lower and second level control values for calcium is outside the acceptable limits of the accuracy values in the study, these tests *may* be interpreted as having a proportional error.

2.Bias değerleri açısından bakıldığında kalsiyum testinin daha kapsamlı bir çalışma ile değerlendirilmesi gerektiği *düşünülmektedir*. (p.132)

From the point of view of Bias values, it *is thought* that calcium testing should be evaluated with a more comprehensive study.

3. Bu nedenle, ALT testinin kesinlik değerlendirilmesi için ikiden fazla konsantrasyonu içeren ve daha geniş kapsamlı bir çalışma yapılmasının uygun olacağı *düşünülmüştür.* (p.134)

For this reason, it *was thought* that it would be appropriate to conduct a more wide-ranging study involving more than two concentrations to assess the accuracy of the subtest.

4. Ancak ALT testinin bias değerleri kabul gören bir performans *göstermiştir*. (p.132)

But the bias values of the subtest *indicated* acceptable performance.

5. Bu nedenle de çalışmanın bir ön değerlendirme açısından ilgililere fayda sağlaması *mümkün*dür. (p.133)

For this reason, it is *possible* that the study will benefit the interested parties in terms of a preliminary assessment.

6. Çalışmamızın bazı kısıtlılıklara sahip olduğu söylen*ebilir*. (p.134)

It *might* be said that our study has some limitations.

DISCUSSION SECTION

7. Üretici firmaların bu değerleri, kit prospektüslerinde bulundurmalarının klinik laboratuvarlarda yapılan bu ve benzer verifikasyon çalışmaları açısından önemli olduğu *düşünülmektedir*. (p.132)

It *is considered* necessary and important for manufacturers to have these values in kit prospectuses from the point of view of these and similar verification studies conducted in clinical laboratories.

8. ALT testinin ise çalışma içi kesinlik değerleri açısından daha geniş kapsamlı çalışmalarla değerlendirilmesinin uygun olacağı *düşünülmektedir.* (p.133)

It *is thought* that it would be appropriate to evaluate the subtest in terms of in-study accuracy values with more wide-ranging studies.

B 3. Güldemir, D. (2017). Moleküler mikrobiyoloji laboratuvarında ortam kontrolü nasıl yapılır.? *Türk Hijyen Derneği Biyoloji Dergisi*, 75 (2), 135- 142.

RESULTS SECTION

1. PZR gibi testlerde hedef molekülün siklus sayısına göre yaklaşık n 35-40 kopyası üretilir ve testlerin duyarlılığı *önemli*dir. (p.140)

In tests such as PZR, approximately N35-40kopy of the target molecule is produced according to the number of cycles and the sensitivity of the tests is *important.*

2. İşte bu nedenlerle, moleküler mikrobiyoloji laboratuvarlarında tedbirler alınmazsa çapraz bulaş ile sonuçlan*abilir*. (p.140)

For these reasons, if the measures are not taken in molecular microbiology laboratories, it *may* lead to cross-contamination.

3. Dahası ortamın çapraz amplikonlarla kontamine olması, laboratuvarda çalışılan tüm IVAR testlerinde yanlış pozitifliğe neden olacağından laboratuvarın faaliyetinin durması *gerekir.* (p.141)

Moreover, it is *necessary* that the laboratory stop operating, as the environment is contaminated with cross-amplicons, which will cause false positives in all IVAR tests studied in the laboratory

4. Bu sayede, moleküler mikrobiyoloji laboratuvarlarında çalışma esnasında kullanılan/ elde edilen materyale dışarıdan herhangi bir bulaşın önlenmesi veya en aza indirilmesi *mümkün*dür. (p.141)

In this way, it is *possible* to prevent or minimize any external contamination of the material used/obtained during work in molecular microbiology laboratories.

5. IVAR reaktifleri ve örneklerin hazırlanması için bir oda (PREIVAR) belirlen*meli*dir. (p.140)

A chamber (PREIVAR) *must* be determined for the preparation of Ivar reagents and samples.

6. Bu alana POST-IVAR tüpleri veya DNA/RNA gir*memeli*dir. (p.140)

POST-IVAR tubes or DNA/RNA *must not* enter this area.

7. Agaroz jelelektroforez ve görüntüleme gibi POST-IVAR işlemler için, PRE-IVAR odasından fiziksel olarak ayrılmış ikinci bir oda *gerekli*dir. (p.140)

For post-IVAR processes such as agarose gelelectrophoresis and imaging, a second chamber physically separated from the PRE-IVAR chamber is *necessary.*

8. Temiz odada pozitif hava basıncı, POST-IVAR odada ise negatif hava basıncı sağlanması amplikonların kirli alandan temiz alan bulaşını önlemede *önemli*dir. (p.140)

Providing positive air pressure in the clean room and negative air pressure in the POST-IVAR room is *important* to prevent clean area contamination of amplicons from the dirty area.

DISCUSSION SECTION

9. Uzmanlara göre, moleküler mikrobiyoloji laboratuvarında, çapraz bulaşı önlemek için PRE ve POST-IVAR alanlarda kullanılan otomatik pipetler, pipet uçları, eldivenler, küçük masa üstü santrifüjleri, tüp sporları başta olmak üzere tüm cihaz ve ekipmanlar ayrıl*malı*dır. (p.141)

According to experts, in a molecular microbiology laboratory, to prevent cross transmission, pre-and post-IVAR that is used in areas of automatic pipettes, pipette tips, gloves, small table top centrifuge tube apparatus and equipment, including all sports *must* be completely separated.

10. Bu cihazlar laboratuvarlar arasında taşın*mamalı*dır. (p.141)

These devices *must not* be transported between laboratories.

11. Farklı renklerdeki laboratuvar önlükleri bu amaçla kullanışlı ol*abilir*. (p.141)

Laboratory aprons of different colors *may* be useful for this purpose.

12. Labratuvar kurallarına göre, temiz alanda PZR ve benzeri uygulamaların reaktifleri uygun miktarlarda alikotlanmış olarak bulundurul*malı* ve uzun süreli saklama sınırlandırıl*malı*dır. (p.141)

According to laboratory rules, reagents of PZR and similar applications must be kept in the clean area in appropriate quantities alicoted (booster) and long-term storage *must* be limited.

13. Bu konudaki genel yaklaşımın bulaş ortaya çıktıktan sonra kaynağının araştırılması şeklinde olduğu söylen*ebilir*. (p.141)

It *may* be said that the general approach to this issue is to investigate the source of the infection after it has appeared.

B 4. Aygün, Ö. (2018). Adana ilindeki bazı çiftçilerin genetiği değiştirilmiş tohumlar hakkındaki bilgi düzeyleri ve tutumları. *Türk Hijyen Derneği Biyoloji Dergisi*, 75 (2), 153 – 168.

RESULTS SECTION

1. Ayrıca evli, 40 yaş ve üzeri olan, eğitim düzeyi lise ve üzeri katılımcıların GD ürünlere olumsuz baktığı bu çalışmamızda *ortaya konmuştur.* (p.164)

In addition, in this study, it *was found* that participants who were married, 40 years of age and older, had a negative view of GD products.

2. Ayrıca tüketicilerin GD ürünlere yönelik olumlu veya olumsuz tutumlarının onların GDO ürünleri satın alma davranışlarının üzerinde etkili olduğu *ortaya konmuştur.* (p.165)

In addition, it *has been found* that consumers ' positive or negative attitudes towards GD products have an effect on their behavior of purchasing GMO products.

3. Erkeklerin kadınlara göre GD ürünlerden oranda haberdar oldukları, ancak GD ürünler ile ilgili bilgi ve tutumları açısından cinsiyetin etkili bir faktör olmadığı *ortaya konmuştur*. (p.165)

It *has been found* that men are more aware of GD products than women, but sex is not an effective factor in terms of their knowledge and attitude to GD products.

4. Çalışmada halkın GD ürünlere ilişkin fayda ve risk algılarının, bu ürünlerin üretilme süreçlerine ilişkin etik inançlarının yaşa bağlı olarak değiştiği *ortaya konmuştur.* (p.164)

It *has been found* in the study that the public's perceptions of benefits and risks related to GD products and their ethical beliefs about the production processes of these products vary depending on age.

5. Literatürdeki diğer çalışmalarda, özellikle 35 yaş ve üzerindeki bireylerin GD ürünlere ilişkin fayda algıları daha yüksek iken, 34 yaş ve daha küçük bireylerin GD ürünlere ve üretilme süreçlerine ilişkin risk algılarının daha yüksek, GD ürünlere ve üretilme süreçlerine ilişkin etik inançlarının daha güçlü olduğu *bulunmuştur.* (p.163)

It *has been found* in other studies in the literature that individuals aged 35 and over have a higher perception of the benefit of GD products, while individuals aged 34 and younger have a higher perception of the risk of GD products and their production processes, and stronger ethical beliefs about GD products and their production processes.

6. Yapılan çalışmalara benzer olarak çalışmamızda da eğitim düzeyinin yüksek olmasının, GD ürünlerle ilgili farkındalık ve tutumları olumlu yönde değiştirdiği söylen*ebilir*. (p.163)

Similar to the studies conducted in our study, it *may* be said that the high level of education positively changes awareness and attitudes about GD products.

7. Anket sonuçlarında tüketicilerin GD ürünlere yönelik olumlu veya olumsuz tutumlarının onların GD ürünleri satınalma davranışlarının üzerinde etkili olduğu *ortaya konmuştur*. (p.164)

The survey results *revealed* that consumers ' positive or negative attitudes towards GD products have an impact on their behavior buying GD products.

8. Bu sonuçlar ışığında, özellikle eğitim düzeyi düşük, bekar ve genç yaşta tarımda çalışan ve üreten grup olan çiftçilerin GD ürünler ve etkileri konularında farkındalıklarının artırılması için bilgilendirme yapılması gereklidir (p.164)

In light of these results, it *is necessary* to inform farmers who are working and producing in agriculture at a low level of Education, single and young age in order to increase their awareness of GD products and their effects.

9. Çalışmamızda, ülkemizde GD ürünlere yönelik olumsuz tutumların yüksek düzeyde olmasının, GD ürünlerinin satın alınmasını zorlaştırdığı *tespit edilmiştir.* (p.163)

In our study, it *was found* that high levels of negative attitudes towards GD products in our country make it difficult to buy GD products.

10. Ancak, bu tohumların kontrolsüz kullanımı konusunda ve GD ürün içeren ekmeği tüketmede bir olumsuz yaklaşım içinde oldukları *görülmüştür.* (p.163)

However, they *have been observed* to take a negative approach to uncontrolled use of these seeds and to consume bread containing GD products.

11. Çalışmaya katılanların %60.6'sının erkek, %56.6'sının 40 yaş üstü, %60.6'sının evli, %79,5'inin eğitim düzeyinin ilkokul ve okur-yazar olduğu *görülmüştür.* (p.157)

It *was seen* that 60.6% of the study participants were male, 56.6% were over 40 years of age, 60.6% were married, 79.5% had primary and literate educational attainable.

12. Çalışmamızda, cinsiyet ile katılımcıların GD ürünlerle ilgili tutumları arasında anlamlı bir ilişki *saptanmamıştır*. (p.165)

In our study, no significant relationship *was detected* between sex and participants ' attitudes towards GD products.

13. Ancak yapılan bazı çalışmalarda, erkeklerin kadınlara göre GD ürünlerden daha fazla oranda haberdar oldukları, ancak GD ürünler ile ilgili bilgi ve tutumları açısından cinsiyetin etkili bir faktör olmadığı *ortaya konmuştur.* (p.165)

But in some studies, it *has been revealed* that men are more aware of GD products than women, but sex is not an effective factor in terms of their knowledge and attitude to GD products.

14. Katılımcıların cinsiyetlerine göre GD ürünlerle ilgili tutum ve uygulamaları arasında istatistiksel olarak anlamlı farklılık *saptanmamıştır.* (p.165)

No statistically significant differences *were detected* between attitudes and practices related to GD products according to the sexes of participants.

15. Ortaokul (%73, 5) ve üstü (%87, 5) eğitim düzeyinde olanların okur-yazar, ilkokul eğitim düzeylerine göre tarım ilaçları yerine yeni teknolojilerin kullanımına karşı olması ve ayrıca GD tohumların insan sağlığına zararlı olduğunu düşünmeleri istatistiksel olarak anlamlı *bulunmuştur.* (p.163)

It *was found* statistically significant that those who were in secondary school (73.5%) and above (87.5%) were literate, opposed to the use of new technologies instead of pesticides according to their primary school education level, and also thought that GD seeds were harmful to human health.

DISCUSSION SECTION

16. Çalışmamızda ise yaşı daha büyük olanların (26 yaş ve üzeri) GD ürünlere karşı olumsuz yaklaşım içinde olduğu *görülmüştür.* (p.165)

In our study, it *was observed* that older people (26 years and older) had a negative approach to GD products

17. Sonuç olarak hem kadınların hem de erkeklerin tutumlarının çalışmanınbulgularıyla paralel olduğu söylen*ebilir*. (p.165)

As a result, it *might* be said that the attitudes of both women and men are in line with the findings of the study.

18. Eğitim düzeyi düşük olan katılımcıların çoğunluğunun tohumların genetik yapısının değişmesine ve kontrolsüz GD tohumların kullanmasına olumlu; eğitimi lise ve üstü

düzeyde olanların GD tohumlara karşı olduğu ve kontrolsüz GD tohumların kullanmasına olumsuz yaklaştığı *saptanmıştır.* (p.165)

It was *detected* that the majority of participants with a low level of education were positive for changing the genetic structure of seeds and using uncontrolled GD seeds; those with high school education and higher education were against GD seeds and negatively approached the use of uncontrolled GD seeds.

19. Çalışmamızda, eğitim düzeyi düşük olanların GD ürünleri tüketmede sakınca görmediğini ve sağlık risklerini önemsemediğini, ancak özellikle lise ve üzeri eğitim düzeyindekilerin de tam aksine sağlık endişesinin ve bu ürünlerin zararlarına yönelik olumsuz tutumların olduğunu *ortaya konmuştur*. (p.165)

In our study, it *was revealed* that those with low education levels do not mind consuming GD products and do not care about health risks, but especially those with high school and higher education levels have health concerns and negative attitudes towards the harm of these products.

20. Çalışmada, 26 yaş ve üzerindeki, eğitim düzeyi lise ve üzeri olan katılımcıların çoğunun GD ürünlere olumsuz baktığı *tespit edilmiştir.* (p.165)

In the study, it *was identified* that most participants aged 26 and over, with an educational level of high school and above, viewed GD products negatively.

21. 34 yaş ve daha küçük bireylerin GD ürünlere ve üretilme süreçlerine ilişkin risk algılarının daha yüksek, GD ürünlere ve üretilme süreçlerine ilişkin etik inançlarının daha güçlü olduğu *bulunmuştur.* (p.165)

It *has been found* that individuals 34 years and younger have a higher risk perception of GD products and production processes, and a stronger ethical belief in GD products and production processs.

22. 18-25 yaş grubu katılımcıların %36.6'sının GD tohumların kullanmasının insan sağlığına zararlı olduğunu düşünmediği ve bu ürünlerden rahatsızlık duymadığı *tespit edilmiştir.* (p.165)

It *was identified* that 36.6% of participants aged 18-25 did not think that the use of GD seeds was harmful to human health and did not feel uncomfortable with these products.

23. Ülkemizde de GD ürünlerle ile ilgili halkın düşüncelerini ölçmek amacıyla yapılan bir çalışmada, tüketicilerin GD ürünler hakkında bilgili olma oranının eğitim düzeyi arttıkça yükseldiği *tespit edilmiştir.* (p.165)

In a study conducted in our country to measure the public's thoughts about GD products, it *was identified* that the rate at which consumers are aware of GD products increases as their level of education increases.

24. Yapılan bazı çalışmalarda ise, yüksek eğitimlilerin düşük eğitimlilere göre GD ürünlerle ilgili daha doğru bilgi ve tutumların olduğu *ortaya konmuştur.* (p.164)

In some studies, it *has been revealed* that high-educated people have more accurate knowledge and attitudes about GD products than low-educated people.

25. Katılımcıların bu ürünlerin sağlığa etkileri ve çeşitli zararları ile ilgili tutumlarında da olumsuz bakış açılarının olmadığı *saptanmıştır.* (p.164)

It *was also detected* that the participants did not have negative perspectives in their attitudes about the health effects and various harms of these products.

26. Bu sonuçlar ışığında, özellikle eğitim düzeyi düşük, bekar ve genç yaşta tarımda çalışan ve üreten grup olan çiftçilerin GD ürünler ve etkileri konularında farkındalıklarının artırılması için bilgilendirme yapılması *gerekli*dir. (p.166)

In light of these results, it is *necessary* to inform farmers who are working and producing in agriculture at a low level of Education, single and young age in order to increase their awareness of GD products and their effects.

27. Çalışma sonucunda, katılımcıların GD ürünlerin tarımda kullanımı, tüketilmesi ve olası zararları/riskleri ile ilgili tutumlarında da olumsuz bakış açılarının olmadığı *saptanmıştır.* (p.166)

As a result of the study, it *was detected* that participants also did not have negative perspectives in their attitudes about the use, consumption and possible harm/risks of GD products in agriculture.

28. Daha önce belirtildiği gibi, Katılımcıların cinsiyetlerine göre GDO ilgili tutum ve uygulamaları karşılaştırılması sonucunda, istatistiksel olarak anlamlı farklılık *saptanmamıştır*. (p.166)

As mentioned earlier, as a result of comparing GMO-related attitudes and practices according to the gender of participants, no statistically significant differences *were detected.*

29. Türkiye'de yapılan epidemiyolojik çalışmalarda GD ürünler *önemli* bir yere sahiptir. (p.166)

In epidemiological studies conducted in Turkey, GD products have an *important* place.

B 5. Aygün, Ö. (2018). Adana ilindeki bazı çiftçilerin genetiği değiştirilmiş tohumlar hakkındaki bilgi düzeyleri ve tutumları. *Türk Hijyen Derneği Biyoloji Dergisi*, 75 (2), 153 – 168.

RESULTS SECTION

1. Tüm gruplarda en yüksek çimlenme yüzdesi kontrol grubunda oluşurken, Mn hariç diğer ağır metal uygulamaları ile kontrol arasındaki fark anlamlı ($p<0.05$) *bulunmuştur.* (p.73)

While the highest germination percentage in all groups occurred in the control group, the difference between other heavy metal applications and control with the exception of Mn was found to be *important* ($p<0.05$).

2. En düşük çimlenme yüzdesi 7mM Cu uygulamasında iken, Cu'nun kontrol grubuna göre çimlenmeyi %58,9 oranında düşürdüğü *tespit edilmiştir.* (p.73)

While the lowest germination percentage was in 7mm Cu application, Cu *was identified* to reduce fracking by 58.9% compared to the control group.

3. Bitki büyümesi için önemli bir iz element olan Mn, en yüksek konsantrasyonda tohum çimlenmesi üzerinde düşük oranda (%21,5) negatif etki *göstermiştir.* (p.74)

Mn, a trace element required for plant growth, *showed* a low (21.5%) negative effect on seed germination at the highest concentration.

4. Bu sonuç bize *Brassica rapa* L. tohumlarının Pb'a olan toleransını *göstermektedir.* (p.74)

This result *shows* us the tolerance of Brassica rapa L. seeds to Pb.

5. Ölçülen kök ve gövde uzunluklarının ağır metal konsantrasyonunun artışına bağlı olarak azalması önemli bir durumdur. (p.74)

It is *important* that the measured Root and stem lengths decrease due to the increase in heavy metal concentration.

6. Beş ve 7 mM Cu uygulaması kök ve gövde uzamasını inhibe ed*ebilir*. (p.74)

Application of five and 7 mM Fru *may* inhibite Root and stem elongation.

7. Mn'ın tüm konsantrasyonlarında gövde köke göre daha çok etkilenmiştir. Buradan gövdenin Mn'a karşı daha hassas olduğu sonucuna ulaşıl*abilir.* (p.74)

At all concentrations of MN, the trunk is more affected than the root. From here, the conclusion *may* be reached that the hull is more sensitive to Mn.

