

Objectifying Science: Impersonalization in English Research Articles From Different Disciplines

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Abstract—English academic writing has often been characterized as being direct, accurate, and objective. One way of achieving objectivity is through the use of a communicative strategy called impersonalization. The present research examines linguistic devices that academic writers have at their disposal to avoid explicit reference, especially to themselves, and to detach themselves from the information they convey. It also addresses the question of whether this impersonalization strategy is expressed differently across different disciplines. For these purposes, a corpus of 45 primary empirical research articles from the fields of linguistics, medicine, and natural sciences were analyzed both qualitatively and quantitatively with the help of corpus linguistic method. The results of the research showed that impersonalization in English research articles could be expressed through the use of agentless passive constructions and impersonal constructions. The results indicate that English academic discourse is marked by the use of agentless passive constructions (199.17 tokens per 10.000 words) to express impersonalization, which was primarily used to serve as writer-oriented hedging functions. The study also revealed highly significant differences in the use of impersonalization in linguistics, medicine and natural sciences. This seems to suggest that impersonalization in English academic discourse is expressed differently in different fields of study.

Index Terms—academic discourse, disciplinary variation, impersonalization, personification, agentless passive

I. INTRODUCTION

English academic writing has often been characterized as a type of writing which expresses directness, accuracy, and objectivity (Alley, 1987; Bolsky, 1988; Hacker, 2008; Hedge, 1994; Lipson, 2005; Manser, 2006; Strunk Jr. & White, 2000; Taylor, 2005). While Alley (1987) views precision as the ultimate goal of academic writing, Hedge (1994) argues that academic writing is characterized, especially by objectivity. One important communicative strategy that writers of academic writing commonly adopt to express such objectivity in academic writing is what is commonly called impersonalization (Luukka & Markkanen, 1997), depersonalization (Martín-Martín, 2008; Namsaraev, 1997), or impersonality (Siewierska, 2008a). Luukka and Markkanen (1997) consider this strategy part of a broader communicative strategy known as hedging, which they view as a super strategy, and impersonalization as a sub-strategy. As a communicative strategy, impersonalization is understood as “the avoidance of explicit reference to persons” (Luukka & Markkanen, 1997, p. 168) or the use of impersonal constructions (Malchukov & Siewierska, 2011; Siewierska, 2008a, 2008b). Furthermore, Martín Arrese (2002) defines impersonalization in terms of “the degree of mystification of the role of agency” (p. 3).

As impersonalization is a strategy used to avoid direct reference to persons, it can contribute to the objectivity of academic discourse by foregrounding information and, at the same time, backgrounding agency, especially the writer(s). This strategy puts more emphasis on the discourse message than on the persons involved in the discourse. Thus, it plays a very important role in objectifying academic writing.

Previous studies have shown that impersonalization has been viewed primarily from two different theoretical perspectives: structural (e.g., Blevins, 2003; Kitagawa & Lehrer, 1990) and functional (Luukka & Markkanen, 1997; Malchukov & Ogawa, 2011; Martín Arrese, 2002; Siewierska, 2008a) (for other approaches, see Malchukov & Siewierska, 2011). The structural characterization is closely related to “the lack of a canonical subject,” whereas the functional characterization to “agent defocusing” (Siewierska, 2008a, p. 2). While theoretical accounts of impersonality abound (see, e.g., the collection of papers in Lyngfelt & Solstad, 2006 and in Malchukov & Siewierska, 2011), empirical research on impersonalization, especially in English academic discourse, is rare (but see Luukka & Markkanen, 1997; Martín Arrese, 2002) and none seems to have investigated disciplinary variation in the use of impersonalization in English research articles. Most previous studies have focused on individual linguistic realizations

