A diachronic analysis of hedging in non-native authors' research article abstracts

El análisis diacrónico de la cobertura en los resúmenes escritas en inglés por autores no nativos

OLGA BOGINSKAYA
IRKUTSK NATIONAL RESEARCH TECHNICAL UNIVERSITY
https://ORCID.ORG/0000-0002-9738-8122

ABSTRACT: A growing part of studies on English for academic purpose explores how English is used in non-Anglophone contexts. This article focuses on the insufficiently studied context of Russia, where English has been used as a language of scientific publications only since the last decade. The paper explores hedging devices in Russian authors' research article abstracts from a diachronic perspective. The main focus is on quantitative and qualitative variations in the use of these linguistic means. Exploring categories of hedges and suggesting reasons for diachronic changes in their use are other research questions. It is assumed their distribution could change over time. The improved English proficiency of Russian academic writers, the weakening intrusion of the national criteria of good writing and greater awareness of the Anglophone academic writing norms due to the need to publish internationally have influenced metadiscourse patterns in Russian-authored academic prose. The study is based on a corpus of 120 research article abstracts from the field of linguistics published in two Russian journals in 2010-2021. The theoretical framework followed here is Hyland's (2018) taxonomy of hedges, which offers a pragmatically-grounded method for analyzing hedging in academic discourse.

Key words: academic discourse, research article abstract, academic writing, hedging, diachronic analysis.

RESUMEN: Muchos estudios sobre inglés con propósitos académicos explora cómo se usa el inglés en contextos no anglófonos. Este artículo se centra en

Rusia, donde el inglés se ha utilizado como idioma de publicación de investigaciones solo desde 2010. El artículo explora los dispositivos de cobertura en los resúmenes de los autores rusos. El enfoque principal es la variación cuantitativa y cualitativa en el uso de estos medios lingüísticos. Explorar las funciones de los setos y las razones de los cambios diacrónicos en su uso son otras cuestiones de investigación. Los resultados muestran que los resúmenes publicadas in 2010 and 2021 presentan diversas similitudes y diferencias. Las diferencias pueden interpretarse como el resultado de la debilitación de la intrusión de los criterios nacionales rusos y una mayor conciencia de las normas académicas inglesas. Con este fin, hemos construido un corpus integrado por 120 resúmenes que acompañan a artículos de investigación, todos ellos en la disciplina de la lingüística. Estos artículos se publicaron en 2010-2021. El marco teórico es la taxonomía de coberturas de Hyland (2018), que ofrece un método pragmáticamente fundamentado para analizar la cobertura en el discurso académico.

Palabras clave: discurso académico, resumen, escritura académica, cobertura, análisis diacrónico.

1. INTRODUCTION

In our globalized world, English is considered to be a standard practice in higher educational institutions around the world, where heterogeneity and diversity are the key characteristics (Ball & Lindsay, 2013). It has been used for spreading knowledge through research articles and academic papers that are written in English (Wiboonwachara & Rungrojsuwan, 2020).

A large pool of EAP studies explore how English is used in non-Anglophone contexts. This article focuses on the under-researched context of Russia, where English has been used as a language of scientific communication only since the last decade. To meet the requirements of the international academic community, Russian scholars need to gain a good command of English for performing various academic tasks. They are required to publish their research findings in international journals in order to get promoted in their disciplinary communities. Knowledge of international genre conventions, including metadiscourse patterns, contributes to building up their confidence to present their research results.

Hedging is an interesting element of academic writing pragmatically functioning as metadiscourse used to present claims with various degrees of tentativeness and to enter into a dialogue with readers. The employment of hedges in academic discourse has been examined in a large number of works, including those whose results have found applications in style manuals (Al-Khasawneh, 2017; Alonso Almeida, 2014; Alward et al., 2012; Aull & Lancaster, 2014; Belyakova, 2017; Gillaerts & van de Velde, 2010; Haufiku & Kangira, 2018; Hu & Cao, 2011; Hyland, 2005c, 2018; Khedri et al., 2015; Kozubíková Šandová, 2021; Lenardič & Fišer, 2021; Lores Sanz, 2006; Lorés Sanz et al., 2010; Martín, 2003; Petchkij, 2019; Vassileva, 2001). However, as Crystal (1995, p. 117) put it, hedging is "a huge meadow of research", and knowledge of this metadiscourse resource can improve our understanding of how scholars work.

While the previous research into hedging is valuable, there is still a complementary contribution to be made by corpus-driven studies that compare the use of hedging devices

from a diachronic perspective. It is possible that such a study can reveal differential use of hedging devices in different periods. Thus, in an attempt to contribute to literature on hedging in academic discourse, the present study focuses on the use of this metadiscourse resource in English-medium RA abstracts written by Russian scholars from a diachronic perspective. To achieve this objective, the research seeks answers to the following questions:

(1) Do the RA abstracts written by Russian authors in two different periods (2010--2015 and 2016-2021) show differences in the frequency of hedging devices?

(2) Are there any differences in the categories of hedging devices employed in Russian authors' RA abstracts written in two different periods?

(3) Are there any differences in the linguistic means used for hedging in Russian-authored RA abstracts written in two different periods?