8. Bu çalışma, kök büyümesindeki inhibisyonun nedeni olarak kök meristemindeki hücrelerin uzamasını ve/veya hücre bölünmesinin zarar görmesini *göstermektedir.* (p.75)

This study *demonstrates* elongation of cells in the root meristem and/or damage to cell division as the cause of inhibition in root growth.

9. Bize göre, bu durumun sebebi tohum kabuğunun metal alınımına karşı bariyer olarak rol almasından kaynaklan*abilir.* (p.75)

According to us, the reason for this situation *may* derive from the role of the seed coat as a barrier against metal removal.

10. Bazı ağır metallerin, Hint hardalı (*Brassica juncea*)' nın kök ve gövde uzaması üzerine olan etkileri incelendiğinde; Pb, Ar, Cd ve Ni'in Se, Cr ve Cu'a göre kök ve gövde uzamasında daha çok azalmaya sebep olduğu *tespit edilmiştir.* (p.75)

When the effects of some heavy metals on Root and stem elongation of Indian mustard (Brassica juncea) were examined, it *was identified* that Pb, Ar, Cd and Ni caused a greater reduction in Root and stem elongation than Se, Cr and Cu.

11. Çalışmada artan Cd konsantrasyonuna bağlı kök ve gövde gelişiminde azalmalar *görülmüştür*. (p.75)

In the study, reductions in Root and STEM development due to increased CD concentration *were seen.*

12. Yem şalgamının (*Brassica rapa* L. var. *rapa*) kök ve gövdesinde kurşun biriktirme bakımından oldukça kabiliyetli olduğu daha önceki bir çalışmada *tespit edilmiştir.* (p.75)

Bait turnip (Brassica rapa L.) there is. rapa) *was identified* in an earlier study to be highly capable in terms of lead accumulation in the root and trunk.

13. Brassica juncea' üzerinde yapılan bir çalışmada (Chaturvedi, 2004) artan Cd konsantrasyonuna bağlı kök ve gövde gelişiminde azalmalar *görülmüştür.* (p.76)

In a study on' Brassica juncea'(Chaturvedi, 2004), decreases in Root and STEM development *have been observed* due to increased CD concentration.

14. Yaptığımız ICP-OES analizleri, yem şalgamının 1, 3 ve5 mM Pb uygulamasında, toprak üstü kısmında 1000 mg/kg'dan daha fazla Pb biriktirme yeteneğine sahip olduğunu *göstermiştir.* (p.76)

Our ICP-OES analyses *have shown* that feed turnips are capable of accumulating more than 1000 mg/kg of PB in 1, 3 and 5 mM Pb application in the above-ground part.

DISCUSSION SECTION

15. Büyüme ortamındaki artan Pb konsantrasyonuna bağlı Pb alımında bir artış *gözlenmiştir.* (p.76)

An increase in PB intake *was observed* due to increased concentration of Pb in the growth environment.

16. Bununla birlikte köklerde daha fazla Pb birikimi olduğu *bulunmuştur*. (p.76)

However, it *has been found* that there is more PB accumulation in the roots.

17. Pb'ye toleranslı olduğu bilinen yem şalgamının tohumlarında Mn'dan sonra en yüksek çimlenme yüzdesinin Pb uygulamasında görülmesi, bu türün toksisite eşik değerinin yüksek olduğunun *kanıtıdır.* (p.76)

The fact that the highest percentage of germination after Mn in seeds of feed turnips known to be tolerant of PB are seen in pb *is proof* that the toxicity threshold value of this species is high.

18. Pb'den daha yüksek çimlenme oranına sahip olan Mn'ın fide gelişimi evresinde kök ve gövde dokularında Mn biriktirme oranına bakılarak yem şalgamının Mn hiper akümülatörü olup olmadığı araştırıl*abilir*. (p.76)

By looking at the Mn deposition rate in Root and stem tissues during the seedling development phase of Mn, which has a higher germination rate than PB, it *may* be investigated whether the feed turnip is a Mn hyper accumulator.

B 6. Aygün, Ö. (2018). Adana ilindeki bazı çiftçilerin genetiği değiştirilmiş tohumlar hakkındaki bilgi düzeyleri ve tutumları. *Türk Hijyen Derneği Biyoloji Dergisi*, 75 (2), 153 – 168.

RESULTS SECTION

1. Benzer şekilde, sıvı kültür ortamında Mangifera indica, Curcuma longa, Ocimum basilicum Ceratophyllumdemersum L. (Dogan ve ark., 2015) bitkileri üzerinde de çoklu sürgün oluşumları *tespit edilmiştir*. (p.80)

Similarly, in liquid culture media, multiple shoot formations *have also been identified* on Mangifera indica, Curcuma longa, Ocimum basilicum Ceratophyllumdemersum L. crops (Dogan et al., 2015).

2. Boğum ve boğum arası eksplantlarında sürgün rejenerasyon yüzdesi bakımından ortamlar arasında anlamlı bir farklılık tespit edilmemiştir ama sürgün uzunluğu ve sayısı açısından önemli farklılıklar *tespit edilmiştir.* (p.80)

No significant differences *were identified* between environments in terms of the percentage of shoot regeneration in knuckle and knuckle explants, but significant differences were found in terms of shoot length and number.

3. Sürgün rejenerasyon yüzdesi boğum eksplantında %83, 33-100 arasında *tespit edilmiştir*. (p.81)

The percentage of shoot regeneration *was identified* between 83.33-100% in knuckle explant.

4. Genel olarak boğum eksplantlarındaki sürgün rejenerasyon yüzdeleri, boğum arası eksplantlarına kıyasla daha yüksek *bulunmuştur*. (p.81)

In general, shoot regeneration percentages in knuckle explants *were found* to be higher compared to knuckle explants.

5. Ayrıca, boğum arası eksplantlarda kültür ortamlarında kullanılan TDZ oranı arttıkça sürgün rejenerasyon oranında da düşüş *görülmüştür.* (p.81)

In addition, as the rate of TDZ used in culture environments in cross-knuckle explants increases, a decrease *has been observed* in the rate of Exile regeneration.

6. Dogan ve ark. (2015) sürgün rejenerasyon yüzdesini sürgün ucu, 1. boğum arası ve 2.boğum arası eksplantları için %85 -100 arasında *tespit etmişlerdir.* (p.82)

Dogan et al. (2015) *have identified* exile regeneration percentage between 85 and 100% for exile tip, 1. knuckle break and 2.for cross-knuckle explants.

7. Kher, et al. (2013) en yüksek sürgün sayısını ise en az oranda kullanılan TDZ (0,5 mg dm-3) konsantrasyonunda *tespit etmişlerdir.* (p.82)

Kher, et al. (2013) *have identified* the highest number of shoots at the lowest concentration of TDZ (0,5 mg dm-3).

8. Çalışmamızda en düşük sürgün sayısı büyüme düzenleyici oranının en düşük oranda kullanıldığı (0,05 mg L-1 TDZ + 0.10 mgL-1 GA3) kültür ortamında *saptanmıştır.* (p.82)

In our study, the lowest number of shoots *was detected* in the culture environment where the lowest growth regulatory rate was used (0,05 mg L-1 TDZ + 0.10 mgL-1 GA3)

DISCUSSION SECTION

9. Çalışmamızda en kısa sürgünler her iki eksplant tipi içinde 1, 60 mg L-1 TD + 0, 10 mg L-1 GA3 eklenmiş kültürde *tespit edilmiştir.* (p.83)

In our study, the shortest shoots *were identified* in culture with 1, 60 mg L-1 TD + 0, 10 mg L-1 GA3 added in both explant types.

11. Buna karşın çalışmamızda en kısa sürgünler, TDZ'nin en düşük oranda kullanıldığı 5 µM'de *tespit edilmiştir.* (p.83)

In contrast, in our study, the shortest shoots *were identified* at 5 µm, where tdz was used at the lowest rate.

12. Bu durum, TDZ sürgün uzunluğu üzerine etkisinin bitki çeşidine göre değiştiğini *göstermektedir.* (p.83)

This *indicates* that the effect of TDZ on shoot length varies according to plant variety.

13. Boğum eksplantı için en iyi hormon kombinasyonu 0,40 mg L-1TDZ + 0,10 mg L-1 GA3 olarak, boğum arası için en iyi hormon kombinasyonu 0,20 mg L-1 TDZ + 0,10 mg L-1 GA3 olarak *tespit edilmiştir*. (p.83)

The best combination of hormones for knuckle expansion *was identified* to be 0,40 mg L-1tdz + 0,10 mg L-1 GA3, and the best combination of hormones for knuckle expansion was found to be 0,20 mg l-1 TDZ + 0,10 mg L-1 GA3.

14. Her iki eksplant tipi için de sürgün uzunlukları bakımından düşük oranda (0.05 ve 0,10 mg L-1) kullanılan TDZ daha yüksek sonuçlar *göstermiştir.* (p.83)

Tdz, which was used at a low rate (0.05 and 0,10 mg L-1) in terms of shoot lengths for both types of explant, *showed* higher results.

15. Her iki eksplant tipi için de en uzun sürgün uzunlukları 0,05 mg L-1 TDZ + 0,10 mg L-1 GA3 kombinasyonunu içeren MS besin ortamında *görülmüştür.* (p.83)

The longest shoot lengths for both types of explant *were observed* in the MS nutrient environment, which included a combination of 0,05 mg l-1 TDZ + 0,10 mg L-1 GA3.

B 7. Demirci, Ö. (2018). İmidakloprit ve asetamiprit'in *gammarus kischineffensis (*amphipoda: crustacea) üzerine akut eoksik etkisinin değerlendirilmesi. *Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi,* 8 (3), 85- 92. DOI: 10.21597 / jist. 458583.

RESULTS SECTIONS

1. Davranışsal yanıtlar, biyokimyasal ve fizyolojik yanıtlar kadar benzer duyarlılık ve verimlilikte görünmektedir ve bu yanıtların dayanıklılığı ve sürekli nedeni ile uzun vadeli izlenebilmesi *mümkündür*. (p.87)

Behavioral responses appear to have similar sensitivity and efficiency as biochemical and physiological responses and it is *possible* that these responses can be monitored long-term due to their durability and continuous reason.

2. Çünkü çiftleşme davranışındaki değişiklikler (Prekopulasyon) ksenobiyotik madde maruziyetinde daha kolay gözlemlen*ebilir*. (p.87)

Because changes in mating behavior (Precopulation) *may* be more easily observed in xenobiotic substance exposure.

3. Çalışmamızda Gammarus pulex için asetamiprit analitik standardının 96 saatlik LC50 değeri 50.0 µg L-1 olarak bulunmuştur. (p.88)

In our study, 96 hours of LC50 value of acetamiprit analytical standard for gammarus pulex was found to be 50.0 µg L-1.

4. Bu deneyde asetamipritin ticari formuna maruz bırakılan Gammarus fossarum türünün bireylerinin 7 günlük LC20 değerini 21.34 µg L-1 olarak *saptandı.* (p.88)

In the experiment, the 7-day LC20 value of individuals of the gammarus fossarum species exposed to the commercial form of acetamiprit *was detected* as 21.34 µg L-1.

5. Bulduğumuz bu önemli düzeydeki fark kullanılan pestisitin ticari olmasından kaynaklan*abilir.* (p.88)

This significant difference we found **may** be due to the commercial use of the pesticide used.

6. Başka bir krustase olan *Daphnia magna* için 48 saatlik LC50 değeri 10,44 mg L-1 olarak *bulunmuştur.* (p.88)

A 48-hour LC50 value *was found* to be 10,44 mg L-1 for another crustase, Daphne magna.

7. Yaptığımız çalışmada elde edilen LC50 değeri diğer çalışmalar karşılaştırıldığında oldukça düşük *bulunmuştur*. (p.88)

In our study, the LC50 value obtained *was found* to be quite low compared to other studies.

8. Bu çalışmanın sonuçları, G. kischineffensis' in G. pulex' e göre daha az, D. magna'ya göre ise daha fazla hassas olduğunu *ortaya koymuştur.* (p.89)

The results of this study *have revealed* that G. kischineffensis is less sensitive compared to G. Pulex but more sensitive to D. compared to magna.

9. Bu fark yine kullanılan pestisitin ticari olmasından kaynaklan*abilir*. (p.89)

This difference *may* again be caused by the commercial use of the pesticide.

10. Thiametoksamın analitik standartının kullanıldığı bir bu çalışmada 96 saatlik LC50 değerinin 8,9 mg L-1 olduğu *tespit edilmiştir.* (p.89)

In this study, which used the analytical standard of thiamethoxam, it *was detected* that the 96-hour value of LC50 was 8,9 mg L-1.

11. Bu sonuçlar asetamiprit ile ticari pestisit içeriğinde bulunan kimyasalların farklı düzeyde toksik etkiye neden olduğunu göster*ebilir*. (p.89)

These results *may indicate* that chemicals contained in commercial pesticide content in combination with acetamiprit cause different levels of toxic effects.

DISCUSSION SECTION

12. Asetamiprit ile yapılan çalışmaların az sayıda olması ve asetamipritin yaygın olarak kullanılan bir insektisit olması nedeniyle bu çalışmanın katkı sunduğu *düşünülmektedir*. (p.90)

It *is thought* that this study contributed due to the small number of studies with acetamiprit and that acetamiprit is a widely used insecticide.

13. Bu tür farklılıklar, deneylerde kullanılan suyun fiziko-kimyasal özellikleri, birey hacmi ve diğer ortam farklılıklarından kaynakl*anabilir*. (p.90)

Such differences *might* be caused by differences in the physicochemical properties of water used in experiments, individual volume, and other media.

14. Literatürdeki sonuçlarla yaptığımız çalışma arasındaki önemli düzeydeki farkın ticari formda bulunan diğer maddelerden kaynaklandığı *düşünülebilir.* (p.90)

It *may be thought* that the significant difference between the results in the literature and our work is caused by other substances found in commercial form.

15. Ortalama lethal konsantrasyon biyokimyasal cevaplar için ön bilgi sağladığı için *önemlidir*. (p.90)

The average lethal concentration is *important* as it provides precognition for biochemical responses

16. AB komisyonu tarafından yasaklanan imidakloprit ile yasaklı olmayan asetamipritin LC50 değerleri karşılaştırıldığında asetamipritin daha yüksek akut toksisiteye neden olduğu daha önce *tespit edilmiştir*. (p.90)

It *has been* previously *identified* that acetamiprit causes higher acute toxicity when compared with IMIDACLOPRITE, which is banned by the EU Commission, and the values of the LC50 of acetamiprit, which is not prohibited.

17. Bununla birlikte pestisitlerin ticari ve analitik standart halinde bulunmasının da akut toksisite üzerinde etkiye sahip olduğu *ortaya konulmuştur.* (p.90)

However, commercial and analytical standard availability of pesticides *has* also *been revealed* to have an effect on acute toxicity

B 8. Akyıl, D. (2018). Ames testi kullanılarak dentis pestisitinin mutajenitesinin belirlenmesi. *Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi,* 8 (1), 249-254. DOI: 10.21597 /jist. 407882.

RESULTS SECTION

1. Konuyla ilgili olarak farklı deney sistemleri ile yapılan çalışmalar pestisitlerin hücrelerde çeşitli bozukluklara yol açtığını *göstermiştir.* (p.251)

Studies with different experimental systems *have shown* that pesticides lead to various disorders in cells.

2. Yaygın olarak kullanılan pestisitlerin hedef olmayan canlı organizmalar üzerinde istenmeyen etkilere neden olduğu *görülmüştür*. (p.251)

Commonly used pesticides *are seen* to cause undesirable effects on non-target living organisms.

3. Çalışmamızda, Aletrin TA97, TA100 ve TA104 suşları üzerinde S9 varlığında mutajenik olarak *bulunmuştur.* (p.251)

In our study, Aletrin *was found* to be mutagenic on S9 on ta97, TA100 and TA104 strains.

4. Diğer konsantrasyonlarda ise koloni sayılarında değişiklikler olmasına rağmen kontrol grubunun iki katını aşan değerlere ulaşmadığı için herhangi bir mutajenik aktivite *görülmemiştir*. (p.251)

In other concentrations, although there were changes in colony numbers, no mutagenic activity *was observed,* as it did not reach values exceeding twice that of the control group.

5. Bunun sebebinin aynı gruba dahil pestisitler olmasına rağmen pestisitlerin yan zincirlerinde yer alan farklı grup ve yapılardan kaynaklandığı söylen*ebilir*. (p.251)

It *might* be said that the reason for this is due to different groups and structures in the side chains of pesticides, although pesticides are included in the same group.

6. Ayrıca test bileşenlerinin bakteri hücre duvarından geçmiş olması direkt olarak DNA ile etkileşeceğini *göster*mez. (p.251)

In addition, the fact that the test components have passed through the bacterial cell wall does not *indicate* that they will interact directly with DNA.

DISCUSSION SECTIONS

7. Bileşiğin sitoplazmik konsantrasyonu yüksek olsa dahi, sitoplazmik alanda bakteriyel genomda bulunan özgül bağlanma bölgeleriyle kompleks oluştur*mayabilir*. (p.252)

Even if the cytoplasmic concentration of the compound is high, it *may not* form a complex with specific binding sites found in the bacterial genome in the cytoplasmic domain.

8. Buna bağlı olarak da çalışılan kimyasalların mutajenik olması ya da herhangi bir mutajenik aktivite göstermemesi bahsedilen etkenlere bağlı olarak farklılık göste*rebilir*. (p.252)

Accordingly, the fact that the studied chemicals are mutagenic or do not show any mutagenic activity *may* differ depending on the factors mentioned.

9. Uygulanan maddelerin kimyasal yapısı ve ortaya çıkan biyolojik aktivite arasındaki ilişki *önemlidir.* (p.252)

The relationship between the chemical structure of applied substances and the resulting biological activity is *important.*

10. Uygulanılan dozlardan sadece 250 µg/plak dozunda her iki test suşunda da S9varlığı ve yokluğunda mutajenik aktivitesinin olduğu *saptanmıştır.* (p.252)

At a dose of only 250 µg/plaque, it *was detected* that both test strains had S9 presence and mutagenic activity in their absence.

11. Bu bağlamda pestisit kullanımı sırasında doz aşımının büyük problemler doğur*abil*eceği göz önünde bulundurulursa ve pestisitin yüksek dozlarının kullanımının işçi ve halk sağlığı açısından zararlı etkiler meydana getirebileceği düşünülürse, bilinçli bir tüketim sağlan*abilir*. (p.252)

In this context, if the fact that overdose during pesticide use *may* cause major problems, and the use of high doses of pesticides can cause harmful effects for workers and public health are considered, conscious consumption *may* be achieved.

B 9. Gökler, İ. (2018). Kütahya ili ciğerotu (Marchantiophyta) florasına katkılar (Türkiye). *Anadolu Briyoloji Dergisi,* 4 (1), 31-35.

RESULTS SECTION

1. Yapılan araştırma ile Kütahya İli sınırları içinde Marchantiopsida (Hepaticopsida) sınıfına bağlı 13 familyaya ait 23 ciğerotu türünün (9 adedi tallus, 14 tanesi yapraksı yapılı) yayılış gösterdiği *ortaya çıkarılmıştır.* (p.33)

It *has been revealed* that 23 liverwort species (9 of which are tall, 14 of which are leafy) belonging to 13 families belonging to the Class Marchantiopsida (Hepaticopsida) spread within the borders of Kütahya province.

DISCUSSION SECTION

2. Bu nedenle, bölgelerimizde yapılacak benzer araştırmalarla, yeni sonuçlar elde edilebileceği ve Türkiye biyo çeşitliliğinin önemli bir parçası olan ciğerotları floramıza katkılar sağlanabileceği *düşünülmektedir*. (p.34)

For this reason, it *is thought* that with similar research to be carried out in our regions, new results may be obtained and contributions may be made to our lung flora, which is an important part of the biodiversity of Turkey.