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of impersonalization, often without direct reference to it, such as agentless passive constructions (Banks, 1996, 2008; Conrad, 2018; Hinkel, 2004a; Lachowicz, 1981; Rundblad, 2007, 2008; Tarone et al., 1998), *it*-clauses (Hewings & Hewings, 2002; Larsson, 2017; Zhang, 2015), and personification or metonymy (Banks, 1996; Master, 1991; Rundblad, 2007, 2008). The present research is a corpus-based attempt to explore not only the available linguistic resources to express impersonalization in English academic discourse but also the possible pragmatic functions of such resources in English research articles. Furthermore, it also attempts to examine impersonalization in English research articles in different disciplines. More specifically, it addresses the following questions: a) What linguistic forms are used to express impersonalization? b) Is impersonalization expressed significantly differently in different disciplines? c) What pragmatic functions do they serve in English research articles (RAs)?

In line with the above research questions, this research aims to examine the linguistic features of impersonalization used in English academic writing. More specifically, it attempts to uncover the use of linguistic realizations of impersonalization in English research articles, their possible disciplinary variation, and their pragmatic functions.

Results obtained from this research contribute to a better understanding of the various linguistic forms and functions used to express impersonalization in English academic discourse. This will help non-native writers write research articles in English with an appropriate degree of detachment, focusing more on the informational content of the message they put forward than their involvement in the research activities they have carried out.

II. METHODOLOGY

This research used a descriptive comparative method (Schreiber & Asner-Self, 2011) because it attempts to describe and explain objectively linguistic phenomena related to impersonalization as a communicative strategy in English research articles. Moreover, it also attempts to examine and compare the use of this strategy across different disciplines. To achieve these objectives, both quantitative and qualitative methods of analysis were employed to analyze the data. Qualitative methods were used especially to uncover not only the various linguistic forms that are available in English for RA writers to use in their articles to express impersonalization but also the possible pragmatic functions that these forms serve in English RAs. In addition, quantitative methods were also used especially to obtain results that are generalizable (Biber & Jones, 2009) and to detect the frequency and distribution of the use of impersonalization across different disciplines. A chi-squared test was run using Minitab 18 (Minitab, 2017) to test the degree of significance of the use of impersonalization in the research articles across the disciplines under investigation. The *p* or *α* value was set at 0.05 to indicate significance, as is commonly adopted in linguistics (Gomez, 2002, p. 244; McEnery & Wilson, 2001, p. 85) and social sciences (Larson-Hall, 2010; Sanjaya, 2013).

This research is corpus-based (Lee, 2008), in the sense that linguistic analyses were carried out with the aid of “banks of computerized text and certain computer techniques” (p. 87). This corpus-based study rests on the principle that “the more material the analysis is based on, the safer the conclusions drawn will be, and the more generalizable the results will be” (Ädel, 2006, p. 8). What is meant by the term corpus here is “a collection of texts or parts of texts upon which some general linguistic analysis can be conducted” (Meyer, 2004).

The data for this research were obtained from a corpus of empirical research articles in English published in a number of reputable international journals, all indexed in Scopus (see Appendix). Empirical research articles were selected because of the important role they play in the manufacture of scientific knowledge (Hyland, 2000; Knorr-Cetina, 1981; Swales, 1990, 2004). Furthermore, they serve as an important means of communication between scientists, whose goal in such communication is not only “the discovery of scientific knowledge and the verification of such discovery” (deBakey, 1976, p. 1) but also “rites de passage astride the road to professional advancement and promotion” (Swales, 1983, p. 189).

All the research articles selected met the following criteria: for an article to be included in the corpus, (a) it must be a primary research article reporting empirical research results, (b) it must be indexed in Scopus, Elsevier’s abstract and citation database of peer-reviewed literature (<https://www.scopus.com>). On the basis of these two criteria, altogether 45 research articles, 15 each from linguistics (L), medicine (M), and natural sciences (N), were selected. Table 1 below presents the number of articles and words from each field. Because of the different lengths of articles in the three disciplines, forms of impersonalization were normalized (Biber & Jones, 2009, p. 1299) per 10,000 words (p10kw). In addition, concordances were run using WordSmith Tools version 5 (Scott, 2008).