Thus, hedging in Russian-authored RA abstracts is the focus of the present study which is based on the assumption that their distribution varies diachronically. The reason why the diachronic approach was adopted to study Russian-authored academic prose is culturally and linguistically rooted. Russia is a country, where English was not used as a lingua franca under the Communist rule, and English proficiency and academic writing skills were not highly developed in Russian scholars. Due to the process of globalization of education, however, these skills have become a driver for enabling participation in professional development and scientific communication, and their level is steadily improving. In addition, the weakening intrusion of the national criteria of good writing (objectivity and impersonality) and greater awareness of the Anglophone academic writing norms are new trends in the Russian paradigm of scientific inquiry. It would be, therefore, interesting to analyze the impact of these changes on metadiscourse features in RA abstracts written in two different periods (2010-2015 and 2016-2021).

To investigate hedging devices in the corpus, Hyland's (2018) taxonomy, which offers a pragmatically-grounded research method, was adopted. The taxonomy of hedging markers is introduced in 'Literature review' section. The 'Current study' section describes the methods employed to analyze hedging devices in the corpus. The analytical section focuses on the analysis of hedges found in the corpus. Finally, conclusions are drawn and further research avenues are outlined in the 'Conclusion' section.

2. LITERATURE REVIEW

2.1. THE CONCEPT OF HEDGING

The first definition of hedging was provided by Lakoff (1973) who defined hedges as words whose meaning implicitly involves fuzziness. Over the years, however, researchers have viewed linguistic hedging from different angles using Lakoff's definition as a starting point.

Following Lakoff (1972), the first group of definitions focuses vagueness and fuzziness as essential features of hedging devices. Brown & Levinson (1987, p. 145), for example, defined hedges as "elements that modify the degree of membership of predicate or a noun phrase in a set" and are used to achieve linguistic vagueness. In the same vein, Prince et al. (1982) described hedges as items making things fuzzier. Similarly, Channel (1994) referred to hedging as vague language and described hedges as expressions purposely and unabashedly vague or expressions whose meanings are stimulated by intrinsic uncertainty.

The second group of treatments focuses on one more essential feature of hedging – avoidance of writer's responsibility toward the utterance. Crismore & Vande Kopple

(1988), Hyland (2021), Markkanen & Schroder (1997), Myers (1989), Salager-Meyer (2011) and Zou & Hyland (2019) claimed that hedges convey the writer's uncertain attitude towards the respective statement. Crismore & Vande Kopple (1988, p. 185), for example, defined hedges as elements that "signal a tentative or cautious assessment of the truth of referential information", allowing authors to reduce their responsibility toward the information presented. According to Myers (1989), hedges are rational strategies that are used to deal with social interactions involved in the article publication process. Markkanen & Schroder (1997, p. 5) claimed that "hedges can offer a possibility for textual manipulation in the sense that the reader is left in the dark regarding the truth value of what is being expressed and who is responsible for it." According to Hyland (2021), hedging is tentative language commonly used to moderate the degree of authorial confidence or commitment in presenting claims, facts or opinions and invite the readers to get involved in open discussion about the nature of propositions.

The third group of definitions emphasizes politeness as a feature of hedging. According to Brown & Levinson (1987), the boundaries of hedging are extended to negative politeness which is used for avoiding threats to the face of the participants. Politeness has been also emphasized in Hubler's (1983) definition of hedging devices as indications of negative politeness used to avoid apodictic statements overlooking the readers' wish to judge for themselves. Salager-Meyer's (2011: 36) claims that being polyfunctional, "hedges can express politeness, indirectness, understatement, mitigation, commitment, and/or vagueness".

Thus, as can be seen from the definitions discussed above, the research tradition on hedges focuses on three crucial aspects: vagueness and fuzziness, avoidance of author's responsibility, and politeness. For the purpose of the study in this article, Hyland's (2018) pragmatically-oriented definition of hedges as a multifunctional phenomenon will be used as it seems to be more extensive than others and thus more persuasive. Hedging will be treated as a phenomenon contributing to the interactional function of language, as a strategy of interactional metadiscourse used to moderate the degree of authorial confidence or commitment to the propositional content.

2.2. TAXONOMY OF HEDGING DEVICES

Judging by a large number of definitions of hedges provided by different scholars, it is logical that there is a variety of taxonomies of hedging devices based on formal or functional criteria (Crompton, 1997; Hyland, 2018; Salager & Meyer, 2011).

Crompton (1997), for example, divided all hedges into six categories based solely on their form: 1. Sentences with copulas other than *be*. 2. Sentences with epistemic modals. 3. Sentences with clauses relating to the probability of the subsequent proposition being true. 4. Sentences containing sentence adverbials which relate to the probability of the proposition being true. 5. Sentences containing reported propositions where the author(s) can be taken to be responsible for any tentativeness in the verbal group, or non-use of factive reporting verbs. 6. Sentences containing a reported proposition that a hypothesized entity X exists and the author(s) can be taken to be responsible for making the hypothesis.

Despite being persuasive and complete, Crompton's (1997) taxonomy does not take into account the pragmatic situation, in which the same forms serve different purposes. Hedging is usually context-dependent and should be interpreted in a communicative situation it is used in. In addition to that, Crompton's taxonomy excludes the possibility of naming certain linguistic devices as hedges (e.g., approximators and intensifiers) which is also disputable.