B 10. Ersoy, F. (2018). Arpada hücresel apoptoz hassasiyet (*CAS*) geninin susturularak külleme hastalığına karşı dirençte etkisinin belirlenmesi. *Süleyman Demirel Üniversitesi Ziraat Fakültesi Dergisi*, 13 (1):40-51.

RESULTS SECTION

1.Külleme hastalığı arpanın hastalıklarından biri olup, bu hastalığa karşı çözüm önerileri hazırlamak için hastalık mekanizmasının anlaşılması *önemlidir.* (p.47)

Powdery mildew disease is one of diseases of barley, and it is *important* to understand the mechanism of the disease to prepare solutions against this disease.

2. Susturma yapılan bitkilerden pozitif kontrol (BSMV: PDS4) değerlendirilerek yaklaşık 14 gün sonra bitkinin 4. ve 5. yapraklarına hastalık uygulaması uygun *bulunmuştur.* (p.47)

By evaluating positive control (BSMV: PDS4) from silencing plants, it *was found* that the application of disease to its leaves was appropriate on 4th and 5th leaves of the plant about 14 days later.

3. Apoptoz sırasında birçok proteinin (p53 ve transkripsiyon faktörleri gibi) hücre çekirdeğine girmesi için *gereklidir.* (p.47)

It is *necessary* for many proteins (such as p53 and transcription factors) to enter the cell nucleus during apoptosis.

4. CAS proteininin, apoptozun gerçekleşmesi için önemli olan bazı proteinlerin hücre çekirdeğine girmesini kolaylaştırmasıyla apoptoza olanak sağladığı *görülmüştür*. (p.47)

The Cas protein *has been seen* to enable apoptosis by facilitating the entry of certain proteins important for apoptosis to occur into the cell nucleus.

5. Yaprakta izlenmesi için kullanılan pozitif kontrol, susturma deneylerinin başarılı olduğunu *göstermektedir.* (p.47)

The positive control used to monitor the leaf *indicates* that the silencing experiments were successful.

6. Aynı zamanda bazı çalışmalarda *HvCAS* gen ekspresyonunun arpada külleme hastalığına karşı direnç sırasında ekspresyonunun arttığı *tespit edilmiştir.* (p.47)

At the same time, some studies *have detected* that HvCAS gene expression increases during resistance to powdery mildew disease in barley.

7. Susturma yapılan bitkiler negatif kontrol bitkileri ile karşılaştırıldığında külleme hastalığına karşı oluşan direnç ve hassasiyet tepkilerinde bir değişim *saptanmamıştır.* (p.47)

No change in resistance and sensitivity responses to powdery mildew disease *was detected* when silenced plants were compared to negative control plants.

8. Hif büyümesi ve hastalığın gelişimi hastalık uygulamasından 3 gün ve 5 gün sonrasında Tripan Mavisi kullanılarak (Hein ve ark., 2005) Leica DM4000B mikroskopu/DFC 280 kamera ile *tespit edilmiştir*. (p.47)

Hyphae growth and disease development *was detected* with Leica DM4000B microscope/DFC 280 camera using Trypan Blue 3 days and 5 days after disease administration.

9. Gen susturma seviyesi 3 biyolojik tekrarda qRT-PCR reaksiyonu kullanılarak ve 3 teknik tekrar yapılarak *tespit edilmiştir*. (p.47)

Gene silencing level *was detected* by using qRT-PCR reaction in 3 biological repetitions and 3 technical repetitions.

DISCUSSION SECTIONS

10. *HvCAS* ekspresyon seviyesi39±0,82, ikinci tekrar bitkisinde 47±1,25 ve üçüncü tekrar bitkisinde ise 52±2,16 olarak **saptanmıştır.** (p.48)

HvCAS expression level *was detected* as 39±0.82, 47±1.25 in the second repeat plant and 52±2.16 in the third repeat plant.

11. Fakat fonksiyonel genomik çalışmamızda HvCAS genin arpada külleme hastalığına karşı oluşan tepki sırasında bir etkisinin olmadığını *bulunmuştur*. (p.48)

But in our functional genomic study, it *was found* that the HvCAS gene does not have an effect on the response to powdery mildew disease in barley.

12. Susturulan genin pozitif veya negatif etkisi olursa, hassasiyet tepkisinin çok belirgin olarak artması (hassas bitkinin direnç göstermesi) veya azalması (hif uzunluğunun 2-3 katına çıkması gibi) *beklenmektedir.* (p.48)

If the silenced gene has a positive or negative effect, the sensitivity response *is expected* to increase very significantly (resistance of the sensitive plant) or decrease (for example, 2-3 times the hyphae length).

13. Değerlendirmeler sonucunda direnç veya hassasiyet tepkisinde beklenen belirgin etki *saptanmamıştır.* (p.48)

As a result of the assessments, the expected significant effect on resistance or sensitivity response *was not detected.*

CHEMISTRY ARTICLES

C 1. Sibel, S. Y. (2017). Fen ve teknoloji laboratuvar uygulamaları II dersi kapsamında dönüşümlü iş bölümü uygulamaları; bir eylem araştırması. *Journal of Turkish Chemical Society*, 2 (1), 1-18.

RESULTS SECTION

1. Laboratuvarda araç-gereçlerin çeşitliliği ve öğrencilerin bu araç-gereçlerin işlevi hakkında bilgi sahibi olması, öğrenciye hangi fen konuları için hangi araç gereçlerle nasıl bir deney tasarlayacağı konusunda fikir vermesi açısından *önemlidir.* (p.9)

It *is important* for students to have information about the variety of tools in the laboratory and the function of these tools to give the student an idea of how to design an experiment with which tools for which science subjects.

2. Bu durum Öğrencinin hem Üniversitede öğrencilik döneminde fen derslerinden uzaklaşmasına, hem de ilerde öğretmen olarak atandığında fen konularını anlatmada özgüven eksikliğine neden ol*abilir.* (p.9)

This *might* cause the student to withdraw from science courses during the student period at the University, as well as lack of self-confidence in describing science subjects when appointed as a teacher in the future.

3. Öğrencinin fen derslerine aktif olarak katılımı öğrencide fen konularına karşı olumlu tutum geliştirmesi ve öğrencinin özgüvenine katkı sağlay*abilir*. (p.9)

Active participation of the student in science courses *may* contribute to the student's self-confidence and develop a positive attitude towards science subjects.

4. Eğitim fakültesinde okuyan öğrenciler geleceğin öğretmen adayları olduğundan dolayı bilgi bakımından donanımlı olmaları, bildiklerini karşı tarafa aktarabilme hususunda özgüvenlerinin yüksek olması *önemlidir.* (p.10)

Because students studying at the Faculty of education are future teacher candidates, it is *important* that they are equipped with knowledge and have high self-confidence in the ability to transfer what they know to the opposite side.

5. Öğretmen adaylarının bir konu alanında yeterli olabilmeleri ve bu konu alanında yeterli olduklarını hissetmelerine kendilerinin aktif olarak laboratuvar etkinliklerinde bulunmaları katkı sağlay*abilir.* (p.10)

Candidate teachers' being able to be sufficient in a subject area and feel that they are sufficient in this subject area *may* contribute to the fact that they are actively engaged in laboratory activities.

DISCUSSION SECTION

6. Sınıf öğretmenliği bölümünde okuyan öğrencilerin laboratuvar uygulamalarını tercih edecekleri ve ileriki meslek yaşantılarında laboratuvar kullanmayı tercih edecekleri yönünde uygulamalar yapıl*abilir*. (p.10)

Applications *may* be carried out in the direction that students studying in the Department of classroom teaching will prefer laboratory applications and prefer to use laboratories in future professional lives.

7. Dönüşümlü iş bölümüne yönelik laboratuvar uygulamaları daha da geliştirilebilir ve öğrencilerin dersleri daha anlamlı hale getiril*ebilir*. (p.10)

Laboratory applications for alternating business department *may* be further developed and students ' lessons may be made more meaningful.

8. Mevcut çalışmanın bulgularına göre, öğrencilerde temel fen konularını anlatmada özgüvenin oluşmasına katkı sağlandığı söylen*ebilir*. (p.10)

According to the findings of the current study, it *might* be said that it contributes to the formation of self-confidence in students in explaining basic science topics.

9. İlkokul öğretmenleri okuma yazma, matematik, fen bilimleri gibi alanlarda branşlaşırlarsa ve sadece branş derslerini yürütürlerse eğitimin niteliği art*abilir*. (p.10)

If primary school teachers branch out in areas such as literacy, mathematics, science and only conduct branch courses, the quality of education *may* increase.

10. Çalışma sonucunda öğrenci görüş ve öneri formundan elde edilen sonuçların bütün olarak değerlendirilmesi yapıldığında, öğrencilerin dersin işlenişinin özgüven duygularının gelişimine katkı sağladığı yönünde hem fikir oldukları *görülmektedir*. (p.10)

As a result of the study, when the results obtained from the student opinion and suggestion form are evaluated as a whole, it *is seen* that students agree that the course processing contributes to the development of feelings of self-confidence.

11. Bu durum öğrencinin hem üniversitede öğrencilik döneminde fen derslerinden uzaklaşmasına, hem de ilerde öğretmen atandığında fen konularını derste anlatmada özgüven eksikliğine neden ol*abilir*. (p.11)

This *may* cause the student to move away from science courses during the student period at the university, as well as lack of self-confidence in explaining science topics in the lesson when the teacher is appointed in the future.

10. Öğrencinin fen derslerine aktif olarak katılımı, öğrencide fen konularına karsı olumlu tutum geliştirmesine ve öğrencinin özgüvenine katkı sağlay*abilir.* (p.11)

Active participation of the student in science courses *may* contribute to the development of a positive attitude towards science subjects in the student and the self-confidence of the student.

11. Öğrencilerin derslerden sonra kendi seviyelerini görmeleri açısından dersin değerlendirilmesi *önemlidir*. (p.11)

It *is important* to evaluate the course in order for students to see their level after the lessons.

C 2. Uysal, A. (2017). Ferritik paslanmaz çeliğin çok duvarlı karbon nanotüp katkılı kesme sıvısı kullanılarakminimum miktarda yağlama yöntemi ile frezelenmesinde kesme sıcaklığının incelenmesi. *Gazi üniversitesi Mühendislik-Mimarlık Dergisi,* 32 (3), 645-650. Doi: 10.17341/ gazimmfd. 337612.

RESULTS SECTION

1. Özellikle MWCNT katkı oranının arttırılmasıyla, katkısın ticari bitkisel kesme sıvısına göre avantaj sağlandığı *görülmektedir*. (p.647)

Especially by increasing the mwcnt additive ratio, *it is seen* that the additive has an advantage over commercial vegetable cutting liquid.

2. Maksimum kesme sıcaklıkları kuru frezelemede oluşmuş ancak MQL yönteminin kullanılmasıyla kesme sıcaklıklarının azaldığı *görülmüştür.* (p.647)

Maximum cutting temperatures occurred in dry milling, but it *was seen* that cutting temperatures decreased with the use of the MQL method.

3. MQL debisinin artmasıyla, ortama daha fazla kesme sıvısı-basınçlı hava karışımı gönderilmesinden dolayı soğutma ve yağlama veriminin arttığı ve kesme sıcaklıklarının azaldığı *görülmüştür.* (p.647)

As the MQL flow rate increased, it *was observed* that there was an increase in cooling and lubrication efficiency and a decrease in and cutting temperatures due to more coolant-compressed air mixture being sent to the environment.

4. Renk değişimi değerlerine göre genel olarak mikrodalga çıkış gücünün ve dilim kalınlığının etkili olduğu söylen*ebilir*. (p.647)

According to color change values, it *may* be said that microwave output power and slice thickness are effective in general.

5. Benzer şekilde kuruma süresi ve enerji tüketimi değerleri üzerinde de mikrodalga çıkış gücünün ve dilim kalınlığının birlikte etkin oldukları *görülmektedir.* (p.648)

Similarly, it *is seen* that microwave output power and slice thickness are effective together on drying time and energy consumption values.

6. Bütün yanıt değişkenleri için önerilen model denklemlerinin belirleme katsayıları (R2) 0.9749-0.9953 aralığındadır ve bu *önemlidir.* (p.648)

The determination coefficients (R2) of the proposed model equations for all response variables are in the range 0.9749-0.9953 and are *important.*

7. Bu sonuç denklemlerin deneysel verileri temsil etmede oldukça başarılı oldukları *ortaya koymaktadır*. (p.648)

This result *reveals* that the equations are quite successful in representing experimental data.

8. Düzeltilmiş belirleme katsayısı (Adj. R2) ve tahmin belirleme katsayısı (Pred. R2) değerlerinin birbirine yakın olması ve aralarındaki farkın 0.2'den daha az olması ((Adj. R2- Pred.R2) <0.2) *beklenmektedir*. (p.648)

Adjusted determination coefficient (Adj. R2) and the prediction determination coefficient (Pred. R2) values *are expected* to be close to each other and the difference between them is expected to be less than 0.2 ((Adj. R2-Pred.R2) <0.2).

9. İkinci derece değişim için sadece mikrodalga gücü *önemlidir*. (p.648)

Only microwave power *is important* for a second-degree change.

10. Şekil (a)' da görülen yanıt yüzey eğrisine göre tüm mikrodalga güçlerinde dilim kalınlığı ile etkin difüzyon katsayısının büyük ölçüde doğrusal olarak değiştiği, parabolik değişimin olmadığı söylen*ebilir.* (p.648)

According to the response surface curve seen in Figure (a), it *may* be said that the effective diffusion coefficient with slice thickness at all microwave powers varies greatly linearly, and there is no parabolic change.

11. Etkin difüzyon katsayısındaki değişimin benzeri kuruma hız sabitinde de *görülmektedir*. (p.648)

A similar change in the effective diffusion coefficient *is* also *observed* in the drying rate constant.

12. Mikrodalga çıkış gücündeki artma ile kuruma hız sabitinin değeri de deneyde *önemlidir.* (p.648)

The value of the drying rate constant with the increase in microwave output power is also *important* in the experiment.

13. Buna karşın dilim kalınlığı hemen hemen bütün mikrodalga çıkış güçlerinde çok *önemli* bir etkiye sahiptir. (p.648)

However, slice thickness has an *important* effect on almost all microwave output powers.

DISCUSSION SECTION

14. Hem mikrodalga gücü hem de dilim kalınlığının değerleri bir noktaya kadar artarak renk değişimini artırırken bu noktadan sonra renk değişimi üzerinde azalan bir etkiye sahip oldukları söylen*ebilir. (*p.649)

The values of both microwave strength and slice thickness *may* be said to have a decreasing effect on color change after this point, while increasing color change by up to a point.

15. Düşük mikrodalga güçlerinde, uygulanan enerji yoğunluğu düşük olduğundan dilim yüzey sıcaklığı ile dilimin iç kısımlarındaki sıcaklık *hemen hemen* aynıdır. (p.649)

At low microwave power, the applied energy density is low, so the surface temperature of the slice and the temperature inside the slice are *almost* the same.

16. Zira maksimum renk değişiminin olduğu koşulların yüzeyde enzimatik olmayan Maillard reaksiyonlarının gerçekleşmesi için uygun koşullar olduğu *düşünülmektedir.* (p.649)

Because conditions with maximum color change *are considered* favorable conditions for non-enzymatic Maillard reactions to occur on the surface.

17. Tablo 6’ da görülen her bir terime ait önem düzeylerinin kabul edilebilir ($p<0.05$) olması ve model denklemine ait belirleme katsayılarının 1’ e yakın oluşu Eş. (14)’ deki model önermesinin uygun olduğunun *kanıtıdır.* (p.649)

The importance levels of each term seen in Table 6 being acceptable ($p<0.05$) and the determination coefficients of the model equation being close to 1 *is proof* that the model proposition in (14) is appropriate.

18. Buna rağmen mikrodalga gücü ve dilim kalınlığının karşılıklı etkileşimlerinin kuruma süresi üzerinde azaltıcı etkiye sahip olduğu *görülmektedir*. (p.649)

Despite this, it *is seen* that the interaction of microwave strength and slice thickness has a reducing effect on drying time.

19. Kurutma süreçlerinde enerji tüketimi *önemldir* ve kuru ürün maliyetini etkilemektedir. (p.649)

Energy consumption is *important* in drying processes and affects the cost of dry products.

20. Dilim kalınlığındaki artma ile enerji tüketiminin atması elma dilimlerindeki suyun yüzeye taşınmasında difüzyon yolundaki artma ile ifade edi*lebilir*. (p.649)

The increase in energy consumption due to the increase in slice thickness *may* be expressed by increasing diffusion path when transporting water in apple slices to the surface.

21. Enerji tüketiminin en yüksek olduğu mikrodalga gücünde suyun buharlaşması için enerji tüketiminin maksimum noktaya ulaştığı söylen*ebilir*. (p.649)

In microwave power, where energy consumption is highest, it *may* be said that energy consumption reaches the maximum point for water to evaporate.

22. Yanıt değişkenlerini temsil etmek üzere Design-Expert paket programı tarafından önerilen model denklemlerinin deneysel verileri temsil etmede oldukça başarılı olduğu *görüldü.* (p.649)

The model equations proposed by the design-Expert package program to represent response variables *were seen* to be quite successful in representing experimental data.

23. ANOVA sonuçları ve yanıt yüzey eğrilerinden etkin difüzyon katsayısı, kuruma hız sabiti, toplam renk değişimi, renk açısı, toplam kuruma süresi ve enerji tüketimi yanıtları üzerinde mikrodalga çıkış gücü ve dilim kalınlığının önemli düzeyde etkili oldukları *tespit edildi.* (p.649)

It *was detected* that microwave output power and slice thickness were significantly effective on effective diffusion coefficient, drying rate constant, total color change,

color angle, total drying time and energy consumption responses from ANOVA results and response surface curves.

24. Ayrıca elde edilen sonuçların hem literatüre hem de uygulayıcılara katkı sunacağı bu sayede daha sonra yapılacak araştırmalara katkı sağlayacağı *düşünülmektedir.* (p.649)

In addition, it *is thought* that the results obtained will contribute to both the literature and practitioners, thus contributing to later research.

C 4. Erdem, M. (2019). N-Vinilimidazol temelli yeni kopolimerik hidrojeller: sentez, karakterizasyon ve şişme davranışlarının incelenmesi. *Gazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi*, 34 (3), 1469-1482. DOI: 10.17341/gazimmfd.460546.

RESULTS SECTION

1. Şekil 1'de bazı hidrojeller için FTIR spektrumları verilmiştir. P (VIm) için karakteristik bantları şu şekilde açıklamak *mümkündür.* (p.7)

Figure 1 gives FTIR spectra for some hydrogels. It *is possible* to explain the characteristic bands for p (VIm) as follows.

2. 1500 cm–1' ve 1415 cm–1'deki bantlar halka içi C-C ve C=N gerilmelerinin *kanıtıdır.* (p.7)

The bands at 1500 cm–1' and 1415 cm–1 *are proves* of intra-ring C-C and C=N stresses.

3.Örneğin CH2 ve C-H gerilmelerine işaret eden bandın şiddetinin, beklendiği gibi p(V-15QC5) için arttığı buna karşın p(V-15QBC) için ise azaldığı *görülmektedir.* (p.7)

For example, it *is seen* that the intensity of the band indicating the stresses of CH2 and C_H in the polymer main chain increases for p (V-15QC5) as expected, but decreases for p(V-15QBC).

4. Bununla birlikte bu durum kopolimer yapılarda fonksiyonel monomer birimlerinden kaynaklı 1580 cm–1 civarındaki bant p(VIm) için *görülmemektedir*. (p.8)

However, this is *not observed* for band p(VIm) around 1580 cm-1 caused by functional monomer units in copolymer structures.

5. Şişme deneyleri, çapraz bağlı polimer sistemler için *önemlidir.* (p.8)

Swelling experiments *are important* for cross-linked polymer systems.

6. Elde edilen sonuçlar, kullanılan kinetik ve difüzyon modellerinin birbiri ile uyumunu da *ortaya koymaktadır.* (p.8)

The results also *reveal* the compatibility of the kinetic and diffusion models used with each other.