TABLE 1
CORPUS SIZE IN WORDS

No.	Field	Number of Articles	Number of Words	Mean
1.	Linguistics	15	120,509	8,034
2.	Medicine	15	57,814	3,854
3.	Natural Sciences	15	75,078	5,005
Total		45	253,401	5,631

The data for this research take the form of utterances containing impersonal constructions used to express impersonalization. As defined earlier, impersonalization refers to the avoidance of explicit reference to persons. This means that writers have a choice of referring either explicitly or implicitly to themselves as writers and/or researchers,

the readers, or other sources of information. Choosing implicit reference means that they detach themselves from what they say; they do not want to take responsibility and do not want to use direct reference to the source of information. On the contrary, choosing explicit references means involving themselves in what they express, thus being accountable for what they say. Both types of constructions contain personal references, either implicitly or explicitly. They differ from purely impersonal constructions which contain no personal reference. Impersonalization here refers to the use of constructions containing implicit reference. Therefore, the data collected for this research were utterances containing such implicit personal references.

As mentioned earlier, according to Siewierska (Siewierska, 2008a), impersonal constructions can be viewed from two different perspectives, i.e., structural and functional perspectives. Structurally, impersonalization is closely related to constructions that lack canonical subjects. A canonical subject is “one realized by a verbal argument which is fully referential and manifests the morpho-syntactic properties of subjects in a language” (Siewierska, 2008a, p. 2). These impersonal constructions include constructions (a) whose subjects are not fully referential, (b) whose subjects do not display canonical subject properties, (c) whose subjects are not verbal arguments but only functional fillers having no semantic or referential properties (such subjects are commonly called expletive or existential subjects), and (d) with no overt subjects at all. From a communicative-functional perspective, impersonalization is related to constructions with agent defocusing, which include those (a) whose actors, initiators, or instigators are not or under elaborated, (b) whose actors, initiators, or instigators are demoted from their prototypical subjects and topic functions, or (c) both (a) and (b). In addition, Malchukov and Siewierska (2011, p. 2) argue that also belonging to the functional group of impersonal constructions are constructions “in which an argument other than the agent has been selected for subject in preference to the agent such as personal passives (*The manuscript was sold for 100.000 pounds (by an unknown collector)*) and locative subject clauses (e.g., *The garden is swarming with bees*).” They also argue that the agent defocusing approach views impersonalization more widely “as involving speaker choice with respect to the construal of an event and is regarded as sensitive to the effects of discourse” (p. 2). Furthermore, they claim that because agent defocusing can only be observed in a wider discourse-pragmatic context, this approach is more suitable for discourse-based investigations. As this research is discourse-based, therefore it adopts this functional approach. More specifically, constructions containing implicit reference here include such constructions as agentless passives, *it*-clauses (Hewings & Hewings, 2002, p. 368), personification (Lakoff & Johnson, 2003, p. 25), and impersonal or general personal pronouns. These constructions can be subsumed under two broad categories of impersonal constructions, which include impersonal pronouns, *it*-clauses and personification, and passive constructions.

III. RESULTS AND DISCUSSION

This section reports the results of the data analysis in answer to the research questions, i.e., what linguistic forms are used to express impersonalization in English research articles (RAs), whether impersonalization is linguistically expressed differently in different disciplines, and what functions impersonalization serves in English RAs.

A. Linguistic Realizations of Impersonalization

Table 2 shows the frequency of the two broad categories of constructions, i.e., impersonal and agentless passive constructions, used to linguistically express impersonalization as a communicative strategy in English research articles under investigation in terms of tokens per 10,000 words (p10kw).