Salager-Meyer (1994) proposed a different taxonomy of hedges which embraces both formal and functional criteria: 1. Shields: all modal verbs expressing possibility; semi-auxiliaries (*to appear, to seem*); probability adverbs (*probably, likely*); epistemic verbs (*to suggest, to speculate*). 2. Approximators: stereotyped adaptors of quantity, degree, frequency and time (*approximately, roughly, somewhat, quite, often, occasionally*) which express heed and coyness. 3. Authors' personal doubt and direct involvement (*I believe, to our knowledge, it is our view that...*). 4. Emotionally-charged intensifiers (*comment words used to project the authors΄ reactions*) (*extremely difficult/interesting, of particular importance, unexpectedly, surprisingly*). 5. Compound hedges which comprise the juxtaposition of several hedges: double hedges (*It may suggest that...; it could be suggested that...*), treble hedges (*It would seem likely that ..., it seems reasonable to assume*), quadruple hedges (*It would seem somewhat unlikely that...*).

Unfortunately, Salager-Meyer's taxonomy does not comprise all the elements that seem relevant for hedging. In addition, the category of author's personal doubt and direct involvement seems to be in conflict with the category of shields. The same concerns the fourth category: it is important to be aware both of the function of the word and the context in which it is used.

Hyland (2018) developed a model of hedging focusing on the pragmatic functions of this metadiscourse category. The model accounts for the possibility of multiple interpretations of hedging devices. In Hyland's model, the main categories of hedges are content- and reader-oriented hedges.

1. Content-oriented hedges include features which refer to the ways writers present themselves and convey their opinions and commitments. This group of hedges mitigates the relationship between the propositional content and a representation of reality (Hyland, 2018). It includes accuracy-oriented hedges and writer-oriented hedges. Accuracy-oriented hedges can be of two types: attribute hedges and reliability hedges.

Attribute hedges specify the extent to which the terms describe the events and state of affairs referred to and indicate limits on certainty by restricting the time, quality or generalizability of the proposition. Reliability hedges are related to the concept of verification and uncertainty in a proposition and are motivated by the writer's desire to "to demonstrate personal honesty and integrity through willingness to address hard realities, albeit behind a shield of mitigation" (Hyland, 2018: 81).

Writer-oriented hedging refer to the relationship between a claim and a writer rather than to the relationship between propositional elements. The use of these markers may refer to those cases in which the writer diminishes his/her presence in the text by using impersonal, agentless and passive structures to shield from possible consequences of negatability (Hyland, 2018).

2. Reader-oriented hedges deal with the relationship between the author and the reader, confirm the attention the author gives to the interactional effects of his/her statement, and solicit collusion by addressing the reader as an intelligent colleague capable of participating in the discourse with an open mind (Hyland, 2018). These hedges attenuate the writer's meaning by increasing the degree of subjectivity of the utterance and transform an assertion into a question which signals a high degree of indeterminacy and implies the need for confirmation on the part of the reader. They also make readers involved in a dialogue and invite them to judge the proposition.

Hence, the key distinction between the reader- and content-oriented hedges is that the latter deal with accuracy in regard to the world, whereas the former deal with the relationship with an audience and conventions of the academic community.

2.3. HEDGING IN RESEARCH ARTICLE ABSTRACTS

Hedging in academic prose has been exhaustively investigated from conceptually different perspectives (Aull & Lancaster, 2014; Azar & Hashim, 2022; Belyakova, 2017; Gillaerts & van de Velde, 2010; Hu & Cao, 2011; Kozubíková Šandová, 2021; Lenardič & Fišer, 2021; Takimoto, 2015; Vassileva, 2001; Varttala, 2001). Previous studies have revealed that there are significant differences in the employment of hedging devices in RA abstracts across disciplines, cultures and time spans (Gillaerts & van de Velde, 2010; Hu & Cao, 2011; Khedri et al., 2015; Kozubíková Šandová, 2021).

Hu & Cao (2011), for example, compared hedges in applied linguistics research article abstracts published in English- and Chinese-medium journals and found that in the latter the degree of hedging is significantly lower. A more recent study (Belyakova, 2017) compared English-medium RA abstracts by Russian and native English writers in the field of geoscience in terms of the rhetorical organization and authorial stance construction. The results obtained suggest that in contrast to native English writers Russian scholars prefer the "paper strategy", which involves avoiding explicit reference to the agent. Other metadiscourse features, such as hedging and boosting, have not received attention in Belyakova's (2017) study.

From a cross-disciplinary perspective, Khedri et al. (2015) investigated interactional metadiscourse markers, including hedges, in research article abstracts in applied linguistics and economics and revealed marked variations across the two fields of knowledge due to the influence of rhetorical disciplinary conventions. From the same cross-disciplinary perspective, Varttala (2001) explored hedging in different RA sections, including abstracts. The study based on a corpus of RAs from the field of economics, medicine and technology revealed a lower use of hedges in the medical RA abstracts and the highest one in the economics ones. What is more, the findings indicated that despite considerable space limitations in abstracts, the authors did use hedging devices, and their number in abstracts was not very different from that in other RA sections.

A different approach in the analysis of hedges was adopted by Gillaerts & van de Velde (2010), who analyzed linguistics RA abstracts in terms of hedges, boosters and attitude markers from a diachronic perspective. Their study revealed that the employment of these markers has undergone changes over the past 30 years. They found a drop in the frequency of boosters and a higher use of hedges and explained those changes by a shift in rhetorical ethos. The authors claimed that "scholarly credibility is currently established by a deliberate, cautious expression of scientific claims, rather than by the authoritative stance of an 'omniscient' academic" (Gillaerts & van de Velde, 2010: 136–137). From the same diachronic perspective, Kozubíková Šandová (2021) analyzed a corpus of 96 RA abstracts published in *Journal of Pragmatics* and concluded that the distribution of interactional markers has changed significantly over the last three decades. The differences were revealed for all the metadiscourse devices. Regarding the distribution of hedges, a sharp drop in their occurrence was observed.