7. Monomer oranının %15 e yükselmesinin pozitif yük yoğunluğunun artmasından kaynaklanan olumlu etkinin önüne geçtiği ve denge şişme oranlarının bir miktar azaldığı *düşünülmektedir*. (p.8)

It *is considered* that increasing the monomer ratio to 15% prevents the positive effect caused by increasing the positive charge density, and the equilibrium swelling rates decrease somewhat.

8. Bununla birlikte aynı oranda QDMAC5 içeren kopolimer için yürüttüğümüz dinamik şişme deneyleri, Smak değerinin 49,3 g su/g hidrojel'den düşük olduğunu *göstermiştir.* (p.9)

However, our dynamic swelling experiments for the copolymer containing the same proportion of QDMAC5 *have indicated* that the Smak value is lower than 49.3 g of water/g of hydrogel.

DISCUSSION SECTION

9. QDMABC'nin QDMAC5'e kıyasla daha baskın hidrofobik karakterinden ve oluşturduğu sterik kalabalıklıktan kaynaklandığı *düşünülmektedir*. (p.9)

Qdmabc *is thought* to be due to its more dominant hydrophobic character compared to Qdmac5 and the steric crowding it generates.

10. Tablo 2 incelendiğinde, p (V-1QC5) ve p(V-1QBC) için başlangıç şişme hızının p (VIm)'a kıyasla küçük olduğu, bununla birlikte kopolimer yapılardaki fonksiyonel monomer oranının artmasıyla bu değerin arttığı *görülmektedir.* (p.9)

Looking at Table 2, it *is observed* that the initial swelling rate for p (V-1QC5) and p(V-1QBC) is smaller(booster) compared to p (VIm), but this value increases with the increase in the ratio of functional monomers in copolymer structures.

11. Bu durum aynı zamanda deneysel verilere uygulanan kinetik modelin uygunluğunu *göstermektedir.* (p.9)

This also *shows* the suitability of the kinetic model applied to experimental data.

12. Difüzyon üstelinin değerine bağlı olarak difüzyon mekanizması açıklan*abilir*. (p.10)

Depending on the value of the diffusion exponential, the mechanism of diffusion *may* be explained.

13. Fick-tipi olmayan difüzyonda ise difüzyon hızı ile durulma hızı *yaklaşık* aynıdır ve şişme hem difüzyon hem de durulma kontrollüdür. (p.10)

In non-Fick-type diffusion, the rate of diffusion and the rate of relaxation are *approximately* the same, and the swelling is controlled by both diffusion and relaxation.

14. Bu durumda şişme süreçleri; p(VIm), p(V-1QBC), p(V-2,5QBC) ve p (V-1QC5)için Fick-tipi, diğer tüm kopolimer hidrojeller için ise Fick tipi olmayan difüzyon ile açıklan*abilir*. (p.10)

In this case, the swelling processes *may* be explained by Fick-type diffusion for p(vim), P(V-1qbc), P (V-2,5 QBC) and P (V-1qc5)and non-Fick-type diffusion for all other copolymer hydrogels.

15. Difüzyon mekanizmasına yönelik yapılan değerlendirmeler, tüm kopolimer hidrojeller için hem difüzyon hem de durulma kontrollü (Fick tipi olmayan) taşınımın geçerli olduğunu *ortaya koymuştur*. (p.10)

Assessments of the diffusion *mechanism have revealed* that both diffusion and relaxation controlled (non-Fick type) transport are valid for all copolymer hydrogels.

C 5. Nihan, K. (2018). Cam elyaf ile katkılandırılmış tarımsal atıklar kullanılarak üretilen lif levhaların (MDF) mekanik ve fiziksel özelliklerinin incelenmesi. *Gazi Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi*, 33(3), 905- 916. Doi: 10.17341/ gazimmfd. 416392.

RESULTS SECTION

1. Bu noktada ceviz kabuğunun selülozik içeriğinden dolayı hazırlanan ahşap kompozit levhalarda ceviz kabuğu miktarı arttığından su tutma yüzdesinin de artması *beklenmektedir*. (p.911)

At this point, because of the cellulosic content of walnut shell, the percentage of water retention *is expected* to increase as the amount of walnut shell increases in prepared wood composite boards.

2. Bu çalışmada üretilen levha kalınlığına bağlı olarak ilgili Türk Standartları gereği 24 saat suda bekletme sonunda fiziksel özelliklerden su tutma miktarının maksimum %40 olması *gereklidir*. (p.911)

According to the relevant Turkish standards, depending on the thickness of the plate produced in this study, the amount of water retention from the physical properties at the end of 24-hour water retention *is necessary* to be a maximum of 40%.

3. Mekanik özellikler açısından ise eğilme dayanımı, eğilmede elastisite modülü ve makaslama dayanımının (kesme kuvveti) sırasıyla >23 N/mm2, >2500 N/mm2 ve >1 N/mm2 olması gereklidir. (p.911)

In terms of mechanical properties, bending strength, modulus of elasticity in bending and shear strength (shear force) *must* be >23 N/mm2, >2500 N/mm2 and >1 N/mm2 respectively.

4. Örneğin, diğer çalışmalara göre, basınç ve sertliğin şart olduğu tezgâh, banko, merdiven ve yer döşemesi gibi zeminlerde kullanılacak levhaların en yüksek basma dayanımı ve sertlik değerlerine sahip olması *gerekmektedir*. (p.912)

For example, according to other studies, the plates to be used on floors such as countertops, counters, stairs and floor tiles where pressure and hardness *are required to* have the highest compression strength and hardness values.

5. Ancak deneysel sonuçlar ceviz kabuğu miktarı arttımıyla malzemenin suya dayanımının geliştiğini yani daha az su tuttuğunu *göstermektedir.* (p.912)

But experimental results *show* that the material's water resistance improves as the amount of walnut shells increases, meaning it holds less water.

6. Bu sonuç ceviz kabuğunda sadece holoselüloz yapının olmadığı ve bu yapıya oranla daha fazla lignin içeriğine sahip olduğu gerçeği ile açıklan*abilir.* (p.913)

This result *might* be explained by the fact that there is not only a holocellulose structure in the walnut shell and that it has more lignin content than this structure.

7. Çünkü lignin amorf ve hidrofobik bir yapı olarak *önemlidir.* (p.913)

Because ligninol is *important* as an amorphous and hydrophobic structure.

DISCUSSION SECTION

8. Ancak standartlarda ahşap kompozit levhalar için basma dayanımı ve sertlik değerleri değişkenlik göste*rebilir.* (p.913)

However, compression strength and hardness values for wood composite sheets *may* vary in standards.

9. Bu yüzden kullanım yeri ve amacı göz önüne alınarak uygun levha örneğinin seçilmesi daha doğru bir yaklaşım ol*abilir.* (p.913)

Therefore, choosing the appropriate plate sample, taking into account the place and purpose of use, *may* be a more accurate approach.

10. Ahşap kompozitlerde kullanılan dolgu maddesi miktarının formaldehit ayrışmasına etkisi incelendi ve dolgu maddesi miktarının artması ile formaldehit emisyonunun azaldığı *tespit edilmiştir*. (p.914)

The effect of the amount of filler used in wood composites on formaldehyde decomposition was studied and it *was identified* that the emission of formaldehyde decreased with the increase in the amount of filler.

11. Su alma ve hacimsel genişleme miktarının reçine oranı arttıkça, azaldığı *tespit edilmiştir*. (p.914)

It *has been identified* that the amount of water intake and volumetric expansion decreases as the resin ratio increases.

12. Tablo 3' te verilen analiz sonuçlarımız, hazırlanan kompozit levhalara ipliksi yapıya sahip cam elyaf eklenmesinin üretilen kompozitlerin mekanik özelliklerini iyileştirdiğini *göstermiştir.* (p.914)

Our analysis results given in Table3 *showed* that the addition of fiber glass with a filamentous structure to the prepared composite sheets improved the mechanical properties of the composites produced.

13. Aynı zamanda lignoselülozik dolgu maddeleri arasındaki gelişmiş ara yüz ile kompoziti oluşturan her bir bileşenin yığın özelliklere katkıda bulunduğu dolayısıyla üretilen ahşap kompozit levhaların fiziksel ve mekanik özelliklerini geliştirmede kritik bir rol oynadığı söylen*ebilir*. (p.914)

It *may* be said that each constituent component of the composites enhanced with face fillers between lignoselulozik contribute to mass properties thus plays a critical role in improving the physical and mechanical properties of produced composite wood panels.

15. Bu nedenle ülkemizde bol miktarda bulunan bu tarımsal atıkların MDF üretiminde alternatif hammadde olarak değerlendirilebilmesi *mümkündür.* (p.914)

For this reason, it *is possible* that these agricultural wastes, which are abundant in our country, can be evaluated as alternative raw materials in MDF production.

C 6. Kanca, A. (2018). Farklı metal (bakır, çinko, kurşun, kalsiyum ve mangan) oksitlerin sıcak baca gazı kükürt tutma aktiviteleri. *Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 8 (3),167-175.

RESULTS SECTION

1. Kalma süresine karşın çizilen pik yoğunluğu grafiğinden de anlaşılacağı üzere SO2 gazı için kolonda kalma süresi *yaklaşık* 15, 5 saniyedir. (p.171)

As can be seen from the peak density graph drawn against the stay time, the stay time in the column for SO2 gas is *nearly* 15.5 seconds.

2. Beş ölçümün ortalaması alınarak bulunan SO2 pik alanı *yaklaşık* 645 498.9 olup, bu değer için hesaplanan konsantrasyon değeri 0.00011 (v/v)'dir. (p.171)

The Peak area of SO2 found by averaging five measurements is *nearly* 645 498.9, and the concentration value calculated for this value is 0.00011 (v/v).

3. Üçüncü denemede ise PbO üzerinden geçirilen SO2 gazı için elde edilen pik yoğunluğu boş reaktörden geçirilen SO2 yoğunluğuna *neredeyse* eşit olarak kaydedilmiştir. (p.172)

In the third experiment, the peak density obtained for SO2 gas passed through PbO was recorded as *almost* equal to the density of SO2 passed through the empty reactor.

DISCUSSION SECTION

4. SO2'den farklı olarak bu kez oluşması beklenen gaz H2S olup ortamda karbon ve hidrojenin de olması PbO'nun kükürt tutma becerisini etkiley*ebilir*. (p.172)

Unlike SO2, the gas expected to form this time is H2S, and the presence of carbon and hydrogen in the environment *may* affect PBO's ability to retain sulfur.

5. Bu çalışma, sıcak baca gazı kükürt giderimi prosesinde kullanılan beş metal oksit (CuO, ZnO, PbO, CaO ve MnO2) içerisinden sadece PbO'in SO2giderimi için kullanılamayacağını *göstermektedir*. (p.172)

This study *demonstrates* that of the five metal oxides (CuO, ZnO, PbO, CaO and MnO2) used in the hot flue gas desulfurization process, only PBO cannot be used for So2giderim.

6. Sonuç olarak, seçilen tüm metal oksitlerin yüksek sıcaklıkta kükürdü tutma becerisine sahip oldukları ifade edil*ebilir*. (p.173)

As a result, it *may* be expressed that all selected metal oxides have the ability to hold sulfur at high temperature.

7. Elde edilen tüm verilerden faydalanarak, önerilen CuO, ZnO, PbO, CaO ve MnO2 metal oksitlerin özellikle yüksek kükürt içeren linyit kaynaklarının piroliz ve gazlaştırma süreçlerinde kükürt giderimi için etkin malzemeler oldukları *sonucu çıkarılmıştır*. (p.174)

Using all the data obtained, it *was concluded* that the proposed CuO, ZnO, PbO, CaO and MnO2 metal oxides are effective materials for desulfurization, especially in pyrolysis and gasification processes of high sulfur-containing lignite sources.

8. Yapılan kinetik çalışmalar, dolomitinin iki kat daha etkin bir adsorbent olduğunu *ortaya koymaktadır*. (p.168)

Kinetic studies *reveal* that Dolomite is twice as effective as adsorbent.

C 7. Ekinci, E. (2017). Yeni nesil MIL-101 malzemesi sentez ve karakterizasyon çalışmaları. *Gazi üniversitesi Fen Bilimleri Dergisi*, 5 (4), 179-185.

RESULTS SECTION

1. MIL-101 yüzey alanı 4000 m2/g'dan daha yüksek olabilmekteyken, sentez kimyasallarından ileri gelen safsızlıklardan ötürü bu kadar yüksek yüzey alanları elde etmek *önemlidir*. (p.181)

While the surface area of MIL-101 can be higher than 4000 m2/g, it is *important* to obtain such high surface areas due to impurities from synthesis chemicals.

2. Sentezi yapılan MIL-101'e ait XRD desenleri incelenmiş olup, MIL-101 kristal yapısını desteklediği *bulunmuştur.* (p.181)

Xrd patterns of the synthesized MIL-101 were examined and *found* to support the crystal structure of MIL-101.

3. Tereftalik asidi uzaklaştırmak üzere sentez sonrası DMF ile 150 °C'de 24 saat yapılan muamele işlemi yapılan malzemeye ait XRD desenleri ve 2Ɵ;15-20 arasındaki piklerin varlığı ortamda hala tereftalik asit bulunduğunu *göstermektedir*. (p.181)

XRD patterns of the material treated 24 hours at 150 °C with DMF after synthesis to remove terephthalic acid and the presence of peaks between 2ɵ; 15-20 *indicate* that terephthalic acid is still present in the environment.

4. Yüzey alanının yüksek elde edilmesi saflaştırma işleminin başarılı olduğunu göstermektedir. (p.181)

A high surface area indicates that the purification process is successful.

5. MIL-101'inkarakteristik yapısı dışındaki 2Ɵ;15-20 arasındaki piklerin tereftalik aside ait olduğu *düşünülmektedir.* (p.181)

Apart from the characteristic structure of MIL-101, peaks between 2 and 15-20 *are thought* to belong to terephthalic acid.

6. DMSO ile yapılan yıkama işlemi sonrasında DMSO'nun oda sıcaklığında başarılı olmadığı *görülmektedir.* (p.182)

After washing with DMSO, it *is observed* that DMSO is not successful at room temperature.

DISCUSSION SECTION

7. Yapılan azot adsorpsiyon- desorpsiyon analizleri de bu sonucu *ortaya koymaktadır.* (p.182)

Nitrogen adsorption-desorption analyses also *reveal* this result.

8. Buna dayanarak da sentezlenen MIL-101 malzemesinin mezo gözenek yapısına sahip olduğunu ve ideal adsorpsiyon davranışı gösterdiğini söylemek *mümkündür*. (p.183)

Based on this, it is *possible* to say that the synthesized mil-101 material has a meso-pore structure and shows ideal adsorption behavior.

9. Mezogözenek çapı *yaklaşık* 2 nm olarak belirlenirken mikro gözenek çapı yaklaşık 1, 5 nm' dir. (p.183)

The mesogözenge diameter is *nearly* 2 nm while the micro pore diameter is about 1.5 Nm.

10. İzoterm davranışı izlendiğinde homojen bir dağılım vermesi *önemlidir.* (p.183)

It is *important* to give a homogeneous distribution when isotherm behavior is monitored.

11. Malzeme mikro ve mezo gözenek bölgelerinde homojen bir dağılım *göstermiştir.* (p.184)

The material *has shown* a homogeneous distribution in micro and Meso pore regions.

12. MIL-101'in karakteristik yapısı dışındaki 15-20 arasındaki piklerin tereftalik aside ait olduğu *düşünülmektedir.* (p.184)

Peaks between 15-20 other than the characteristic structure of MIL-101 *are thought* to belong to terephthalic acid.

C 8. Doğan, Ö. (2018). Kalsiyum karbonat polimorflarının oluşumuna yaşlandırma süresinin etkisi. *Iğdır Üniversitesi Fen bilimleri Enstitüsü Dergisi*, 8(3),227-236.

RESULTS SECTION

1. 0.5 mL dk-1 (C2) ve 1 mL dk-1 (C4) Na2CO3 eklenme hızlarında ve yaşlandırma işlemi uygulanmadan elde edilen kristallerin FT-IR spektrumlarındaki 1450, 1085, 873 ve 745 cm-1 civarındaki pikler yapının vaterit olduğunu *göstermektedir.* (p.229)

Peaks of 1450, 1085, 873 and 745 cm-1 in the FT-IR spectra of crystals obtained at 0.5 mL min-1 (C2) and 1 mL min-1 (C4) Na2CO3 insertion rates and without aging process *show* that the structure is vaterite.

2. 1 mL dk-1 Na2CO3 besleme hızında ve 1 gün yaşlandırma işlemi uygulanarak elde edilen kristallerin (C10) FT-IR spektrumları incelendiğinde 1145 cm-1 olan pikin 1440 cm-1 oranına kaydığı ve 710 cm-1 pik oluştuğu *görülmektedir.* (p.229)

When the FT-IR spectra of crystals (C10) obtained by applying 1 mL min-1 Na2CO3 feed rate and 1 day aging process are examined, it *is seen* that the peak of 1145 cm-1 shifts to the ratio of 1440 cm-1 and a peak of 710 cm-1 is formed.

3. 1440, 1085, 873, 745 ve 710cm-1 civarındaki görülen pikler yapının kalsit-vaterit karışımından oluştuğunu *göstermektedir.* (p.229)

Peaks around 1440, 1085, 873, 745 and 710cm-1 *indicate* that the structure consists of a mixture of calcite-vaterite.

4. Bu sonuç XRD analiziyle de *ortaya çıkarılmıştır.* (p.230)

This result *was* also *revealed* by XRD analysis.

5. 0.5 mL/dk (C8) ve 1 mL/dk (C11) Na2CO3 besleme hızlarında ve 7 gün yaşlandırma işleminden sonra elde edilen kristallerin FT-IR spektrumlarında 1400, 872 ve 711 cm-1 pikler ise yapının kalsite dönüştüğünü *göstermektedir*. (p.230)

At 0.5 mL/min (C8) and 1 mL/min (c11) Na2CO3 feed rates and FT-IR spectra of crystals obtained after 7 days of aging, peaks of 1400, 872 and 711 cm-1 *show* that the structure is transformed into calcite.

6. Kristalizasyon deneyleri sonucunda elde edilen ve yaşlandırma işlemi uygulanmayan kristallerin (C9), XRD analizi (JCPDS 01-072-0506) ile vaterit yapıda olduğu *doğrulanmıştır.* (p.230)

Crystals (C9) obtained as a result of crystallization experiments and without aging process *were confimed* to have vaterite structure by XRD analysis (JCPDS 01-072-0506).

7. Tek gün yaşlandırma işlemi uygulanan kristallerin (C10) kalsit-vaterit karışımından oluştuğu XRD analizi (JCPDS 01-086-2334 ve JCPDS 00-033-0268) ile *doğrulanmıştır.* (p.231)

It *was confirmed* by XRD analysis (JCPDS 01-086-2334 and JCPDS 00-033-0268) that crystals (C10) that underwent a single day aging process consist of a mixture of calcite-vaterite.

8. Tek gün yaşlandırma işlemi uygulanan kristallerin (C11) ise kalsit yapısında olduğu XRD analizi (JCPDS 01-083-1762) ile *doğrulanmıştır.* (p.231)

It *was confirmed* by XRD analysis (jcpds 01-083-1762) that the crystals (C11) that were aged for a single day were in calcite structure.

9. Aynı şartlarda üretilen ve yaşlandırma işlemi uygulanmayan kristaller (C9) vaterit yapıda oluşurken, 1 günlük yaşlandırma işlemi sonunda %55kalsit ve %45 vaterit karışımından oluşan kristaller *bulunmuştur*. (p.231)

Crystals (C9) produced under the same conditions and not undergoing aging process were formed vaterite structure, while crystals consisting of a mixture of 55% calcite and 45% vaterite *were found* at the end of the 1-day aging.