TABLE 2
FREQUENCY OF LINGUISTIC REALIZATIONS OF IMPERSONALIZATION IN THE CORPUS

No	Construction	F	p10kw	%
1	Impersonal	1,153	45.50	18.60
2	Passive	5,047	199.17	81.40
Total		6,200	244.67	100.00

The table indicates that impersonalization was very common in English research articles (244.67 p10kw). It was much more commonly expressed through the use of agentless passive constructions than impersonal constructions ($\chi^2_{(1)} = 95.5469$, $p < 0.001$). As a means of expressing impersonalization in written academic discourse, which is part of hedging (see, e.g., Hyland, 1996, 1998), passive constructions (199.17 p10kw) are also much more commonly used than epistemic lexical verbs (42.23 p10kw) (Vass, 2017). This seems to suggest that impersonalization in English RAs is clearly marked by the use of passive constructions. This result runs counter to the advice given in a number of academic writing style guides, which encourage the use of active rather than passive constructions (see, e.g., Matthews & Matthews, 2008; Penrose & Katz, 2003; Sheen, 1982; Strunk Jr. & White, 2000). On the other hand, it supports previous research (e.g., Biber et al., 1999; Hyland, 1998; Johns, 1997; Swales, 1990), which suggests that in English written academic discourse, uses of the passive constructions are generally expected as they can create an impersonal style of an objective view in discourse. The passive voice, Lachowicz (1981, p. 113) argues, “allows for the author to be more open to other possibilities of interpretation.” It also allows authors not to be fully committed to what they say and to detach themselves from their propositions (Hyland, 1998, p. 77). Hyland (1998, p. 122) further argues that passive

constructions are often used “to hedge a responsibility to statements by appearing more objective and distanced.” Furthermore, they can be used to protect authors from any potential criticism. Because of its high incidence, the discussion in the following sub-sections begins with the passive constructions.

(a). *Passive Constructions*

In the English voice system, which is “a system where the contrasting forms differ in the way semantic roles are aligned with syntactic functions, normally with some concomitant marking on the verb” (Huddleston & Pullum, 2002, p. 1427), passive constructions are syntactically different from active constructions in at least four different ways (Huddleston & Pullum, 2002, p. 1428): (a) the subject of an active construction appears in the passive as the complement of the preposition *by*, (b) the object of an active construction appears as the subject of the passive, (c) the verb of an active construction appears in the passive in the past participle form, (d) a passive construction contains an extra verb, the auxiliary *be*.

Not all passive constructions can be used to express impersonalization in English. Only passive constructions where the agents are not explicitly specified can be used to express impersonalization. These constructions are commonly called agentless passive constructions or ‘short passives’ (Huddleston & Pullum, 2002, p. 1428). They differ from the ‘long passives’ where the *by*-phrase agents are explicitly specified in the sentence. Agentless passive constructions, Huddleston & Pullum (2002, p. 1446) argue, “serve to avoid making explicit reference to the writer, and this is widely believed to give the writing a more objective flavour than is found in texts with 1st person references.”

Furthermore, passive constructions can be categorized on the basis of the finiteness of the verb into passive constructions with finite and non-finite verbs. Passive constructions with finite verbs can further be classified into present passive constructions, past passive constructions, and modalized passive constructions. Table 3 below shows the frequency and distribution of the three sub-classes of agentless passive constructions. As shown in the table, passives in the past tense substantially outnumber modalized passives and only slightly those in the present tense ($\chi^2_{(1)} = 28.33$, $p < 0.001$). This tendency might be attributable to the common use of the past passives in the methods section (Swales & Feak, 2012). It is interesting to note that most agentless passive constructions were used without any aspectual markers, i.e., in their simple forms.

TABLE 3
FREQUENCY OF AGENTLESS PASSIVE CONSTRUCTIONS IN THE CORPUS

No.	Tense	Token	p10kw	%
1.	Present	1,794	70.80	35.55
2.	Past	2,403	94.83	47.61
3.	Modal	850	33.54	16.84
	Total	5,047	199.17	100.00

Out of the 1,794 occurrences of agentless present passives, most (88%) were used without any aspectual marker. Examples (1)-(2) below illustrate the use of simple present passives in the corpus (in all the examples below, the number following the letter L (linguistics), M (medicine), or N (natural science) indicates the number of the article from which the clause or sentence was taken). Only a small number (11%) of agentless present passives were used with a perfective aspect (3).