3. METHODOLOGY

3.1. CORPUS DESIGN

The present study was carried out on a corpus of 120 abstracts taken from two Russian journals in the field of linguistics: *Russian Journal of Linguistics* (four issues per year) and *Issues of Cognitive Linguistics* (four issues per year).

Both journals have a large readership and high prestige in their fields (included in the Scopus Q1-Q2 list of journals for 2020). The judgements on the origin of the authors were made according to their names and affiliation. Based on Wood's (2001) criteria, the first author of each article with a Russian name and an affiliation with a Russian university was taken to be a Russian author. Articles published in the journals cover various linguistics sub-disciplines such as semantics, cross-cultural studies, translation studies, discourse studies, genre studies, sociolinguistics, etc.

Abstracts are an integral part of RAs published in these two journals. The journals impose strict requirements on the quality of English-language abstracts.

RA abstracts were taken from 2010-2021 volumes of the journals. This short time span is due to the fact that before 2011 most Russian journals did not publish RA abstracts in English or they were extremely short, containing no more than 25-40 words, conveying the propositional content. Only in 2010, the requirement to submit manuscripts with English-language abstracts 200-250 words in length was imposed on Russian authors.

The time span under study was divided into two periods: from 2010 to 2015 and from 2016 to 2021. To build each sub-corpus, four abstracts from fifteeen randomly selected volumes of each journal were chosen. The result was 60 abstracts per each sub-corpus, i.e. 120 abstracts altogether. While the RA abstracts taken from the issues published between 2010 and 2015 made the first sub-corpus (SC1), the RA abstracts derived from the 2016-2021 issues were included into the second sub-corpus (SC2). The corpus of abstracts built to investigate the hedging devices totals 40,141 words: 18,567 words in SC1 and 21,574 words in SC2. It is believed that the difference in the word counts of the two sub-corpora had little influence on the results as the number of RA abstracts in each sub-corpus was the same.

3.2. METHODS

In order to investigate the hedging devices in the corpus, this study adopted corpus-based and computational techniques together with multidimensional quantitative and qualitative analyses. Since the hedging devices are diverse, and the context of their occurrence is crucial for their classification, the corpus was tagged manually.

Hyland's (2018) taxonomy of hedges was utilized to analyze RA abstracts. According to this classification, the hedging devices were divided into two main groups: content-oriented hedges and reader-oriented hedges, which were further subdivided. The frequency of occurrence of each group of these markers in each time span was identified and calculated. The frequency was calculated per 1,000 words, because each of these sub-corpora was of a different length.

A qualitative analysis was conducted to interpret the findings of the quantitative analysis and beyond a mere list of hedging markers typically employed in RA abstracts. According to Creswell (2009), the qualitative research is a good way to address a research problem in which you do not know the variables and need to explore. It does not use statistical data concerning the quality of data. In the present study, the qualitative research is used to analyze and describe the types of metadiscourse markers.

A combination of the qualitative and quantitative methods can contribute to more explanatory findings. The quantitative analysis identified the frequency of occurrence of hedging devices in the two sub-corpora. The frequency of occurrence of these markers in the two sub-corpora was summarized in a table format. The frequency of occurrence of linguistic means used for hedging was summarized in a table format and shown in diagrams.

4. RESULTS

In what follows, the data obtained from the study is presented, beginning with the total frequency of hedges found in the two sub-corpora (Table 1). Thereafter, focus is placed on the frequency of the categories of hedges in the two periods under study (Table 2) and linguistic means most frequently used for hedging (Table 3); after which the findings are discussed from a diachronic perspective.

4.1. Quantitative analysis of hedging devices in the corpus

Table 1. Hedges from a diachronic perspective (frequency per 1,000 words)

Sub-corpus	Hedges
SC1	7.6
SC2	26.7

Table 1 summarizes the results of a diachronic analysis of hedges found in the two sub-corpora. It is worth emphasizing that the data is presented here for both journals together since Russian journals presenting one field of knowledge follow similar writing conventions and editing practices adopted by the disciplinary communities and regulated by the Higher Attestation Commission of the Ministry of Education.

Table 1 shows an increase in the use of hedges in Russian-authored RA abstracts written in the second period. Writers of these abstracts tend to speculate more, avoiding categorical assertions and inaccurate statements.

Taking a look from the perspective of the most employed hedging categories in the two sub-corpora, the results are also different (Table 2).

Table 2. Hedging by categories (1,000 words and % of the total)

Categories of hedging	SC1	SC2
1 Content-oriented hedges	7.2 (96)	24.8 (93)
A Accuracy-oriented	3.4 (45)	21.4 (80)
- Attribute	2.1 (28)	8.8 (33)
- Reliability	1.3 (17)	12.5 (47)
B Writer-oriented	3.8 (51)	3.4 (13)
2 Reader-oriented hedges	0.4 (4)	1.9 (7)

The table shows clear differences in the use of content-oriented and reader-oriented hedges in the two time spans. Although content-oriented hedging was generally more frequent, the distribution of its types was different.

The list of the linguistic means frequently-used for hedging is presented in Table 3.