10. Farklı başlangıç konsantrasyonlarında, 1 mL dk-1Na2CO3 besleme hızında ve 7 günlük yaşlandırma süresi sonunda elde edilen CaCO3 kristallerinin kalsit yapıda olduğu FT-IR analizi ile *doğrulanmıştır.* (p.232)

It *was confirmed* by FT-IR analysis that CaCO3 crystals obtained at different initial concentrations, 1 mL min-1na2co3 feed rate and at the end of 7 days aging period have calcite structure.

DISCUSSION SECTION

11. Yedi gün yaşlandırma işlemi uygulanan kristallerin (CP1) kalsit-vaterit karışımından oluştuğu XRD analizi (JCPDS 01-072-1651 ve JCPDS 00-033- 0268) ile *doğrulanmıştır.* (p.232)

It *was confirmed* by XRD analysis (jcpds 01-072-1651 and JCPDS 00-033-0268) that the crystals that underwent 7-day aging process are composed of calcite-vaterite mixture.

12. Ondört gün yaşlandırma işlemi uygulanan kristallerin (CP2) kalsit-vaterit karışımından oluştuğu XRD analizi (JCPDS 01-072-1651 ve JCPDS00-033-0268) ile *doğrulanmıştır.* (p. 232).

It *was confirmed* by XRD analysis (jcpds 01-072-1651 and JCPDS00-033-0268) that crystals (CP2) that underwent 14-day aging process consist of a mixture of calcite-vaterite.

13. Yaşlandırma süresi ve polimerik katkı maddesinin CaCO3 kristallerinin polimorflarının oluşumunda etkili olduğu *bulunmuştur.* (p.233)

The aging time and polymeric additive *have been found* to be effective in the formation of polymorphs of CaCO3 crystals.

C 9. Alver, E. (2017). İyonotropik jelleşme yöntemi ile hazırlanan kitosan nanopartiküllerde hapsetme (enkapsülasyon) ile anyonik boyaların uzaklaştırılma ve hapsedilen boyanın nanopartikülde depolanma etkinliğinin araştırılması. *Gazi Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi,* 8(1), 26-37.

RESULTS SECTION

1. Partiküller küresel, nano boyutta ve partikül çapları 100 mm *civarında*dır. (p.33)

Particles are spherical, nano-sized, and particle diameters are *around* 100 mm.

2. Boya hapsedilmiş kitosan nanopartiküllerin zeta boyut dağılım grafiğine bakarak (Şekil 2.a) partikül dağılım aralığının dar olduğu söylen*ebilir*. (p.33)

By looking at the Zeta size scatter chart of dye-trapped chitosan nanoparticles (Figure 2.a) it *may* be said that the particle distribution range is narrow.

3. Boya uzaklaştırılmasında karıştırma süresinin herhangi bir etkisinin olmaması Na-TPP eklendikten sonra nanopartikül oluşumu ve boyanın hapsolmasının çok hızlı bir şekilde gerçekleşmesi ile açıklan*abilir*. (p.33)

The absence of any effect of mixing time in paint removal *might* be explained by the formation of nanoparticles after na-TPP is added and the capture of paint occurs very quickly.

4. Bu durum, kitosan ile boya moleküleri arasında iyon değişimi gibi güçlü etkileşimlerin varlığı ile açıklan*abilir*. (p.33)

This *may* be explained by the presence of strong interactions between chitosan and dye molecules, such as ion exchange.

5. Bu azalmanın yüksek karıştırma hızlarında çözelti ortamında oluşan vorteks etkisi sebebiyle, boya moleküllerinin kitosan nanopartikül içerisine hapsolacak zamanı bulamadığından kaynaklandığı *düşünülmektedir.* (p.35)

It *is thought* that this decrease is due to the vortex effect that occurs in the solution environment at high mixing speeds, because dye molecules do not have time to be trapped in the chitosan nanoparticle.

6. Düşük TPP derişimlerinde uzaklaştırma veriminin düşük olması kitosanın tamamının çapraz bağlanamamasından dolayı olduğu *düşünülmektedir*. (p.35)

It *is thought* that low removal efficiency in low TPP concentrations is due to the inability to cross-link the entire chitosan.

7. Yüksek TPP derişimlerindeki azalma çözelti ortamında oluşan aşırı negatif yükün boya moleküllerinin kitosan içerine hapsolmasını engellemesi ile açıklan*abilir*. (p.36)

The decrease in high TPP concentrations *may* be explained by the fact that the excessive negative charge generated in the solution environment prevents dye molecules from being trapped in chitosan.

8. Bu azalmanın Cl- iyonlarının derişimi arttıkça ortamda artan negatif yük yoğunluğunun boya moleküllerinin kitosan içerisine hapsolmasını engellemesinden kaynaklandığı *düşünülmektedir.* (p.36)

It *is thought* that this decrease is due to the fact that the negative charge density in the environment increases as the concentration of Cl-ions increases, preventing dye molecules from being trapped in chitosan.

C 10. Özçimen, D. (2018). Chlorella protothecoides mikroalg yağının botrytis cinerea ve aspergillus niger küflerine karşı antifungale etkisinin incelenmesi. *Tekirdağ Ziraat Fakültesi Dergisi*, 15 (2), 45-52.

RESULTS SECTION

1. Kontrolün misel gelişimi DMSO' da 90 mm iken etanol ve metanol'de sırası ile 86.5 mm ve 79.5 mm olduğu *görülmüştür*. (p.47)

While the micellar development of control was 90 mm in DMSO, it *was seen* as 86.5 mm and 79.5 mm in ethanol and methanol respectively.

2. *Botrytis cinerea*'nın misel gelişimini durduran veya inhibe edenin kullandığımız alg türünde bulunan fenolik veterpenoid bileşikler olduğu *düşünülmektedir*. (p.47)

It *is thought* that phenolic veterpenoid compounds found in the algal species stop or inhibit micellar development of Botrytis cinerea.

3. Kontrolün misel gelişimi ise DMSO'da 90 mm iken etanol ve metanol'de sırası ile 82 mm ve 84 mm olduğu *görülmüştür*. (p.48)

While the micellar development of control was 90 mm in DMSO, it *was seen* as 82 mm and 84 mm in ethanol and methanol respectively.

DISCUSSION SECTION

4. Yüksek hidrofilik karakterlerinden dolayı polifenolik bileşikleri birden fazla -OH grubu içerdikleri için, polaritesi fazla olan yağ DMSO solventinde çok daha iyi çözümlenmekte ve dolayısıyla daha yüksek bir antifungal aktivite sergiley*ebil*mektedir. (p.48)

Because their polyphenolic compounds contain more than one-oh group due to their high hydrophilic character, oil with high polarity is much better dissolved in DMSO solvent and therefore, it *may* exhibit higher antifungal activity.

5. Çalışmada *Aspergillus niger* ve *Botrytis cinerea'ya* uygulanan mikroalg yağının az oranlarda uygulandığında bile fungal koloni çapı değerleri üzerinde mutlak bir fungistatik etkisi olduğu ve ayrıca yağın çözüldüğü çözücü çeşidinin defungistatik özelliğin etkisine katkısı olduğu *sonucuna varılmıştır*. (p.48)

It *was concluded* that microalgae oil applied to Aspergillus niger and Botrytis cinerea has an absolute fungistatic effect on fungal colony diameter values even when applied in small proportions, and also that the solvent type in which the oil is dissolved contributes to the effect of defungistatic property.

6. Araştırmamızda ilkbaharda maksimum antimikrobiyel etki *tespit edilmiştir*.

In this study, maximum antimicrobial effect *was detected* in spring

7. *Botrytis cinerea'ya* en yüksek etkiyi DMSO'da hazırlanan *Chlorella protothecoides* yağı *göstermiştir*. (p.49)

Chlorella protothecoides oil prepared in DMSO *showed* the highest effect on Botrytis cinerea.

8. En düşük etkiyi metanol'de hazırlanan *Chlorella protothecoides* yağının gösterdiği *görülmüştür.* (p.49)

It *was seen* that Chlorella protothecoides oil prepared in methanol exhibited the lowest effect.

9. En düşük etkiyi metanol'de hazırlanan Chlorella protothecoides yağının gösterdiği *gözlenmiştir.* (p.49)

Chlorella protothecoides oil prepared in methanol *has been observed* to show the lowest effect.

LINGUISTIC ARTICLES

L 1. Tekşan, K. (2018). Ferhunde Kalfa kikâyesinde bağdaşıklık ve tutarlılık görünümleri. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi,* 7 (1), 217-236.

RESULTS SECTION

1. Ferhunde Kalfa hikâyesi bağdaşıklık özelliklerini taşıdığı için metin olarak kabul edilebilir ve metin dil bilim incelemelerinde değerlendiril*ebilir.* (p.234)

The story of Ferhunde Kalfa *may be* considered as a text because it has the characteristics of compatibility, and the text may be evaluated in linguistic studies.

2. Ferhunde Kalfa hikâyesinin tutarlı olması onun kabul edilebilirliğini ve okunmasını sağlay*abilir*. (p.234)

Being consistent with the story of Ferhunde Kalfa may ensure its acceptability and reading.

3. Bu kullanımla anlatıcı kahramanının duygularındaki sürekliliği *göstermiştir*. (p. 234)

In this use, the narrator *shows* continuity in the feelings of his hero.

4. Ferhunde' nin Hasna' yı örnek alması gayet doğaldır ama kendini Hasna ile kıyaslaması, kendi sosyal konumunun farkında olmadığını *göstermektedir*. (p.234)

It is natural for Ferhunde to take"Hasna"as an example, but his comparison with Hasna *shows* that he is not aware of his social position.

DISCUSSION SECTION

5. Ferhunde Kalfa hikâyesi Türkçe ve edebiyat derslerinde metin olarak kullanılırsa, öğrenciler metin kavramını ve metinselliğin önemli iki özelliği olan bağdaşıklık ve tutarlılığı öğrenebilir ve kendi metinlerini de bu özelliklere dikkat ederek düzenley*ebilir*ler. (p.235)

If the story of Ferhunde Kalfa is used as a text in Turkish and literature courses, students may learn the concept of text and the compatibility and consistency that are two important characteristics of textuality and they *may* also edit their own text by paying attention to these features.

6. Yine bu metin dil bilgisi çalışmalarında özellikle kelime türlerini öğretiminde etkili olarak kullanıl*abilir.* (p.235)

Again, this text *may* be used effectively in grammar studies, especially in teaching word types.

L 2. Uzdu Yıldız, F. (2017). "Acıbademdeki Köşk" öyküsünde anlatıcı ve anlatı kişilerinin kiplikler açısından incelenmesi. *Dil ve Eğitimi Araştırmaları Dergisi*, 42, 259-271. DOI: 10.17133/tubar.365394.

RESULTS SECTION

1. Anlatıcının özne olarak değerlendirilebilmesinde kahraman anlatıcı olmasının *önemli* bir rolü vardır. (p.270)

Being a hero narrator has an *important* role in evaluating the narrator as a subject.

2. Öykünün alegorik yapısının oluşumda da katkısının olduğu *düşünülmektedir.* (p.270)

It *is thought* that the allegorical structure of the story also contributed to the formation

3. Şekil 4' te belirtilen /bilme/ kipliği anlatıcı açısından değerlendirildiğinde Sani Bey'den farklı olarak onun her şeyin farkında olduğu *görülmektedir*. (p.270)

When the /knowing/ mode mentioned in Figure 4 is evaluated from the point of view of the narrator, it *is seen* that he is aware of everything, unlike Mr. Sani.

DISCUSSION SECTIONS

4. Bu çalışmanın bulgularının yapılacak yeni değerlendirme ve yorumlamalarda farklı bir bakış açısı sunacağı *düşünülmektedir*. (p.270)

It *is thought* that the findings of this study may offer a different perspective in new assessments and interpretations.

5. Anlatıcının özne olarak değerlendirilebilmesinde kahraman anlatıcı olmasının rolü *önemlidir*. (p.270)

The role of the hero narrator is *important* in evaluating the narrator as a subject.

6. Bu karşılaştırmanın sonucunda anlatı kişilerinin öyküde temsil ettikleri düşünülen dönemler arasındaki karşıtlığın kipsel olarak da benzerlik sergilediği *görülmüştür.* (p.270)

As a result of this comparison, it was found that the contrast between the periods that the narrative people *are thought* to represent in the story also shows a similarity in mode.

L 3. Bahar, M, A. (2017). Konuşma eğitimi bağlamında Tansel Masalları ve söylem belirleyiciler üzerine bir inceleme. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi,* 20(37), 253- 274. DOI: 10.31795/baunsobed.645186.

RESULTS SECTION

1. Bu ürünlerden söz varlığı çalışmalarında yararlanılmasıyla verimli bir konuşma eğitiminin destekleneceği *düşünülmektedir.* (p.269)

It is thought that efficient speech training will be supported by using these products in word presence studies.

2. Çocuk edebiyatı ürünlerinden yararlanılması; öğrencilerin duygu, düşünce ve gereksimlerine göre düzenlenecek eğitim yaşantıları oluşturulmasına ve düzeylerine uygun, kültür dilinde de anlatımını bulan söylem belirleyicilerini görerek bunların anlamsal işlevlerinin ayrımına varmasına katkı sun*abilir.* (p.269)

The use of children's literature products *may* contribute to the creation of educational lives that will be organized according to the feelings, thoughts and requirements of students and to the separation of their semantic functions by seeing the determinants of discourse that are appropriate to their level and find their expression in the language of culture.

3. Bu yüzden çocuk edebiyatı yapıtlarıyla ilgili değerlendirme ölçütleri arasına söylem belirleyicilerine nitelikli bir biçimde yer verme durumununda eklenmesiyle ileriki çalışmaların gerekçelendirmesinin kolaylaşacağı *düşünülmektedir.* (p.270)

For this reason, it *is thought* that the justification of future studies will be easier by adding discourse determinants to the evaluation criteria related to children's literature works in a qualified form.

4. Bu konuda yapılacak daha geniş hacimli araştırmalarda Türkçe eğitimi, Türk dili ve edebiyatı, metin dil bilim ve sözcük bilim alanlarında uzmanlaşmış kişilerin görüşlerine başvurulması ve kodlayıcılar arası geçerlik güvenirlik çalışmalarının yapılması daha sağlıklı sonuçlar ver*ebilir.* (p.270)

Applying the opinions of people specializing in Turkish education, Turkish language and literature, text language science and lexical science, and conducting studies on validity reliability between coders *may* give healthier results.

5. Böylece anılan zorlukların etkisi daha aza indiril*ebilir*. (p.270)

In this way, the impact of these difficulties *may* be reduced.

L 4. Karakoç, B. (2017). Nogayca çok filli yüklemler: fillerden gelişmiş dilbilgisel biçimlere bütüncül bir bakış. *Hacettepe Üniversitesi Türkiyat Araştırmaları Dergisi*, 27, 189-216.

RESULTS SECTION

1. Buraya kadar olan çözümlemelerimizden anlaşılacağı üzere, Nogayca fiil içeren kompleks dilbilgisel yapılar açısından *önemli* bir dildir. (p.212)

As can be seen from our analysis so far, Nogay language is an *important* language in terms of complex grammatical structures containing verbs.

2. Örneğin *tur-* fiilinden gelişmiş, *-DI, -DIr, -t* şeklindeki 3. Şahıs özne işaretleyicisi olan bir ek, göreceli olarak dil bütünlüğünün devam ettiği daha eski dil katmanlarına ait (birincil) bir dilbilgiselleşme sürecinden geçip geldiği için, bugün *hemen hemen* bütün Türk dillerinde mevcuttur. (p.212)

For example, tur-developed from the verb, *-DI, -DIr,* - t in the form of 3. an addition with a personal subject marker is present in *almost* all Turkic languages today, as it has gone through a (primary) process of grammaticalization belonging to older language layers, where relative linguistic integrity remains.

3. Birincil oluşumlarda gözlemlenen fonetik indirgenme ile yapısal saydamlığı kaybedip ekleşme özelliği, bu ikincil oluşumlarda *önemli* değildir. (p.213)

The ability to lose and add structural transparency by phonetic reduction observed in primary formations is not *important* in these secondary formations.

4. Dolayısıyla, ikincil oluşumlarda gözlemlenen fiilin yapı bütünlüğünü koruma durumu, araştırmacılar açısından, sözlüksel kullanım dilbilgisel kullanım yelpazesi üzerinde sağlıklı bir işlev çözümlemesi ortaya koymada zorluklar yarat*abilir*. (p.213)

Thus, the state of preserving the structural integrity of the verb observed in secondary formations *may* present difficulties for researchers in establishing a healthy function analysis on the range of lexical use grammatical use.

L 5. Esmer, E. (2018). Türkçeyi yabancı dil olarak öğrenen öğrenciler tarafından üretilen ikna metinlerinde üstsöylem belirleyicilerinin kullanımı. *Dil Eğitimi ve Araştırmaları Dergisi,* 4(3), 216-228. DOI: 10.31464/jlere.292927.

RESULTS SECTION

1. Bu çalışma sonucunda elde edilen bulgular Türkçeyi yabancı dil olarak öğrenen öğrencilerin üst söylem belirleyicilerini metinlerinde etkin bir biçimde kullanamadıklarını *göstermektedir*. (p.227)

The results obtained from this study *show* that the students who learn Turkish as a foreign language cannot effectively use the determinants of upper discourse in their texts.

2. Türkçeyi yabancı dil olarak öğretimi yazım derslerinde üstsöylem belirleyicileri ile ilgili bilgi ve aktivitelere ağırlık verilirse, öğrencilerin ikna metin üretim becerilerinde olumlu değişiklikler gözleneceği *düşünülmektedir*. (p.227)

Teaching Turkish as a foreign language it *is thought* that positive changes in students ' persuasion text production skills will be observed If knowledge and activities related to the determinants of upper speech are given in writing courses.

3. Bu çalışmanın veri tabanını oluşturan metinlerde gözlemlediğimiz ve kullandığımız kuramsal çerçeveler ışığında değerlendirdiğimiz sorunların, Türkçeyi yabancı dil olarak öğrenen öğrencilere özgü sorunlar olarak değerlendirilmesi Türkçeyi anadil olarak konuşan ideal katılımcıların ürettiği metinler ile karşılaştırılması sonrasında *mümkündür*. (p.227)

In the light of the theoretical frameworks that we observe and use in the texts that make up the database of this study, it *is possible* to evaluate the problems that we evaluate as problems specific to students who learn Turkish as a foreign language after comparing the texts produced by ideal participants who speak Turkish as a mother tongue.

4. Bizim çalışmamız Türkçenin yabancı dil olarak öğretiminde üstsöylem çözümlemeleri konusunda yapılacak sonraki çalışmalar için betimsel bir başlangıç noktasını oluşturmakta olup ideal katılımcıların metinleriyle yapılması gereken karşılaştırmalı çalışmaların gerekliliğini de *göstermektedir.* (p.227)

Our study creates a descriptive starting point for subsequent studies on the analysis of upper language in the teaching of Turkish as a foreign language, and also *indicates* the need for comparative studies that should be done with the texts of ideal participants.

L 6. Yiğitbaşı, K. G. (2018). İkna edici iletişimde siyasal mesaj tasarımı: 43. muhtarlar konuşması örneği. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi,* 22(1), 277-292.

RESULTS SECTION

1. İhtiyaçlar Hiyerarşisi Kuramı' na göre ulaşılabilecek son aşama olan kendini gerçekleştirme basamağı için konuşmada yer verilen gelecek hedeflerini örnek göstermek *mümkündür*. (p.289)

According to the hierarchy of Needs theory, it *is possible* to show an example of the future goals contained in the speech for the self-realization step, which is the final stage that can be reached.

2. Muhtarlıkların da kurumsal olarak bir kimliği, bir şahsiyeti olması konusunu bu duruma örnek olarak vermek *mümkündür.* (p.289)

As an example of this situation, it *is possible* to give the issue that headmen also have an identity, a personality as an institutional.

3. Bu aşamaların hepsinin bir arada ve uygun somut örneklerle Muhtarlar Konuşması'nda kullanıldığı *görülmüştür.* (p.290)

It *was observed* that all of these stages were used together and with appropriate concrete examples in the speech of Mukhtarlar.