- (1) Similar findings *are reported* for requests in Pinto (in press) (...) (L04).
- (2) Clearly, systemic corticosteroids *are associated* with insulin resistance and hyperglycemia (M03).
- (3) The role of metal oxide surface charge *has recently been implicated* as a potent player in hemostatis (...) (N05).

Like the agentless present passives, almost all agentless past passives (99%) were used without any aspectual marker, as shown in examples (4)-(5). Likewise, most modalized agentless passives were also used without any aspectual marker, as in examples (6)-(7).

- (4) Responses were recorded on a 5-point Likert scale. (L01)
- (5) Caesarean delivery is associated with a higher requirement for neonatal care, a link which was also observed in the present study (...) (M15).
- (6) Further guidance is now required from driving authorities as to how these data should be interpreted (M07).
- (7) Below the threshold, dense connections are formed among a significant number of interfaces in the structural space, which may be considered as continuous (N14).

The predominance of passive constructions in the corpus has provided further support to the findings of previous studies (Hinkel, 2004a, 2004b; Swales, 1990). The passive has been reported to be pervasive in academic discourse from various disciplines (Amdur et al., 2010; Atkinson, 1996; Hinkel, 2004a, 2004b; Hyland, 1998; Johns, 1997; Rodman, 1994). Hinkel (2004b, p. 161) argues that this predominance is dictated to a large extent by academic discourse conventions.

(b). *Impersonal Constructions*

Siewierska (2008a, 2008b) argues that impersonalization is functionally related to agent-defocusing, agent being understood as “the causal participant of an event, and is also referred to as the actor, instigator or initiator” (2008a, p. 7), while defocusing meaning “diminishing the prominence or salience from what is assumed to be the norm” (2008a, p. 7). Siewierska further argues that agent-defocusing means that (a) the agent is not (fully) specified, (b) the agent is

downgraded from its prototypical subject or topic function, or both (a) and (b). Impersonal constructions are here viewed as linguistic realizations used to express agent-defocusing, i.e., avoidance of the mention, especially of the author (see, e.g., Givón, 1994; Hyland, 1996, 1998; Marín Aresse, 2002). Impersonal constructions include (a) impersonal pronouns, i.e., personal pronouns “used impersonally, to refer to an unspecified human agent,” (b) ‘*it*-clause’ (Hewings & Hewings, 2002), a clause that begins with *it* as a non-referential, anticipatory subject of the clause (Biber et al., 1999, pp. 155, 332; Quirk et al., 1985, p. 1391), and (c) personification (Lakoff & Johnson, 2003; van Aertselaer, 2002), ‘abstract rhetors’ (Halloran, 1984), metaphors (Banks, 1996), or metonymy (Rundblad, 2008), i.e., constructions whose subjects are inanimate but the verbs are active (Master, 1991). Banks (1996) argues that such constructions require human agents as the verbs are in the active form. The subjects, therefore, must have an agentive role. Yet, the subjects are inanimate. Thus there is a mismatch between the inanimate subjects and the active verbs. Such a mismatch is called ‘untypical animacy’ (Berry, 1975, as quoted in Banks, 1996, p. 17). The use of such constructions implies that writers avoid any responsibility for the truth of their proposition. Their responsibility is transferred to the inanimate subjects, which then become the source of their claim (Hyland, 1996, p. 444). Table 4 below presents the frequency and distribution of the three impersonal constructions in the English RAs under investigation.