Table 3. List of linguistic means used for hedging in the two sub-corpora (per 1,000 words)

Hedging devices in SC1				Hedging devices in SC2			
Content-oriented hedges			Reader-oriented hedges	Content-oriented hedges			Reader-oriented hedges
Accuracy-oriented		Writer-oriented		Accuracy-oriented		Writer-oriented	
Attribute	Reliability			Attribute	Reliability		
generally often usually	can may apparently	article analysis study approach method	we our questions	generally usually fairly barely often regularly	can may might could assumption attempt to assume to suggest to propose possible evidently apparently	study article approach model method	we our I

Figures 1 and 2 present percentages of linguistic means used for hedging in SC 1 and SC 2. The data were distributed by the lexico-grammatical categories and calculated to determine the frequency of occurrence.

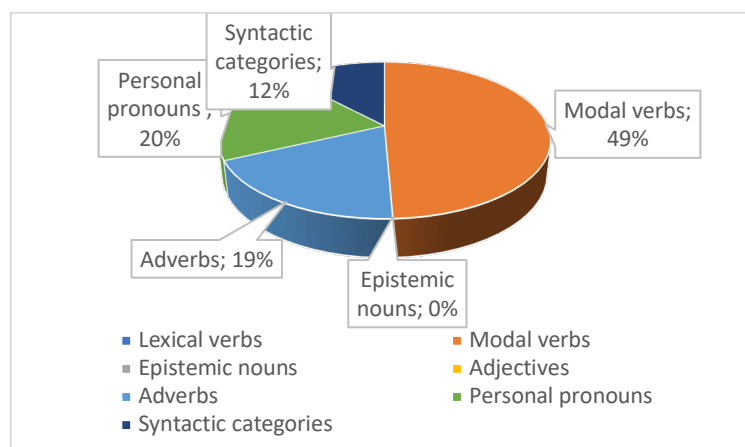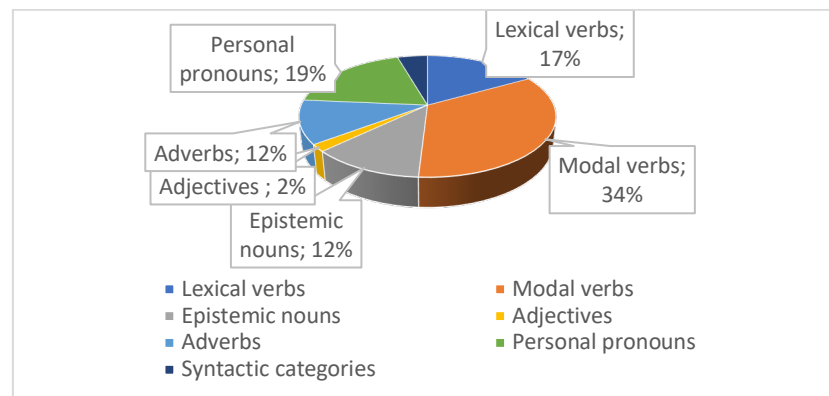**Figure 1. Distribution of linguistic means used for hedging in SC1**

Figure 2. Distribution of linguistic means used for hedging in SC2

The analysis of linguistic means used for hedging revealed that in SC1 this metadiscourse resource was frequently realized through modal verbs, personal pronouns and adverbs. In SC2, hedging was realized through a greater variety of linguistic means: modal verbs, lexical verbs, epistemic nouns, adverbs and adjectives. What is interesting is that *can* and *may* were the most frequent linguistic means used for hedging in both sub-corpora. There were marked diachronic differences in the frequency of epistemic nouns and adjectives. They were not found in the first period under study, while in the second one they were rather frequent. Further differences are apparent amongst the lexical verbs which were common in SC2 and did not appear in SC1. Personal pronouns were almost equally used in both sub-corpora. The difference was observed in their forms: while in SC2, both plural and singular forms were used, in SC1 only the pronominal *we* and the possessive form *our* were found. The share of syntactic hedges was also different: 12% (0.9 per 1,000 words) in SC1 and 4% (1.2 per 1,000 words) in SC2.

4.2. Qualitative analysis of hedging devices in the corpus

Regarding the first research question, the number and frequency of hedging devices differed in the two periods under study. Hedging devices were employed to mitigate interpersonal relationships, to reduce responsibility or to indicate the confidence in the truth of a claim. Regarding the second and thrid research questions, both the categories of hedging and linguistic means used in achieving this purpose also demonstarted differences in the two sub-corpora.

In this part, the core cases of hedging in the two sub-corpora will be analyzed, beginning with writer-oriented hedging devices and linguistic means realizing this category.

The findings demonstrate that writer-oriented hedges are equally distributed with 3.8 and 3.4 instances per 1,000 words in SC1 and SC2, respectively (Table 2). In both periods, the writers sought to diminish their presence in the text through the use of impersonal, agentless and passive structures. The most distinctive marker of writer-oriented hedging was the absence of writer agency. In the examples, the author's responsibility was reduced due to the use of passive voice (1), and an "abstract rhetor" (2).

(1) *Adequacy **is reached** by means of employing the communication strategy, i.e. by discussing the dialogue nature of the text in particular* (SC1).

The writer uses the passive structure to avoid responsibility for the statement which might be inaccurate.

(2) *The **data** obtained **revealed** that speakers use this prosodic feature very energetically to attract the listeners' attention and to make the presentation more emphatic* (SC1).