4. Bu süreçler boyunca da ikna edici iletişimin üç farklı amacı ya da sonucu olacağı *düşünülmektedir.* (p.290)

It is *thought that* persuasive communication during these processs278 will have three different goals or consequences.

5. Bu bağlamda "Bizim başka ülkemiz ve vatanımız yok" cümlesi *önemlidir*. (p.290)

In this context, the phrase "We have no other country and homeland" is *important.*

DISCUSSION SECTION

6. Buna göre bireylerin ve toplumların motivasyonu için öncelikle fizyolojik ihtiyaçların karşılanması *gereklidir.* (p.290)

Accordingly, it *is necessary* to meet the physiological needs first for the motivation of individuals and societies

7. Temel fizyolojik ihtiyaçların tatmininden hemen sonra gelen basamak güvenlik ihtiyaçlarıdır ve bu aşamaya; tehdit ve baskı altında olmama, dayanışmaya girme ve yardım görme gibi ihtiyaçlar gösteril*ebilir*. (p.291)

Immediately after the satisfaction of basic physiological needs, the step is security needs, and at this stage, needs such as not being under threat and pressure, entering solidarity and getting help *may* be shown.

8. İhtiyaçlar Hiyerarşisi'ndeki son aşamanın yani kendini gerçekleştirme basamağının yansıması olarak ise ülkenin geleceğe dönük hedef ve vizyonların ortaya konması da konuşmadaki Maslow'un Kuramı ekseninde yapılan son ve en üst hitap olarak görül*meli*dir. (p.291)

The final stage in the hierarchy of needs, that is, the stage of self-realization as a reflection, the country's future goals and visions *must* also be seen as the last and highest address made on the axis of Maslow's theory in the speech.

L 7. Gökmen, E. (2017). İçerik analizi ve yıldız falı analizinin kavram ve unsurlarının incelenmesi: Türk siyasetinde siyasal dil ve analizi örneği. *Trakya Üniversitesi İktisadi ve İdari Bilimler Fakültesi E-Dergi*, 6 (1). https:// dergipark. org.tr/en /pub/ trakyaiibf/ issue/30831/ 291981.

RESULTS SECTION

1. Elde edilen veriler Bahçeli' nin "siyaset dili" açısından önemli veriler *ortaya koymaktadır*. (p.188)

The data obtained *reveals* important data in terms of Bahçeli's "political language"

2. Bu kapsamda metin incelendiğinde toplam 3462 sözcük kullanıldığı, bunlardan 1497'sinin farklı terim olduğu *görülmektedir.* (p.188)

In this context, when the text is examined, it *is seen* that a total of 3462 words are used and 1497 of them are different terms.

3. Bu oran genel olarak Bahçeli'nin kelime haznesinin genişliğini ve liderin sözcük tekrarını sıklıkla yapmadığını *göstermektedir.* (p.188)

In general, this ratio *demonstrates* the breadth of Bahçeli's vocabulary and that the leader does not often repeat words.

4. Taşıyıcı öğelerin yoğun olarak kullanıldığı metinlerde mesaja daha büyük önem verildiği, yardımcı öğelerin daha yoğun biçimde kullanıldığı metinlerde ise anlatım gücünün öne çıkarıldığı *görülmektedir*. (p.188)

It *is seen* that in texts where carrier elements are used intensively, the message is given greater importance, while in texts where auxiliary elements are used more intensively; the power of expression is highlighted.

5. Bahçeli'nin metni bu çerçevede incelendiğinde kullanılan taşıyıcı sözcük sayısının 1570'i isim, 671'i fiil, 410'u sıfat olmak üzere toplamda 2651 olduğu *görülmektedir.* (p.188)

When the text of Bahçeli is examined in this context, it *is seen* that the number of carrier words used is 2651, including 1570 names, 671 verbs, 410 adjectives.

6. Metinde kullanılan yardımcı öğeler incelendiğinde ise toplamda 811 araç sözcüğün kullanıldığı, bunlardan 229'unun farklı sözcükler olduğu *görülmektedir.* (p.188)

When the auxiliary elements used in the text are examined, it *is seen* that a total of 811 tool words are used, of which 229 are different words.

7. Genel olarak mesajın etkisinin anlatım gücüne yeğlenmiş olduğu söylen*ebilir.* (p.189)

In general, it *may* be said that the effect of the message is preferred to the power of expression.

8. Metinde Bahçeli' nin öncelikle geçmişte yaşananları vurguladığı, geçmişe döndüğü, ardından da şimdi yaşananları işaret ettiğini *görülmektedir.* (p.189)

In the text, it *is seen* that Bahçeli first emphasizes what happened in the past, returns to the past, and then points to what happened now.

9. Yani cümlelerde geçmiş ile şimdi arasında bir bağ kurulduğu ifade edil*ebilir*. (p.189)

In other words, it *may* be stated that there is a connection between the past and the present in the sentences.

10. Bu durum siyaset dili açısından geçmişin unutulmaması, geçmişten dersler çıkarılması, ancak şu ana vurgu yapılması ve dikkat çekilmesi şeklinde yorumlan*abilir.* (p.189)

In terms of political language, this *may* be interpreted as not forgetting the past, drawing lessons from the past, but emphasizing and drawing attention to the present.

11. Metinde emir/gereklilik kipi kullanımının yüksek olmadığı, Bahçeli' nin "yapın, edin" gibi sözcüklerle emir söyleminden çok "yapılmalı, edilmeli" gibi sözcüklerle gereklilik vurgusunu daha çok yaptığı ifade edil*ebilir.* (p.189)

It *may* be stated that the use of the order/requirement mode in the text is not high, and Bahçeli makes more emphasis on necessity with words such as “must be done, must be done” than with words such as “do, make”.

12. Metne bakıldığında Bahçeli’ nin dil kullanımında gelecek zaman vurgusunun da düşük olduğu, yani geleceği konuşmak yerine geçmiş ya da şimdiyi yeğlediği *görülmektedir.* (p.190)

Looking at the text, it *is seen* that Bahçeli's emphasis on the Future Tense is also low in the use of language, that is, he prefers the past or present instead of talking about the future.

13. Buradan MHP Lideri’nin şartlı bir dil söylemi oluşturmadığı, ifadelerini şarta bağlamadığı ifade edil*ebilir.* (p.190)

From here, it *may* be stated that the leader of the MHP does not form a conditional language discourse, does not condition his statements.

14. Bu bağlamda metin incelendiğinde, Bahçeli’ nin öncelikle gündeminde yer verdiği konunun olgusal bilgilerini aktarıp, ardından bu konuya kendisinin ve temsil ettiği partisinin ne şekilde yaklaştığını aktardığı *görülmektedir.* (p.190)

In this context, when the text is examined, it *is seen* that Bahçeli first conveys factual information about the subject that he has included in his agenda, and then conveys how he and the party he represents approach this issue.

15. Darbe Girişimi’ nin hemen ardından ve ona yakın bir tarih olması nedeniyle, gündemin genel olarak bu konu çerçevesinde ele alındığı *görülmektedir.* (p.190)

Because of the immediate aftermath of the coup attempt and the close history of it, it *is seen* that the agenda is generally considered within the framework of this issue.

L 8. Güven, M. (2017). Türkçe sesli betimlemede gönderimsel ögeler. *Dilbilim Araştırmaları Dergisi*, 2, 1-20. http://dx.doi.org/10.18492/dad.324087.

RESULTS SECTION

1. Veri tabanındaki metinlerin çözümlenmesi sonucu, gözlemlenen sorunların üç temel kaynağı bulunduğu *saptanmıştır.* (p.14)

As a result of analyzing the texts in the database, it *was detected* that there are three main sources of observed problems.

2. *Lays* reklam filmindeki esprili finalin sadece görsel olarak ifade edilmiş olması, çoklu ortam ürünlerinde dış gönderimin ciddi bir sorun olduğunu *göstermektedir.* (p.14)

The humorous finale in the Lays commercial is only visually expressed, meaning that external submission in multimedia products *indicates* that there is a serious problem.

3. Resimlerle sesler arasındaki bağlaşıklığın kesintiye uğradığı SB metinlerinde, görsel ögelerin eksikliğini duyurmayacak bilgilerin sözel olarak eklenmesi *gerekmektedir.* (p.14)

In SB texts, where the connection between images and sounds is interrupted, information that does not announce the lack of visual elements *are necessary to* be added verbally.

4. Çalışmamız öğrencilerin Türkçenin bazı yapısal özelliklerine hâkim olmadıklarını ve konuşma dilinin etkisiyle savruk bir dil kullandıklarını göstermiştir. (p.15)

Our study showed that students did not master some of the structural features of Turkish and used a harsh language under the influence of colloquial language.

5. Bu bağlamda, dilbilgisel olmayan tümcelerdeki gönderimsel bulanıklığın görsel ögelerden bağımsız olduğu ve bu durumun SB metinlerine özgü bir sorun olmadığı *düşünülebilir*. (p.15)

In this context, it *may be considered* that the referential blur in non-grammatical sentences is independent of visual elements, and this is not a problem specific to SB texts.

6. SB metinlerinin görme engelli bireyler tarafından nasıl algılandığı tam olarak ortaya konulursa, daha nitelikli metinler üretil*ebilir*. (p.15)

If it is revealed exactly how SB texts are perceived by visually impaired people, more qualified texts *may* be produced.

7. Türkçede söylemde konu olan özne adıllarının yeni bilgi vermedikleri ya da bir karşıtlık olmadığı sürece söylenmeden geçildiği *görülmektedir*. (p.15)

In Turkish, it *is seen* that the subject names that are the subject of discourse are passed without saying unless they provide new information or there is a contrast.

8. Bu ek, tamlayan ekli bir ad öbeği olduğunda iyelik eki olarak anlaşıl*abi*lmektedir. (p.16)

This suffix *might* be understood as a possessive suffix when there is an octagonal attached noun block.

9. (14b) yerine özel adlar eklenmiş olan (24) kullanıl*abilir*; (16b) yerine de birbirini izleyen *(neye uğradığına) şaşır-*, (*başı dönmeye) başla-* ve *afalla-* eylemlerinden ilk ikisinin ortaçlı yantümceye alınarak özneyle yüklemin daha belirgin olarak sunulduğu (25) gibi yapılar yeğlen*ebilir*. (p.16)

(14b) *may* be used instead of (24) with special names added; Instead of (16b), structures such as (25), where the first two of the successive (what has happened) surprised-, (dizzy) start- and afalla- actions are presented more prominently with the subject and predicate, *may* be preferred by taking into the medieval clause.

10. Ancak, bu örnek Türkçede sorunlu değildir: (30b)'de İngilizcede olduğu gibi *Bitti mi*? denilmiş olsaydı *Temizlik bitti mi?* anlamında yorumlan*abilir*di. (p.16)

However, this example is not problematic in Turkish: if it was said "is it over? in (30b) as in English, it *might* have been reviewed as "is the clean-up over?"

11. Sonuç olarak, engelli bireylerin toplumsal yaşama daha etkin bir biçimde katılması için yapılan çalışmalar artarsa, sesli betimlemenin de önemi art*abilir*. (p.17)

As a result, if efforts to more effectively participate in social life of people with disabilities increase, the importance of voice depiction *may* also increase.

12. Bu bağlamda dilbilimin SB alanına katkısı, Türkçeye özgü olası sorun ve çözümlerin bu kılavuza eklenmesinin sağlanması biçiminde ol*abilir*. (p.17)

In this context, the contribution of linguistics to the field of SB *may* be in the form of ensuring that possible problems and solutions specific to Turkish are added to this guide.

L 9. Feridunoğlu, İ. C. (2017). Hürriyet Gazetesi'nce 1964 Johnson Mektubu süreci'nde kullanılan dilin milliyetçi söylem bağlamında söylem analizi yöntemiyle incelenmesi. *Karadeniz Sosyal Bilimler Dergisi,* 9 (2), 371-393.

RESULTS SECTION

1.Hükümetin uluslararası girişimlerini ve diplomatik çabalarını derleyerek duyurmak, Kıbrıslı Rumların örgütlülüğünü ve silahlanmasını vurgulayarak, Kıbrıslı Türklerin yaşadığı güvenliksiz ortama dikkat çekmek olarak özetlen*ebilir*. (p.390)

Compiling and announcing the government's international initiatives and diplomatic efforts *may* be summarized as highlighting the organization and armament of Greek Cypriots and drawing attention to the unsafe environment in which Turkish Cypriots live.

2. İncelenen Hürriyet Gazetesinin o dönemin atmosferini yansıtması *önemlidir.* (p.390)

That Hürriyet newspaper, which was examined, reflects atmosphere of that period is *important.*

DISCUSSION SECTION

3. Yunanistan'da Mağarada Yaşayan Türkler" yazı dizisi Hürriyet'in milliyetçi bakış açısını kavramak açısından *önemlidir.* (p.391)

Turks living in a cave in Greece" writing series is *important* for understanding Hurriyet's nationalist point of view.

4. Kıbrıs Türklerinin içinde bulunduğu durumla ilgili başta Türkiye olmak üzere uluslararası güçlere yüklenen misyon Hürriyet Gazetesi incelemesinde görül*ebilir.* (p.391)

The mission to the international powers, especially Turkey, regarding the situation of the Turkish Cypriots *may* be seen in the review of the Hurriyet newspaper.

5. Gazetenin bu anlamda Kıbrıs'ı temel alarak milliyetçi söylemi yükselttiği ve ulaştığı yüksek tiraj ile kamuoyu düşüncelerini etkilediği kabul edil*ebilir.* (p.392)

In this sense, it *may* be assumed that the newspaper raises nationalist rhetoric based on Cyprus and affects public opinion with the high circulation.

L 10. Sarılar, N. B. E. (2018). Türk basınında, ana akım medyada mülteci/ sığınmacı temsili *İstanbul Aydın Üniversitesi Dergisi*, 10 (1), 139-157.

RESULTS SECTION

1. Medyanın gündem belirleme gücü, olaylara çizdiği çerçeve, haberleri veriş sıklığı ve aktardığı söylemin kamuoyunun algısını etkilemesi *önemlidir*. (p.155)

The power of the media to set the agenda, the framework it draws on events, the frequency with which it gives news and the discourse it conveys affect the perception of the public are *important.*

2. Ancak gazetenin her türlü haber yapmasına rağmen mültecileri olumlamayan içerikte "sosyal yük" "ekonomik yük" ekseninde gördüğü *tespit edilmiştir*. (p.155)

However, it *was detected* that the newspaper saw the "social burden" on the axis of "economic burden" in content that did not affirm refugees, despite all kinds of news.

DISCUSSION SECTION

3. Analiz edilen dönem sonunda Hürriyet gazetesinin "mültecileri" özellikle "Suriyeli" kavramını sıklıkla internet sitesine taşıdığı *görülmüştür*. (p.156)

At the end of the analyzed period, it *was seen* that Hurriyet newspaper often carried the concept of "refugees", especially "Syrians" on its website.

4. Sabah gazetesinin incelenen dönem içinde meydana gelen Iraklılarla ilgili cinsel istismar ve taciz haberini sitesine taşıdığı ama özellikle Suriyelilerle ilgili hiçbir eleştirel ya da adli bir haber yapmadığı *görülmüştür*. (p.156)

It *was seen* that Sabah newspaper carried the news of sexual abuse and harassment of Iraqis that occurred during the period under review, but did not make any critical or judicial news, especially about Syrians.

5. Medyada sığınmacı/mülteci temsilinin kamuoyu algısını önemli ölçüde etkilemekte/ şekillendirmekte olduğu *görülmektedir.* (p.141)

PSYCHOLOGICAL COUNSELLING AND GUIDANCE ARTICLES

PCG 1. İşgör, İ. Y. (2018). Üniversite öğrencilerinin psikolojik iyi oluş düzeylerinin bazı değişkenler açısından incelenmesi. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 6 (1), 494-508.

RESULTS SECTION

1. Çalışmanın ilk bulgusuna göre, psikolojik iyi oluş puanları ile muhafazakâr yaşam tarzı arasında pozitif yönde düşük bir ilişki olduğu *saptanmıştır.* (p.503)

According to the first finding of the study, it *was detected* that there was a positive low association between psychological well-being scores and conservative lifestyle.

2. Muhafazakâr yaşamın temel bileşenleri çerçevesinde bu sonucu yorumlamaya çalışırsak, muhafazakâr yaşamı psikolojik iyi oluş açısından olumlu kılan en temel özelliğin aile anlayışı olduğu söylen*ebilir*. (p.503)

If we try to interpret this result within the framework of the basic components of conservative life, it *may* be said that the most basic feature that makes conservative life positive in terms of psychological well-being is family understanding.

3. Bu çerçevede toplumu organik bir yapı olarak gören ve insanı da bu organik yapının organlarından biri olarak tanımlayan, tarih gelenek ve din gibi köklü unsurlar üzerine kendisini inşaeden anlayışların günümüz insanını cezbeden bir yanının olduğu söylen*ebilir*. (p.503)

In this context, it *may* be said that the understanding that sees society as an organic structure and defines man as one of the organs of this organic structure, which builds itself on deep-rooted elements such as history, tradition and religion, has a side that attracts modern people.

4. Muhafazakâr yaşam tarzının psikolojik iyi oluş açısından bu kısmi üstünlüğünün bir diğer kaynağının muhafazakârlığın benimsediği "akıl" anlayışı olduğu söylen*ebilir*. (p.504)

The understanding of the "mind" adopted by conservatism *may* be said to be another source of this partial superiority of the conservative lifestyle in terms of psychological well-being.

5. Sosyal ve bireysel sorunlarını salt şişirilmiş bir ego anlayışı ile değil de canlı bir organizmanın parçaları misali dayanışma kültürüne dayalı bir etkileşimin psikolojik iyi oluşa az da olsa bir katkı sunduğu söylen*ebilir*. (p.504)

It m*ay* be said that an interaction based on a culture of solidarity, such as parts of a living organism, not just with an inflated ego understanding of its social and individual problems, offers a small contribution to psychological well-being.

6. Üst sosyoekonomik düzeydeki üniversite öğrencilerinin psikolojik iyi oluş puanlarının düşük sosyoekonomik düzeydeki üniversite öğrencilerinin psikolojik iyi oluş puanlarından anlamlı derecede daha yüksek olduğu *bulunmuştur.* (p.504)

It *was found* that the psychological well-being scores of college students at the upper socioeconomic level were significantly higher than the psychological well-being scores of college students at the lower socioeconomic level.

7. Çünkü yüksek gelir ve eğitime sahip olanların daha fazla fırsata da sahip oldukları söylen*ebilir*. (p.505)

Because those with high incomes and education *may* also be said to have more opportunities.

8. Bu durum onların birçok açıdan düşük gelir ve eğitime sahip kişilere göre avantajlı olmalarına neden ola*bilir*. (p.505)

This *might* cause them to be advantageous in many ways compared to people with low incomes and education.

9. Bu dezavantajlı durum eğitimin kalitesini, mesleğini, yaşam çevresini, beslenmesini ve sağlıkla ilişkili davranışlarını etkiley*ebilir*. (p.505)

This disadvantage *may* affect the quality of Education, Profession, life environment, nutrition and health-related behavior.

10. Elde ettiğimiz bulgulardan, dindarlığın bilgi-ibadet boyutu arttıkça depresif belirtilerin azaldığı, dinin, özellikle dinî ibadetleri yerine getirmenin depresyona karşı koruyucu işlevi olduğu *ortaya çıkmıştır.* (p.505)

From our findings, it *has been revealed* that as the knowledge-worship dimension of religiosity increases, depressive symptoms decrease, and religion, especially performing religious worship has a protective function against depression.

11. "Ergenlik döneminde yapılan dua ve ibadetin, ergenlerin ruh sağlıkları üzerinde olumlu psikolojik etkileri vardır" tezini ön gören temel hipotezle birlikte diğer hipotezlerin desteklendiği *tespit edilmiştir*. (p.506)

It *has been identified* that other hypotheses are supported, along with the basic hypothesis that predicts the thesis that "prayer and worship during adolescence have positive psychological effects on the mental health of adolescents.