Table 4 shows that, by far, personification is much more commonly used as linguistic manifestations of impersonalization in English written academic discourse than both *it*-clauses and impersonal pronominal constructions ($\chi^2_{(1)} = 34.2174$, $p < 0.001$). This seems to suggest that academic authors commonly make use of inanimate subjects vested with human agentivity to depersonalize their claim. This is probably because, as Lakoff & Johnson (2003) argue, personification constructions “allow us to make sense of phenomena in the world in human terms—terms that we can understand on the basis of our own motivations, goals, actions, and characteristics” (p. 34). In addition, the relatively high frequency of personification lends support to Halloran’s claim for its “increasing frequency in academic writing across the disciplines” (1984, p. 74).

TABLE 4
FREQUENCY IMPERSONAL CONSTRUCTIONS IN THE CORPUS

No.	Constructions	Token	p10kw	%
1.	Pronouns	115	4.54	9.97
2.	<i>It</i> -clause	178	7.02	15.44
3.	Personification	860	33.94	74.59
Total		1,153	45.50	100.00

As mentioned previously, personification allows academic authors to avoid mentioning themselves as agents; hence they attribute responsibility to inanimate subjects. These subjects include such commonly abstract nouns as “concepts, processes, methods, diseases, behaviours, measurements, programs, predictions and all other manifestations of the nonconcrete” (Master, 1991, p. 24). Abstract nouns which commonly fill the subject function include *study*, *result*, *analysis*, *data*, and *research*. Below are two examples illustrating the use of personification in the corpus.

(8) Our research supports the axioms of mental health promotion and protection (M04).

(9) These results suggest that (...) the N-peptide function is restricted to an early initiation stage of the fusion reaction (N13).

As for the active verbs that go with the inanimate subjects, most belong to verbs indicating mental processes “through which we organize our mental contact with the world” (Downing, 2015, p. 171; Downing & Locke, 2006, p. 139). Mental process verbs that were commonly used in personification are *show*, *suggest*, and *indicate*. This seems to support Banks (1996, p. 19), who also found common uses of these three mental process verbs to express impersonalization. Examples (10)-(11) below illustrate the use of such verbs in the corpus.

(10) The results from a series of t-tests showed that there were no significant acoustic differences (...) (L09).

(11) The study indicated that the flow characteristics could be controlled for a favourable fibre separation by selectively choosing particular roughness geometry (N09).

Turning now to the less frequently used impersonal constructions, the *it*-clause constructions can formally be realized by clauses with the pattern *It + is + adjective + that*. The adjectives that commonly fill in this pattern include *possible*, *likely*, and *clear*. Below are two examples.

(12) It is clear that failed humor is a significant issue, both theoretically for humor research, but practically for L2 learners (...) (L03).

(13) (...) it is likely that fortified foods such as breakfast cereals (...) may be influencing dietary folate (M14).

Another pattern involves the use of the linking verbs *appear* and *seem*, as shown below.

(14) Therefore, it appears that fish oil fatty acids could influence both endothelial-dependent (ACh) and endothelial-independent (SNP) vasodilatory mechanisms (M13).

(15) It seems that the ratio of average TMP fibre length to bead diameter (3mm) is a critical issue (N07).

Finally, the least commonly used impersonal constructions involve the generic use of personal pronouns such as *one* and *we* (including *us*). These personal pronouns can be used impersonally to refer to unspecified human agents. *One*, which means “people in general” (Quirk et al., 1985, p. 353), was slightly more commonly used for impersonalization than *we*. Below are some examples illustrating the use of *one* (16) and *we* as well as *us* (17)-(18) to express impersonalization in English written academic discourse.

(16) For example, one cannot understand a joke if one cannot hear it being told (...) (L03).

(17) We should note that the slot velocity is significantly different from the suction velocity (...) (N09).

(18) Most of us can recall a time when we responded seriously, failing to recognize a speaker's humorous intent (...) (L03).