Having replaced the human subject by the non-human one (e.g., *article, analysis, data),* the writer limits his commitment to the statement. Since the writer is seeking to demonstrate a contribution to scientific knowledge, claims such as in (2) carry a risk, and the hedge is employed as an element of self-protection against possible criticism. By foregrounding the data obtained the writer presents a view where the data vested with agentivity is attributed with primary responsibility for an interpretation (Hyland, 1996).

The author's responsibility can be also reduced through the use of clausal subjects as in (3).

(3) ***It is generally assumed** in Cognitive Linguistics, which is taken as the basic framework of the present study, that meanings, which are defined as convention-based conceptualizations, are not discrete entities, fully determined, even in fuller context but rather they are dynamic conventional conceptualizations.*

One of the most effective ways of reducing writer's responsibility is a focus shift to the procedures or methods. Here is an example:

(4) *Though based on the study of the French lexicon, **the approach** to the modeling of polysemy presented here is expected to be applicable to natural languages in general* (SC2).

In order to persuade an audience to read on the article, "writers need to demonstrate that they not only have something new and worthwhile to say, but that they also have the professional credibility to address their topic as an insider" (Hyland, 2004, p. 63). This persuasion is achieved with accuracy-oriented hedges as a sub-category of content-oriented hedging used to seek precision in statements or persuade the reader of objectivity of information presented.

The first type of content-oriented hedging – reliability hedges – indicate the writer's confidence in the truth of a claim. The writer acknowledges subjective uncertainties and is motivated by the desire to "explicitly convey an assessment of the reliability of propositional validity" (Hyland, 1996, p. 12). In (5) and (6), the writers use hedges expressed by the epistemic nouns *assumptions* and *attempt* to indicate that the views which will be used in the article may be inaccurate and are of speculative nature:

(5) *The research draws on **assumptions** of social constructionism and CDA.* (SC2)
(6) *The article presents an **attempt** to view the phenomenon of language economy in the cognitive aspect* (SC2).

Reliability hedges expressed by modal verbs (7) deal with the epistemically possible. They "suggest the writer's reservations concerning whether the situation actually obtains, keeping interpretations close to findings, where claims may be less tenuous" (Hyland, 1996, p. 12) and help authors to distinguish between facts and opinions.

(7) *The authors argue that military media discourse is a hybrid type that combines the components of military, political, military-political, and media discourses whose concentration and interpenetration **can** vary greatly* (SC2).

The author seems to be cautious in making claims about the nature of military media discourse. The reliability hedge expressed by the modal *can* is used to convey the author's uncertainty about what she is claiming.

(8) *The fact that the research is conducted on the English language material does not mean that this developed system of deictic coordinates **can** be applied only to texts written in English (SC2).*

(9) *it **can** facilitate different reflexivity in terms of hermeneutic approach …. (SC1).*

The key motivation in (8) and (9) is an authorial desire to specify the state of knowledge, to hedge against complete accuracy. In the following example, the epistemic verb is also used to carry the uncertainty.

(10) *The authors **assume** that the success of intercultural communication greatly depends upon conceptual cooperation between its participants (SC2).*

In contrast to SC1, SC2 showed a rather large number of epistemic adjectives to express reliability hedging. The example below seems to be largely concerned with precision.

(11) *As a result of comparing various translations, it is **possible** to identify the difficulties of literary translation of the novel Eugene Onegin (SC2).*

One more group of lexical means employed to hedge is epistemic adverbs. In the corpus, adverbs of mental perception that show how results are understood were found (12, 13). Suprisingly, adverbs of doubt (possibly, probably, perhaps) did not appear in the corpus.

(12) *While irony is an **apparently** friendly way of being offensive (mock politeness), the type of verbal behavior known as 'banter' is an offensive way of being friendly (mock impoliteness). (SC1).*

(13) *The sub-discourse profiles demonstrate several common features, **evidently** typical of the discourse type itself (SC2).*

Attribute hedges were used to indicate a discrepancy between obtained and expected results or the precise standpoint from which to assess the claim. However, the most common way of expressing it was the use of degree of precision and frequency adverbs. In (14) and (16), the precision adverbs scale down the intensity of verbs and adjectives, reducing the affective impact of statements.

(14) *This variety of functions renders its semantics **fairly** elusive and rules out a conceptual analysis (SC2).*

(15) *This transformation is applied in the translation of some phenomena and phrases in the original text that can **barely** be translated because of their national singularity (SC2).*

In (16) and (17), the frequency adverbs impart vagueness and generality to the statements.

(16) *.. in most cases, however, they are anthropotoponyms that can **often** be identified through Basque onomastic models of family names (SC2).*

(17) *The genre of demotivator can be viewed as a precedent phenomenon that is **regularly** reproduced and well-known to all members of a social and cultural group (SC2).*

The style disjunct employed as an attribute hedge in (18) indicates greater precision of the proposition.

(18) *Approximately seventy place names cited in this article were selected due to their lingua-cultural, geographical, associative, and commemorative significance* (SC2).

In the corpus, hedges were used not only as a strategy to convince an audience to read on the article by demonstrating that the author has professional credibility to address the topic, but also to invite the reader to get involved in a discussion about the writer's views. These are reader-oriented hedges. Here are examples from the corpus.

(19) *The results of **our** analytical probe may be used as a springboard for deeper, quantitatively-oriented terminological-translational research* (SC2).
(20) *… a general scheme of embodiment was traced within which **we** consider bodily centers and embodiment parameters* (SC1).

Along with personal pronouns used to realize reader-oriented hedging, SC1 showed several instances of questions used to appeal to the reader as a fellow scholar involved in the research.