DISCUSSION SECTION

12. Sonuç olarak araştırmadan elde edilen bulgular doğrultusunda birtakım öneriler sunul*abilir*. (p.506)

As a result, a number of recommendations *may* be put forward in accordance with the results obtained from the study.

13. Aşırı bireysellikten uzak, aile içi iletişim daha sıcak ve güvenli olduğu, sosyal değerlere duyarlı bir birey yetiştirme anlayışı yaygınlaştırı*labilir*. (p.506)

Away from excessive individuality, the understanding of raising an individual sensitive to social values *might* be popularized, where domestic communication is warmer and safer.

14. Böylece aile içerisinde nitelikli bir değer ve din eğitimi bilinci oluşturul*abilir*. . (p.506)

In this way, a qualified value and awareness of religious education *may* be created within the family.

15. Araştırma konusu farklı değişkenlerle farklı örneklem grupları üzerinde incelen*ebilir*. (p.506)

The research subject *might* be examined on different sample groups with different variables

PCG 2. Ulu, E. (2017). Çocuklar için saldırganlık ölçeği öğretmen formunun geçerlilik ve güvenilirlik çalışması *Anadolu Psikiyatri Derg*isi, 2018; 19(1): 59-67.

RESULTS SECTION

1. Bu nedenle ÇSÖ-ÖF' nin geçerlilik ve güvenilirlik çalışması yapılmış ve sonuçlar ÇSÖ-ÖF'nin Türkçe formunun iyi psikometrik özelliklere sahip olduğunu *göstermiştir.* (p.65)

For this reason, a study of the validity and reliability of CSF-EF was conducted, and the results *showed* that the Turkish form of CSF-EF has good psychometric properties.

2. Tanı grupları arasında yapılan ikili karşılaştırmalarda ÇSÖ-ÖF'den alınan puanların DEHB kontrol ve DB grupları arasında fark olduğu ve beklenen şekilde DB grubunun ÇSÖ-ÖF'den aldığı puanların yüksek olduğu *bulunmuştur*. (p.65)

In bilateral comparisons between diagnostic groups, it *was found* that the scores received from CSF-EF were different between ADHD control and DB groups, and, as expected, the scores received from DB Group from CSF-EF were higher.

3. Bu sonuç, ölçeğin saldırganlığın yoğunluğunu ölçmede duyarlı olduğunu *göstermektedir.* (p.65)

This result *demonstrates* that the scale is sensitive in measuring the intensity of aggression.

DISCUSSION SECTION

4. Ayrıca yapı geçerliğinin de bir *kanıtıdır.* (p.65)

It *is* also *proof* of structural validity.

5. Ölçeğin güvenilirlik açısından hem alt ölçeklerine hem de bütününe göre yüksek iç tutarlılığa sahip olduğu *saptanmıştır.* (65)

It *has been detected* that the scale has high internal consistency in terms of reliability, both with respect to its subscales and with respect to its whole.

6. ÇSÖ-ÖF Anne-Baba Formu ile kullanıldığında farklı ortamlarda çocuğun saldırgan davranışlarının sıklığını, yönünü ve yoğunluğunu hem klinik hem araştırma hem de eğitim ortamında değerlendirmede kolaylık sağlay*abilir.* (p.66)

When used in combination with the parent form, CSF *may* provide convenience in evaluating the frequency, direction and intensity of the child's aggressive behavior in different environments, both in clinical, research and educational settings.

PCG 3. Bilgin, M. (2018). Ergenlerin beş faktör kişilik özelliği ile bilişsel esneklik ilişkisi. *Elektronik Sosyal Bilimler Dergisi,* 16(62), 945-954.

RESULTS SECTION

1. Ergenin dışadönüklük, özdenetim, duygusal tutarsızlık ve gelişime açıklık özellikleri ile bilişsel esneklik arasında anlamlı bir fark olduğu *saptanmıştır.* (p.951)

It *was detected* that there was a significant difference between adolescent extraversion, self-control, emotional inconsistency and openness to development, as well as cognitive flexibility.

2. Buna karşın yumuşak başlılık özelliği ile bilişsel esneklik arasında anlamlı bir fark *bulunmamıştır.* (p.951)

However, no significant difference *was found* between soft headedness and cognitive flexibility.

3. Ayrıca cinsiyet ile sadece duygusal tutarsızlık özelliği arasında fark *bulunmuştur*. (p.951)

A difference *was* also *found* between sex and the only feature of emotional inconsistency.

4. Bu nedenle dışadönüklük ve bilişsel esneklik arasında ilişki bulunması *beklenilebilir.* (p.951)

Therefore, it *may be expected* that there is a relationship between extraversion and cognitive flexibility.

5. Araştırma sonucunda duygusal tutarsızlık ile bilişsel esneklik arasında ters orantılı bir ilişki olduğu *saptanmıştır*. (p.951)

As a result of the research, it *was detected* that there is an inversely proportional relationship between emotional inconsistency and cognitive flexibility.

DISCUSSION SECTION

6. Bilişsel esneklik ve problem çözme becerisi arasındaki ilişki göz önüne alınırsa, duygusal tutarsızlık özelliği artan bireylerin bilişsel esneklik düzeylerinin düşmesi *beklenebilir*. (p.952)

If the relationship between cognitive flexibility and problem-solving ability is taken into consideration, individuals with increased emotional inconsistency *may be expected* to have lower levels of cognitive flexibility.

7. Araştırmada yumuşak başlılık ve bilişsel esneklik düzeyi arasında farklılık *bulunmamıştır*. (p.952)

No differences *were found* between soft headedness and the level of cognitive flexibility in the study.

8. Bu araştırmada yumuşak başlılık ve bilişsel esneklik arasında anlamlı bir farkın çıkmamasının nedeni, kişilerin seven, verici olma ve sosyal ilgili olma özelliklerini başkalarının doğrultusunda hareket etme olarak algılamış olabileceklerinden kaynaklanmış ol*abilir*. (p.952)

The reason for the lack of a significant difference between softness and cognitive flexibility in this study *may* have been due to the fact that people may have perceived the characteristics of loving, giving and being socially relevant as acting in the direction of others.

9. Araştırmada, kız ve erkek ergenler arasında bilişsel esneklik düzeylerine göre sadece duygusal tutarsızlık özelliği açısından anlamlı fark olduğu *bulunmuştur*. (p.952)

In the study, it *was found* that there was a significant difference between girls and boys in terms of cognitive flexibility levels only in terms of emotional inconsistency characteristic.

PCG 4. Gülbahar, B. (2017). Ortaokul öğretmenlerinin sınıf içi lider öğretmenlik becerilerine ilişkin algılarının bazı değişkenler açısından incelenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi***,** 19(1), 1-28. DOI: 10.29299/ kefad. 2018. 19. 002.

RESULTS SECTION

1. Öğretmen liderliğiyle ilgili ulusal alanyazındaki çalışmalar ile uluslararası alan yazındaki çalışmaların sayısının yeterli olmadığını söylemek *mümkündür.* (p.20)

It *is possible* to say that the number of studies in the national 21 field on Teacher Leadership and the number of studies in the international field is not enough.

2. Öğretmenlerin sınıf içi lider öğretmenlik becerilerine ilişkin algı düzeyinin çok yüksek olması kayda değer ve olumlu bir sonuç olarak görül*ebilir.* (p.20)

A very high level of perception of teachers ' leading teaching skills in the classroom *may* be seen as a significant and positive result.

3. Öğretmenlerin "Öğrencileri Geliştirme / Öğrencilere Rehberlik" alt faktörü altındaki becerilerde kendilerini yeterli gördükleri *tespit edilmiştir*. (p.20)

It *has been found* that teachers consider themselves adequate in skills under the sub-factor "developing students / guiding students".

4. Buradan hareketle, öğretmenlerin kolaylaştırıcı liderlik rolünü de yüksek düzeyde sergiledikleri çıkarımında bulunul*abilir*. (p.21)

Based on this, it *may* be inferred that teachers also demonstrate a high level of facilitating leadership role.

5. Araştırmada, erkek öğretmenler ile kadın öğretmenlerin ortalamalarının birbirine denk olduğu *sonucuna ulaşılmıştır*. (p.21)

In the study, it *was concluded* that the average values of male teachers and female teachers are equal to each other.

6. Araştırmamızda, "Sınıf İçi İlişkileri Geliştirme / Olumlu Sınıf Atmosferi Yaratma" alt faktörüne ilişkin algıları arasında, "medeni durum" değişkenine göre anlamlı farklılık olduğu *sonucuna ulaşılmıştır*. (p.21)

In our research, it *was concluded* that there was a significant difference between their perception of the sub-factor "developing inter-class relationships / creating a positive class atmosphere" compared to the variable "marital status".

7. Öğretmen algıları arasında evli öğretmenlerin lehine anlamlı bir fark olması, evli öğretmenlerin olumlu bir atmosfer yaratma, kişiler arası ilişkileri geliştirme, kişileri uzlaştırma konularında farkındalık düzeylerinin yüksek olmasından, belirtilen konularda fazla mesai yapmış olmalarından kaynaklanıyor ol*abilir*. (p.21)

A significant difference between teacher perceptions in favor of married teachers *may* be since married teachers have a high level of awareness of creating a positive atmosphere, developing interpersonal relationships, reconciling people, working overtime on these issues.

8. Ailelerinde huzuru teminetmek isteyen evli öğretmenlerin bu amaç için daha fazla mesai harcadıkları, dolayısıyla olumlu atmosfer yaratma, kişiler arası ilişkileri geliştirme becerilerinde daha yeterli, tecrübeli oldukları, bu yeterliklerini, tecrübelerini sınıf ortamına da yansıttıkları söylen*ebilir*. (p.22)

It *may* be said that married teachers who want to ensure peace in their families spend more overtime for this purpose, so they are more qualified and experienced in the skills of creating a positive atmosphere, developing interpersonal relationships, reflecting these competencies and experiences in the classroom environment.

9. Eğitim düzeyinin yükselmesiyle beraber öğretmenlerin bilgi ve beceri düzeylerinin yükselmesinin öğretmenlerin özgüvenlerini geliştirebileceğini cesaretlerini yükseltebileceğini söylemek *mümkündür.* (p.22)

It *is possible* to say that increasing the level of knowledge and skills of teachers, along with increasing the level of education, may improve the self-confidence of teachers, increase their courage.

10. Özgüveni yüksek ve bilgi birikimi görece daha fazla öğretmenler, öğrencileri etkileme konusunda daha başarılı ol*abilir.* (p.22)

Teachers with high self-confidence and relatively more knowledge are *may* be more successful at influencing students.

11. Araştırmamızda, ortaokul öğretmenlerinin Öğrencileri Geliştirme /Öğrencilere Rehberlik' e ilişkin algıları arasında, hizmet içinde ya da öncesinde eğitim değişkenine göre farklılık olduğu *sonucuna ulaşılmıştır.* (p.22)

In our research, it *was concluded* that there is a difference between the perceptions of secondary school teachers regarding developing students /guiding students according to the education variable within or before the service.

DISCUSSION SECTION

12. Liderlikle ilgili alınmış bir eğitimin sınıf içi lider öğretmenlik becerileri algı düzeyini yükseltmesinin beklenen bir sonuç olduğunu ifade etmek *mümkündür.* (p.22)

It is *possible* to express that a leadership-related education is an expected result that increases the level of perception of leadership teaching skills in the classroom.

13. Sınıf yönetimi alanında alınmış bir eğitimin de söz konusu algıyı yükseltmesi *beklenir.* (p.22)

An education in the field of classroom management *is* also *expected* to raise this perception.

14. Bu tanımdan hareketle sınıf yönetimi eğitiminin Sınıf İçi İlişkileri Geliştirme / Olumlu Sınıf Atmosferi Yaratma, Öğrencileri Geliştirme / Öğrencilere Rehberlik ve Etkili Öğretim becerilerini geliştirmesinin olağan olduğunu ifade etmek *mümkündür.* (p.22)

Based on this definition, it *is possible* to express that it is common for classroom management education to develop classroom relationships / create a positive classroom atmosphere, develop students / guide students and develop effective teaching skills.

15. Bu çalışmada, mesleki kıdemin, öğretmenlerin sınıftaki önde gelen öğretim becerilerine ilişkin algıları arasında farklılık gösteren bir değişken olduğu ve mesleki kıdem arttıkça öğretmenlerin sınıftaki önde gelen öğretim becerilerine ilişkin algılarının arttığı *bulunmuştur.* (p.22)

In this study, it *was found* that vocational seniority is a variable that differs between teachers 'perceptions of leading teaching skills in the classroom, and as vocational seniority increases, teachers' perceptions of leading teaching skills in the classroom increase.

16. Kıdemli öğretmenler, daha tecrübeli öğretmenlerdir. Tecrübe ise öğretmenlerin herhangi bir konuyla ilgili yeterlik, beceri düzeyi algılarını olumlu etkiley*ebilir*. (p.23)

Senior teachers are more experienced teachers. Experience, on the other hand, *may* positively affect teachers ' perception of competence, skill level on any topic.

17. Ayrıca görece daha kıdemli öğretmenlerin sınıf içi lider öğretmenlik becerilerine daha fazla önem verdikleri ve bu becerilerle ilgili eylemleri gerçekleştirmeye daha fazla zaman ayırdıkları *düşünülebilir.* (p.23)

It *may* also *be considered* that relatively senior teachers pay more attention to leading teaching skills in the classroom and devote more time to taking actions related to these skills.

18. Bu araştırmada ulaşılan, mesleki kıdemin yükselmesiyle öğretmenlerin sınıf içi lider öğretmenlik becerilerine ilişkin algılarının yükselmesi sonucu bu şekilde açıklan*abilir.* (p.23)

As a result of the increase in professional seniority achieved in this study, teachers ' perceptions of leading teaching skills in the classroom *may* be explained in this way.

19. Bu araştırmada, yüksek lisans eğitiminin öğretmenlerin sınıf içi lider öğretmenlik algı düzeyini yükselten bir değişken olduğu *saptanmıştır.* (p.23)

In this study, it *was detected* that graduate education is a variable that increases teachers ' perception of leading teachers in the classroom.

20. Araştırmamızda ayrıca, liderlik ya da sınıf yönetimi ile ilgili hizmet içi ya da öncesinde alınan eğitimin öğretmenlerin sınıf içi lider öğretmenlik algı düzeyini yükselten bir değişken olduğu *saptanmıştır*. (p.23)

In our research, it *was* also *detected* that in-service or pre-service training related to leadership or classroom management is a variable that increases teachers ' perception of leadership in the classroom.

21. Müfettişlere göre öğretmenlere; liderlik, öğretim liderliği, öğretmen liderliği ve sınıf yönetimi alanlarında hizmet içi eğitimler veril*meli*dir. (p.23)

According to inspectors, teachers *must* be given in-service training in the areas of leadership, teaching leadership, teacher leadership and classroom management.

22. Eğitim fakülteleri müfredatına ise “liderlik”, “öğretmen liderliği” ya da “öğretim liderliği” adlı bir ders dâhil edil*meli*dir. (p.23)

A course called “leadership”, “teacher leadership” or “teaching leadership” *must* be included in the curriculum of educational faculties.

23. Uzmanlara göre, eğitim fakülteleri müfredatında yeralan “Sınıf Yönetimi” dersinin saati artırıl*malı*dır. (p.23)

According to experts, the time of the “classroom management” course included in the curriculum of educational faculties *must* be increased

24. Bu ders uygulamaya daha fazla yer verecek şekilde yürütül*meli*dir. (p.23)

This course *must* be conducted in a way that gives more space to practice.

25. Öğretmenlerin sınıf içi lider öğretmenlik becerileriyle ilgili algılarının hangi değişkenlerden etkilendiğini, hangi değişkenlerle ilişkili olduğunu tespit etmeye yönelik araştırmalar yapıl*abilir*. (p.23)

Researches *may* be conducted to determine which variables are affected by teachers ' perceptions of leading teaching skills in the classroom and which variables are related.

26. İlkokul ve lise öğretmenlerinin sınıf içi lider öğretmenlik algılarını inceleyen araştırmalar yapıl*abilir*. (p.23)

Research *may* be conducted that examines the perceptions of primary and high school teachers as leaders in the classroom.

27. Öğretmenlerin liderlik davranışları, becerileri yöneticilerce, özellikle okul yöneticilerince desteklen*meli*dir. (p.23)

Teachers ' leadership behaviors and skills *must* be supported by administrators, especially school administrators.

PCG 5. Tarhan, S. (2017). İhtiyaç, yeterlik ve mesleki doyum bağlamında rehber öğretmenlerin görev algıları. *Bartın Üniversitesi Eğitim Fakültesi Dergisi,* 6 (3) ,1385-1408. Doi: 10.14686 / buefad. 344357.

RESULTS SECTION

1. Analiz sonucunda rehber öğretmenlerin yönetmelik maddelerini okullarında ihtiyaç olarak görme, bunları yerine getirirken mesleki doyum elde etme ve bu görevlerle ilgili olarak kendini yeterli hissetme puanlarının aritmetik ortalamalarının birbirine yakın olduğu *tespit edilmiştir*. (p. 1397)

As a result of the analysis, it *was identified* that the arithmetic averages of guidance teachers ' points of seeing the regulation articles as a need in their schools, achieving professional satisfaction in fulfilling them, and feeling self-sufficient in relation to these tasks are close to each other.

2. PDR hizmetlerinin etik ilkeleri, temel ilkeleri ve öğrencilerin yüksek yararını göz önünde tutarak toplantılarda görüş bildirmesi *gereklidir*. (p. 1397)

PDR services *are necessary* to express opinions at meetings, taking into account ethical principles, basic principles and the high benefit of students.

3. Ayrıca rehberlik hizmetlerinin sınıf öğretmenlerine bilgi vermesi ve müşavirlik yapması da *gereklidir.* (p.1397)

Guidance services *are* also *necessary* to inform and advise classroom teachers.

4. Rehber öğretmenler seçmeli ders konusundaki görevi okullarında ihtiyaç olarak görmüyor ola*bilirler.* (p.1397)

Guidance teachers *may* not see the task of electives as a need in their schools.

5. Fakat öğrencilerin kişisel sosyal gelişimlerinden çok akademik gelişimlerine önem verilmesi nedeni ile bu çalışmaların okullarımızda verimli bir şekilde gerçekleştirilemediği *düşünülmektedir*. (p.1398)

But it *is thought* that these studies cannot be carried out efficiently in our schools due to the importance of students ' academic development rather than their personal social development

6. Bu nedenle okul psikolojik danışmalarının toplantılara katılması hem okul danışmanının uzman olarak kabulünü ve PDR hizmetlerinin görünürlüğünü artırarak hizmet sunumunu kolaylaştır*abilir*. (p.1398)

For this reason, the participation of school counselors in meetings *may* facilitate service delivery by increasing both the acceptance of the school counselor as an expert and the visibility of PDR services.

7. Alınan kararlar da öğrencilerin yüksek yararının hesaba katılmasını sağlay*abilir.* (p. 1398)

Decisions made *may* also take into account the high benefit of students.

8. Önleyici programların okul yönetimi ve öğretmenlerle iş birliği içinde sunulması, okul danışmanlarının bu noktada yönetici ve öğretmenleri bilgilendirmesi ve yönlendirmesi *gerekmektedir.* (p.1398)

It *is necessary* that preventive programs are presented in cooperation with the school administration and teachers, and school counselors must inform and direct administrators and teachers at this point.

9. Rehber öğretmenlerin kendilerini yeterli gördükleri ilk üç görevin rehberliğin bilgi verme ve müşavirlik işlevi ile bağlantılı olduğu *tespit edilmiştir.* (p.1399)

It *has been identified* that the first three tasks that guidance teachers consider themselves adequate are related to the function of guidance and counseling.

10. Gelişim raporlarının öğrencinin gelişimi ve başarısındaki önemini bilen okul danışmanları şikâyet karşısında çaresiz kalmakta ve kendini yetersiz hissetmektedir, deni*lebilir.* (p.1399)

It *may* be said that school counselors who know the importance of development reports in the development and success of the student are helpless and feel inadequate in the face of complaints.

11. Diğer bir ifade ile etkili psikolojik danışman niteliklerine sahip psikolojik danışmanların psikolojik danışma öz-yeterlik düzeylerinin de yüksek olduğu, bu durumun kendilerini mesleki anlamda yeterli hissetmelerine katkı sağladığı söylen*ebilir.* (p.1400)

In other words, it *might* be said that psychological counselors with effective psychological counselor qualifications also have high levels of psychological counseling self-efficacy, which contributes to them feeling professionally adequate.

12. Mullen ve Gutierrez (2016) araştırmaları sonucunda okul psikolojik danışmanlarının doğrudan hizmetlere odaklanmasının önemini *ortaya koymuştur.* (p. 1400)

As a result of their research, Mullen and Gutierrez (2016) *revealed* the importance of school psychological counselors focusing directly on services.

PCG 6. Gülüm, V. (2017). Farkındalık eğitim ve uygulamalarının terapistlerin kişisel yaşamlarına etkisi: bir meta- sentez çalışması. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 7 (47), 117-134.

RESULTS SECTION

1. Farkındalık odaklı egzersizlerin ruh sağlığı alanında çalışanlar açısından özellikle iki açıdan önemli olduğu söylen*ebilir*. (p.128)

Mindfulness-oriented exercises *may* be said to be especially important for those working in the field of mental health in two respects.

2. Daha önceki niceliksel çalışmalar da benzer sonuçları *ortaya koymuştur*. (p.128)

Previous quantitative studies *have revealed* similar results.

3. Elbette çalışmamızdan elde edilecek bilgiyi büyük oranda kısıtlayabilecek bir potansiyele sahip olmasa da bireylerin fenomonolojisine ilişkin elde edilebilecek fazladan bilgi çıkarımları *mümkündür.* (p.128)

Although, of course, it does not have the potential to greatly restrict the information obtained from our study, it *is possible* to infer additional information that can be obtained regarding the phenomonology of individuals.

DISCUSSION SECTION

4. Farkındalık odaklı uygulamaların doğasına dair kapsamlı bir derleme sunan bu çalışmanın ileride yapılabilecek yeni niteliksel ve niceliksel çalışmalara temel olabileceği *düşünülmektedir.* (p.128)

It *is thought* that this study, which offers a comprehensive overview of the nature of mindfulness-oriented practices, might be the basis for new qualitative and quantitative studies that can be done in the future.

6. Niteliksel çalışmalar nicel çalışmalardan farklı olarak eldeki veri ile doğrudan bir teması içerdiğinden aynı anda ya da art arda ortaya çıkan süreçler hakkında daha farklı bir bakış açısı sun*abilirler*. (p.129)

As qualitative studies, unlike quantitative studies, have a direct contact with the data at hand, so they *may* offer a different perspective on processes that occur simultaneously or repeatedly.

7. Bu da bize söz konusu özelliklerin yalıtılmış olarak var olmadığını, birinin ortaya çıkabilmesi için bir diğerine ihtiyaç duyduğunu *göstermektedir*. (p.129)

This *shows* us that the characteristics in question do not exist in isolation, one needs another to appear.

PCG 7. Şahin, İ. (2017). Eğitim müfettişlerinin öğretmenlere rehberlik etme görevlerini yerine getirme durumu. *Gazi Eğitim Fakültesi Dergisi*, 37(1), 263–288.

RESULTS SECTION

1. Bu iki grubun bakış açılarının örtüştüğü ve farklılaştığı durumlar görül*ebilir*. (p.365)

Situations where the perspectives of these two groups overlap and diverge *may* be seen.

2. Bu durumun nedeni, müfettiş ve öğretmenlerin hem algılarının hem de üstlenmiş oldukları mesleki rollerinin davranışlarına yansıması ol*abilir*. (p.365)

The reason for this *may* be that both the perceptions of inspectors and teachers and the professional roles they undertake are reflected in their behavior.

3. Bulguların müfettişlerin yapmış oldukları rehberliği üst düzeyde yeterli gördükleri şeklindeki bulguyla çeliştiği söylen*ebilir*. (p.365)

It *may* be said that the findings contradict the finding that inspectors consider the guidance they have made highly adequate.

4. Bu durum uzmanlarca verilen bilimsel yardım süreci olarak görülen rehberliğin yeterince yapılamadığını *ortaya koymaktadır*. (p.365)

This *reveals* that the guidance, which is seen as a process of scientific assistance provided by experts, cannot be adequately done.

5. Müfettişlerin, öğretmenlere modern denetim yaklaşımlarında önerilen rehberliği uygun şekilde yapmamalarının temel nedenlerinden biri olarak iş yüklerinin fazla olması gösteril*ebilir.* (p.366)

Excessive workloads *may* be shown as one of the main reasons why inspectors do not properly provide teachers with the guidance recommended in modern inspection approaches.

6. Ayrıca denetimden beklenen yararın sağlanamamasının nedenleri arasında rehberlik ve geliştirme yerine kontrol odaklı, biçimsel denetim anlayışının etkisinin olduğu da söylen*ebilir.* (p.366)

It *may* also be said that among the reasons why the expected benefit from audit cannot be achieved is the impact of a control-oriented, formal audit understanding, rather than guidance and development.

7. Müfettişlerin ifadelerinde denetim sürecindeki can alıcı nokta olarak "öğretmeni dinleme, tanıma ve öğretmenin güven duymasını sağlama" şeklinde olumlu davranışların ön plana çıktığı *görülmektedir.* (p.366)

In the statements of the inspectors, it *is seen* that positive behavior in the form of "listening to the teacher, recognizing the teacher and ensuring the trust of the teacher" stands out as a crucial point in the audit process.

8. Bazı öğretmenlerin ifadelerinde ise "müfettişlerin her şeyi biliyormuş gibi davranmaları, iletişim eksikliği, müfettişin kısa sürede okulda ayrılması için hiçbir şey sormamaları" gibi olumsuz davranış ya da algının ön plana çıktığı *görülmüştür.* (p.366)

In the statements of some teachers, negative behavior or perception such as "inspectors act as if they know everything, lack of communication, never ask for the inspector to leave the school in a short time" *was seen* to stand out.

9. Oysa öğretimsel sorunlara ilişkin olarak düşünceler paylaşıl*malı* ve bu sorunların nasıl çözülebileceğine ilişkin çözüm önerileri aktarıl*malı*dır. (p.367)

However, the inspector and teacher *must* share what they think about teaching problems and pass on their suggestions for solutions to how these problems can be solved to each other.

10. Bu süreçte öğretmen ve müfettiş çözüm önerilerini birbirlerine aktarırken işbirlikçi bir yaklaşımı benimse*meli*dirler. (p.367)

In this process, the teacher and inspector *must* adopt a collaborative approach when passing on their solution proposals to each other.

12. Müfettiş öğretmenin bakış açısını anlamak için yönlendirici olmayan tutum sergilemeli, sonra kendi fikrini belirt*meli*dir. (p.367)

To understand the teacher's point of view, the inspector *must* take a non-guiding attitude, and then state his or her own opinion.

DISCUSSION SECTION

13. Hem müfettişler hem de öğretmenler, müfettişlerin öğretmenlere gerçek anlamda rehberlik etmelerinin önünde pek çok etkenin engel oluşturduğunu *göstermektedir.* (p.367)

Both inspectors and teachers *demonstrate* that many factors are an obstacle for inspectors to truly guide teachers.

14. Rehberlik yapılacak kurum ve kişilerle ön görüşme yapılarak çalışmanın planlanması, rehberlik yapılacak öğretmen sayısının azaltılması, yapılan rehberlik çalışmalarına ilişkin dönüt alınması ve bir sonraki çalışmada bu dönütlerle birlikte yapılanların değerlendirilmesi *gerekir.* (p.368)

It *is necessary* to plan the work by pre-interviewing the institutions and people to be guided, to reduce the number of teachers to be guided, to get feedback on the guidance work done, and to evaluate what was done together with these feedback in the next study.

15. Bu durum öğretimi geliştirmek için, bu nedenlerin ortadan kaldırılmasının gerekliliğini ortaya çıkardığı gibi, isim değişikliğinin ötesinde sistemin kendisi ve müfettiş nitelikleri açısından köklü değişiklikler yapılmasının iyi olacağını *göstermektedir.* (p.368)

This *demonstrates* that beyond the name change there will be a need for drastic changes in terms of the system itself and its inspector qualifications.

16. Bununla birlikte rehberlik ve denetim sürecinde gerek öğretmeni gerekse öğretimi geliştirmek için, her şeyden önce müfettiş ile öğretmen arasında karşılıklı güvene dayalı, sağlıklı bir ilişkinin kurulması *gerekir.* (p.368)

However, in the guidance and supervision process, it *is necessary* to establish a healthy relationship based on mutual trust between the inspector and the teacher, in order to improve both the teacher and the teaching.

17. Ancak bunun gerçekleşebilmesi için müfettişin gerçekte profesyonel bir eğitimci olması, öğretmenin de onu bir uzman olarak algılaması *gerekir.* (p.368)

But for this to happen, it *is necessary* that the inspector *is* actually a professional educator, and the teacher perceives him as an expert.

PCG 8. Yetik, S. S (2017). Çevrimiçi öz düzenleyici öğrenme ortamında metabilişsel desteğin öz düzenleme becerisine etkisi. *Cumhuriyet Uluslararası Eğitim Dergisi,* 6 (1), 107 – 122.

RESULTS SECTION

1. Bu araştırma, öz düzenleyici öğrenme becerisinin öğrencilerin bireysel özelliklerine göre farklılaştığını *göstermiştir.* (p.271)

This research *has shown* that self-regulatory learning ability differs according to individual characteristics of students.

2. Bu sonuca göre, bireysel farklılıklardan etkilenen öğrenme sürecinin destek yoluyla ortadan kalkacağı söylen*ebilir.* (p.271)

According to this result, it *might* be said that the learning process affected by individual differences will disappear through support.

3. Destek almayan dıştan denetimli grupta, çevrimiçi öz düzenleyici öğrenme ön test-son test puanları arasında fark *bulunmuştur.* (p.271)

In the externally supervised group that did not receive support, a difference was found between online self-regulatory learning pre-test-final test scores.

4. Ancak, bu farkın ön test lehine olduğu *görülmüştür.* (p.271)

However, this difference *was found* to be in favor of pre-testing.

5. Öğretmen adaylarının planları uygulamaya koymak, sonuçları izlemek ve çalışmalar üzerinde derinlemesine düşünmek için desteklenmelerinin faydalı olacağı söylen*ebilir*. (p.272)

It *may be* said that it would be useful for teacher candidates to be supported to put plans into practice, monitor results and think deeply about studies.

6. Araştırmalar, farklı destek sistemleriyle rehberlik edilmediği zaman, öğrenenlerin çevrimiçi ortamlarda öğrenmede zorluk yaşadıkları ve farklı öğrenme düzeylerine sahip olduklarını *göstermektedir.* (p.272)

Research *shows* that when not guided by different support systems, learners experience difficulty learning in online environments and have different levels of learning.

7. Çevrimiçi öğrenme ortamlarında öğrenenlerin performansları ve öz düzenleyici öğrenme becerileri üzerinde olumlu etkileri olduğu çalışmamızda *ortaya koyulmuştur.* (p.272)

Our study revealed that online learning environments have positive effects on learners ' performance and self-regulatory learning skills.

DISCUSSION SECTION

7. Araştırma çevrimiçi öğrenme ortamında başarılı öğrencilerin genellikle öz düzenleyici öğrenme stratejilerini kullandıklarını ve öz düzenleyici öğrenmenin öğrencilerin başarısı üzerinde etkisi olduğunu *göstermektedir* (p.272)

The research *demonstrates* that successful students in an online learning environment often use self-regulatory learning strategies, and self-regulatory learning has an impact on student success.

8. Çevrimiçi öğrenme ortamında öz düzenleyici öğrenme ile algılanan sosyalleşme arasında çalışmada anlamlı bir ilişki *tespit edilmemiştir*. (p.273)

No significant association *was found* in the study between self-regulatory learning and perceived socialization in the online learning environment.

9. Çünkü alanyazına göre, sosyal bağlamda öz düzenleyici öğrenme becerilerinin daha yüksek olması *beklenmektedir*. (p.273)

Because according to field writing, self-regulatory learning skills in a social context *are expected* to be higher.

10. Günümüz internet teknolojisinde, sosyal ağların gençler arasında yaygın kullanımı eğitim amaçlı kullanılan diğer platformların sosyal boyutunun geri planda kalmasına sebep ol*abilir.* (p.273)

In today's internet technology, the widespread use of social networks among young people *may* cause the social dimension of other platforms used for educational purposes to remain in the background.

11. Bunun yanında öğrencilerin eğitim amaçlı hazırlanan platformları sadece ders amaçlı düşünmeleri, bu ortamlarda daha küçük bir akran grubuyla etkileşimde bulunmaları da araştırmada ortaya çıkan bu sonuca gerekçe ol*abilir.* (p.273)

In addition, the fact that students think about platforms prepared for educational purposes only for lesson purposes and interact with a smaller group of peers in these environments *may* also be the reason for this result that emerged in the study.

12. Öğretim süreci boyunca, farklı bireysel özelliklere odaklanılarak, farklı destek sistemlerinin kullanılması yoluyla öz düzenleme becerilerinin geliştirilmesine ya da başarıyı artırmaya yönelik çalışmalar yapıl*abilir*. (p.275)

During the teaching process, efforts *may* be spent to improve self-regulation skills or increase success through the use of different support systems, focusing on different individual characteristics.

13. Gelecekte sosyalleşme boyutuna ağırlık verilen araştırmalar yapıl*abilir*. (p.275)

Research focusing on the size of socialization *might* be done in the future

PCG 9. Bilecik, S. (2017). Anne baba tutumlarının bireylerin din algısına etkisi. *Değerler Eğitimi Dergisi*, 15 (33), 7-38.

RESULTS SECTION

1.Doğru anne baba tutumunun dini yaşantı ve çocuklara örnek olmakla desteklenmediği zaman bireyde dini ilginin oluşmadığı ya da dini ilginin aile dışı kaynaklar yoluyla oluştuğu *tespit edilmiştir*. (p.19)

It *has been found* that when the correct attitude of parents is not supported by religious life and being an example for children, religious interest does not occur in the individual or religious interest occurs through non-family sources.

2. Bu durumda demokratik anne-baba tutumunu ailede verilen din eğitimiyle birleşirse, dindar bireylerin yetişmesine imkân sağlayacağı söylen*ebilir*. (p.19)

In this case, if the democratic attitude of parents is combined with the religious education given in the family, it *may* be said that it will allow religious individuals to grow up.

3. Birçok çalışmada otoriter anne-baba tutumuyla yetişmiş ve bu üslupla din eğitimi almış bireylerin, çocukluk ve ergenlik yıllarında otorite figürü yaşantılarında baskınken dini vecibelerini yerine getirdikleri ancak daha sonra bıraktıkları *tespit edilmiştir*. (p.19)

In many studies, it *has been identified* that individuals who were brought up with an authoritarian attitude of parents and received religious education in this style fulfilled their religious obligations when the authority figure dominated their lives in childhood and adolescence, but then abandoned it.

DISCUSSION SECTION

4. Otorite ile oluşturulmuş bir dindarlığın otorite figürünün kişinin hayatında etkisi kalmadığında sönebileceğini, bilinçli bir dindarlık değil ceza korkusuyla yaptırımdan kaçmak için gösterilen bir çaba ile oluştuğunu söylemek *mümkündür*. (p.20)

It *is possible* to say that a religiosity created by authority might be extinguished when the authority figure has no influence in the person's life, it is not a conscious religiosity, but an effort to escape sanction for fear of punishment.

5. Çalışmanın başında açık uçlu sorulardan oluşan görüşme formu hazırlanırken cinsiyet, yaş ve eğitim durumunun, anne-baba tutumlarıyla bağlantılı olarak kişinin din ile ilişkisi üzerinde etkili olabileceği *düşünülmüştür.* (p.20)

In preparing an interview form consisting of open-ended questions at the beginning of the study, it *was thought* that gender, age and educational status may have an impact on a person's relationship with religion in connection with their parent's attitudes.

6. Çocukluk ve ergenlik yıllarından itibaren bireyin yaşına ve algı düzeyine uygun, baskı ve yıldırma olmadan sevgi ve hoşgörü içerisinde, anlamlı bir din eğitimi veril*meli*dir.

From childhood and adolescence, a meaningful religious education *must* be given in love and tolerance, without oppression and intimidation, in accordance with the age and level of perception of the individual.

7. Çocuklara dini bütün boyutlarıyla yaşayarak örnek olun*malı*dır. (p.21)

Children *must* be given an example by living in all their religious dimensions.

8. Bu dört katılımcınınhepsinin anne-baba tutumunu ilgisiz olarak nitelemesi ve bunun din algılarına yansıdığını belirtmesi dağılmış ailelerde ilgisizliğin daha belirgin olduğunu *göstermektedir.* (p.21)

The fact that all four participants described the attitude of parents as irrelevant and stated that this reflected their perception of religion *shows* that apathy is more pronounced in dispersed families.

PCG 10. Temiz, Z. (2017). Türkiye'de okul öncesi eğitimdeki rehberlik ve denetim süreci. *Turkish Online Journal of Qualitative Inquiry,* 8 (3), 1-22. DOI: 10.17569/ tojqi. 331792.

RESULTS SECTION

1. Fakat dışardan yapılan bu tarz bir kalite ölçümü çalışanların içsel motivasyonlarını düşür*ebilir* ve onları daha çok dışsal motivasyonlara bağımlı yap*abilir*. (p.365)

But such an external quality measurement *may* reduce the internal motivations of employees and make them more dependent on external motivations.

2. İnsanlar ortak vizyona ve tutkuya sahip olurlarsa takım ya da organizasyon olarak birbirlerine bağlı ol*abilir*ler. (p.365)

People *may* be connected to each other as a team or organization if they have a common vision and passion.

3. Öğretmen ve müdürlerin çocuklara daha kaliteli bir eğitim sunmak gibi bir ortak amaçları olduğunu göz önüne alırsak, öğretmenlerin müdürlerle müfettişlerden daha olumlu bir ilişki geliştirmeleri *mümkündür.* (p.365)

If we consider that teachers and principals have a common goal, such as providing children with a higher quality education, it *is possible* for teachers to develop a more positive relationship with principals than inspectors.

4. Bu şekilde standartlar sınıfta kullanılmaya başlanırsa, öğretmenler performansları hakkında bir puan elde ed*ebilir*ler. (p.365)

If standards are used in this way in the classroom, teachers *may* get a score on their performance.

5. Böylece hem öğretmenlerin hem de müdürlerin okul standartlarını yükseltmek için motivasyonları art*abilir*. (p.366)

So both teachers and principals ' motivations to raise school standards *may* increase.

6. Bu bölge Türkiye' nin genelinden farklılıklar göstermektedir. Bu nedenle, çalışmanın bulguları bu bölgeye özgü ol*abilir.* (p.366)

This region differs from Turkey in general so the study's findings *may* be specific to this region.

7. Denetim ve rehberlik sırasında gözlem yapmak ya da müfettişlerin tuttukları raporları incelemek denetim ve rehberlik sürecini daha iyi anlamamamıza yardım ed*ebilir*. (p.366)

Observing during audit and guidance, or reviewing reports that inspectors keep *may* help us better understand the audit and guidance process.

8. Çalışmanın bulguları, eski denetim süreci iyi işlememesine rağmen müdürlerin yeni denetim süreci ile ilgili de çekincelerinin olduğunu *göstermiştir.* (p.366)

The findings of the study *showed* that although the old audit process did not work well, managers also had reservations about the new audit process.

9. Müdürlerin bu anlayışı Heikka ve Hujala'ın (2013) dağıtılan liderlik yaklaşımı ile benzerlik *göstermektedir.* (p.366)

This understanding of principals *shows* similarity with the leadership approach of Heikka and Hujala (2013)