(21) *What can we say about this language? Do we really mean the language and its variety or do we speak about different languages?* (SC1)

The author hedges the claim by explicitly involving an audience into the deductive process, considering them as capable of making the same conclusions.

5. CONCLUSION

This article has explored diachronic variation in the employment of hedges in Russian-authored RA abstracts in terms of frequencies, categories and linguistic means of realization, which has never been a focus of attention in the linguistics literature. The assumption about diachronic variation in the distribution of hedges in RA abstracts by Russian authors was confirmed by the research results. These diachronic changes can be explained by the influence of cultural factors. In 2010-2015, Russian authors showed a tendency to underuse hedging, following some well-established writing standards (Krapivina, 2017). In the second time span, they drew on this metadiscourse resource more frequently. Due to the globalization processes in the Russian education system, language of RA abstracts has become more interpretative and less abstract. The involvement of Russian scholars in the international academic community, in which the need for acknowledging views other than the author's becomes vital, has also contributed to these changes. More and more Russian authors use hedging as an effective way to shield themselves from possible readers' counterattacks and tone down assertiveness of their statements.

In terms of the categories of hedging and linguistic means employed to hedge, the differences were also striking. While in 2010-2015, the Russian authors used hedges to diminish their presence in the text, in 2016-2021, they hedged to point toward possible methodological limitations and signal inaccuracies of research results. In other words, in 2010-2015, the authors preferred writer-oriented hedges to shield themselves from the consequences of opposition, whereas in 2016-2021, accuracy-oriented hedges were frequently employed to negotiate the precision of claims and convey an attitude to them. The analysis of linguistic means used for hedging revealed that in the second period under study hedging was realized through a greater variety of linguistic means.

It should be admitted that the research results presented here are limited due to a small corpus and should be understood as trends both in the discipline and the cultural context. The analysis of this resource is just one way of investigating the complex nature

of metadiscourse in academic prose. Further research might deal with hedging devices investigated from other perspectives. It would be interesting to compare the distribution of hedges across disciplines and disciplinary communities or to study how expert academic writers know when to hedge or how hedging affects editors and reviewers. Other angles, like the research on boosting or attitude markers in non-native authors' academic prose may give additional insights. The findings of the present study may be further expanded by exploring inter-generic relations between research articles and RA abstracts which may show differential employment of hedges and other metadiscourse devices.

Research into these areas may contribute to our understanding of metadiscourse in academic prose, and building up the knowledge base for teaching EAP to students who are writing research articles.

REFERENCES

Al-Khasawneh, Fadi Maher. 2017. "A genre analysis of research article abstracts written by native and non-native speakers of English". *Journal of Applied Linguistics and Language Research, 4*(1): 1–13.

Alonso-Almeida, Francisco. 2014. "Evidential and epistemic devices in English and Spanish medical, computing and legal scientific abstracts: A contrastive study". In *Abstracts in Academic Discourse: Variation and Change,* ed. Marina Bondi and Rosa Lorés Sanz. Bern: Peter Lang.

Alward, Ali, Mooi, Chua Choon, and Siti Jamilah Bint Bidin. 2012. "Hedges and Boosters in the Yemeni EFL Undergraduates' Persuasive Essay: An Empirical Study". *The Internet Journal of Language, Culture and Society*, 34: 1–12.

Aull, Laura and Zak Lancaster. 2014. "Linguistic Markers of Stance in Early and Advanced Academic Writing: A Corpus-based Comparison". *Written communication*, 31(2): 151–18. doi.org/10.1177/0741088314527055

Ball, Phil and Diana Lindsay. 2013. "Language demands and support for English-medium instruction in tertiary education. Learning from a specific context". In *English-medium instruction a university: Global challenges,* ed. Aintzane Doiz, David Lasagabaster and Juan Manuel Sierra. Bristol: Multilingual Matters.

Belyakova, Maria. 2017. "English-Russian cross-linguistic comparison of research article abstracts in geoscience". *Estudios de Lingüística Universidad de Alicante,* 31: 27–45. doi.org/10.14198/ELUA2017.31.02

Brown, Penelope and Stephen Levinson. 1987. *Politeness: Some Universals in Language Usage.* Cambridge: Cambridge University.

Channel, Joanna. 1994. *Vague Language.* Oxford: Oxford University Press.

Creswell, John. 2009. *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage.

Crompton, Peter. 1997. "Hedging in academic writing: some theoretical problems". *English for Specific Purposes,* 16(4): 271–287.

Crismore, Avon, and William Vande Kopple. 1988. "Readers' learning from prose. The effect of hedges". *Written communication*, 5(2): 184–202.

Crystal, David. 1995. "In search of English: a Traveler's guide". *ELT Journal,* 49(2): 107–121.

Gillaerts, Paul & Freek van de Velde. 2010. "Interactional metadiscourse in research article abstracts." *Journal of English for Academic Purposes* 9(2), 128–139.

Haufiku Naftal and Jairos Kangira. 2018. "An Exploration of Hedging and Boosting Devices Used in Academic Discourse Focusing on English Theses at the

University of Namibia". *Language Teaching,* 6(1): 1–11. doi.org/10.22158/selt.v6n1p1

Heng, Chan and Helen Tan. 2002. *May BE, Perhaps, I Believe, You Could Making Claims and the Use oF Hedges.* University of Malysia.

Hu, Guangwei and Feng Cao. 2011. "Hedging and boosting in abstracts of applied linguistics articles: A comparative study of English-and Chinese-medium journals". *Journal of Pragmatics,* 43(11): 2795–2809. doi.org/10.1016/j.pragma.2011.04.007

Hubler, Axel. 1983. *Understatements and hedges in English.* Amsterdam and Philadelphia, PA: John Benjamin's PC.

Hyland, Ken. 2012. *Disciplinary identities: Individuality and community in academic discourse.* Cambridge University Press.

Hyland, Ken. 2018. *Metadiscourse. Exploring Interaction in Writing.* London: Bloomsbury.

Hyland, Ken. 2005a. "Prudence, precision, and politeness: Hedges in academic writing". *Quaderns de Filologia Estudis Linguistics*, 10: 99–112. doi.org/10.7203/QFILOLOGIA.10.5083

Hyland, Ken, 2005b. "Stance and engagement: a model of interaction in academic discourse". *Discourse Studies,* 7: 173–192. doi: 10.1177/1461445605050365

Hyland, Ken. 1996. "Writing without conviction? Hedging in scientific research articles". *Applied Linguistics,* 17: 433–454.

Khedri, Mohsen, Chan, Heng Swee and Helen Tan. 2015. Interpersonal-driven Features in Research Article Abstracts: Cross-disciplinary Metadiscoursal Perspective. *Pertanika Journal. Social Sciences & Humanities*, 23(2): 303–314.

Kozubíková Šandová, Jana. 2021. "Interpersonality in research article abstracts: a diachronic case study". *Discourse and Interaction,* 14(1): 77–99. doi.org/10.5817/DI2021-1-77

Krapivkina, Olga. 2018. "Discourse of concord as a result of integration of possible worlds of communicants (case-study of closing arguments)". *Voprosy Kognitivnoy Lingvistiki,* 2: 45–50. doi.org/10.20916/1812-3228-2018-2-45-50

Lakoff, John. 1973. "The logic of politeness: Or, minding your p's and q's". In *Papers from the 9th Regional Meeting of the Chicago Linguistic Society. Chicago Linguistic Societ*y, ed. Claudia W. Corum, Thomas Cedric Smith-Stark and Ann Weiser. Chicago: Chicago Linguistic Society.

Lorés Sanz, Rosa. 2006. "I will argue that': First person pronouns as metadiscoursal devices in research article abstracts in English and Spanish". *ESP across Cultures,* 3: 23–40.

Lorés Sanz, Rosa, Mur-Dueñas, Pilar and Enrique Lafuente-Millán. 2010. *Constructing Interpersonality. Multiple Perspectives on Written Academic Genres. Newcastle upon Tyne*. Cambridge Scholars Publishing.

Markkanen, Raija and Hartmut Schröder. 1997. "Hedging: A challenge for pragmatics and discourse analysis". In *Hedging and discourse: Approaches to the analysis of a Pragmatic phenomenon in academic texts,* ed. Raija Markkanen and Hartmut Schröder. Berlin: Walter de Gruyter.

Martin, Pedro Martin. 2001. "Epistemic Modality in English and Spanish Psychological tests". *Revista de lenguas para fines específicos, 8,* 195–208.

Martín, Pedro Martin. 2003. "A genre analysis of English and Spanish research paper abstracts in experimental social sciences". *English for Specific Purposes,* 22(1): 25–43. doi.org/10.1016/S0889-4906(01)00033-3

Myers, Greg. 1989. The pragmatics of politeness in scientific articles". *Applied Linguistics,* 10: 1–35.

Petchkij, Worawanna. 2019. "Explicit Teaching of Hedges: Bringing Hedging in Academic Writing into the Thai EFL Classroom". *Electronic Journal of Foreign Language Teaching*, 16(1): 95–113.

Prince, Ellen, Frader and Charles Joel and Bosk. 1982. *On Hedging in Physician Discourse*. Amsterdam: Ablex Publishing Corporation.

Salager-Meyer, Francoise. 2011. "Scientific discourse and contrastive linguistics: hedging". *European Science Editing,* 37(2): 35–37.

Takimoto, Masahiro. 2015. "A Corpus-Based Analysis of Hedges and Boosters in English Academic Articles". *Indonesian Journal of Applied Linguistics,* 5(1): 95–105. doi.org/10.17509/ijal.v5i1.836

Varttala, Teppo. 2001. *Hedging in Scientifically Oriented Discourse: Exploring Variation*. Doctoral dissertation. University of Tampere.

Vassileva, Irena. 2001. "Commitment and detachment in English and Bulgarian academic writing". In A. Duszak (Ed.), *Culture and styles of academic discourse* (pp. 83–103). Berlin: Mouton de Gruyter.

Ventola, Eija. 1997. Probability: "The exploration to its role in academic writing". In *Culture and styles in academic writing,* ed. Anna Duszak. New York: Mouton de Gruyter.

Wiboonwachara, Lalida and Sorabud Rungrojsuwan. 2020. "Hedging in English Research Articles of Thai Academic Writers". *The new English Teacher,* 14(2): 82–98.

Wood, Alistair. 2001. International scientific English: The language of research scientists around the world. In J. Flowerdew & M. Peacock (Eds.), *Research perspectives on English for academic purposes* (pp. 71–83). Cambridge: CUP

Zou, Hang and Ken Hyland. 2019. "Reworking research: interactions in academic articles and blogs". *Discourse Studies* 21(6): 713–733. doi.org/10.1177/1461445619866983