B. Disciplinary Variation of Impersonalization

In answer to the question of whether impersonalization is used differently in different fields, the results indicate that there is a significant difference ($\chi^2_{(2)} = 17.7097, p < 0.001$) in the use of impersonalization across the three fields under investigation. This communicative strategy was more commonly used in natural sciences (302.22 p10kw) than in both linguistics (218.49 p10kw) and medicine (225.41 p10kw). Figure 1 below presents the frequency of impersonalization devices used in the three disciplines.

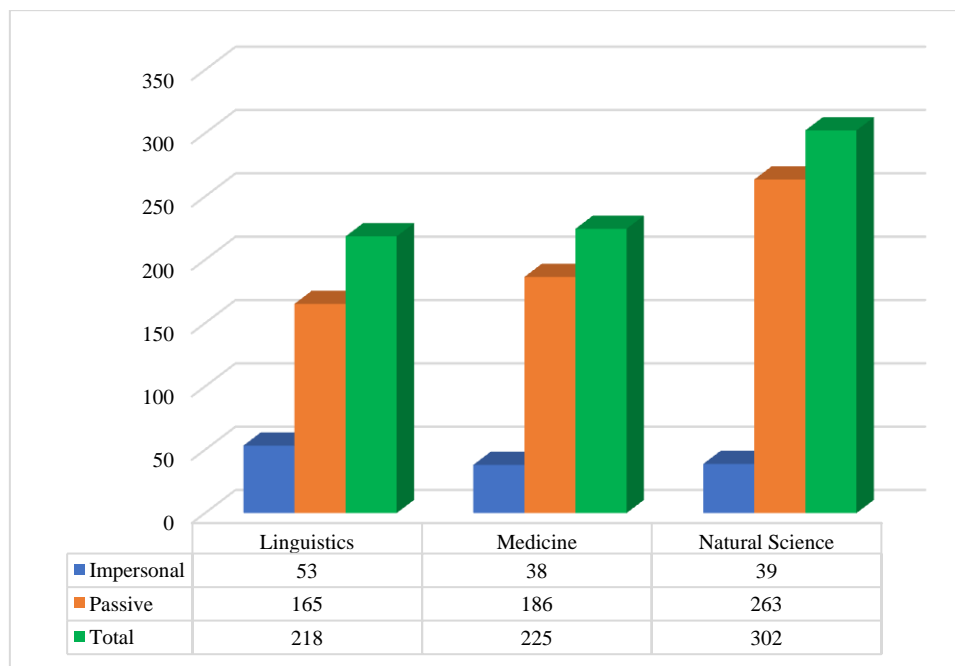


Figure 1 Frequency of Impersonalization Devices in Linguistics, Medicine and Natural Sciences (p10kw)

The figure shows that there is a significant difference in the use of impersonal and passive constructions across the three fields of study under investigation ($\chi^2_{(2)} = 11.464, p = 0.003$). Passive constructions seem to be the preferred means of expressing impersonalization in comparison to impersonal constructions. Passive constructions were more frequently used to express impersonalization in natural sciences (263 p10kw) than in linguistics (165 p10kw) and medicine (186 p10kw). However, impersonal constructions were more commonly used in linguistics (53 p10kw) than in medicine (38 p10kw) and natural sciences (39 p10kw). This seems to suggest that overall the use of passive constructions is much more dominant across the three fields of study to express objectivity and detachment.

Figure 2 below presents the frequency of impersonal constructions across the three fields of study. The figure shows that personification constructions (34 p10kw) are by far more commonly used as impersonal constructions to express impersonalization in all three fields than *it*-clauses (7 p10kw) and generic pronouns (5 p10kw). Personification, *it*-clauses, and generic impersonal pronouns were used much more frequently in linguistics (53 p10kw) than in medicine (38 p10kw) and natural sciences (39 p10kw). However, there does not seem to be any significant difference in the use of the three types of impersonal constructions across the three fields ($\chi^2_{(4)} = 3.574, p = 0.467$).

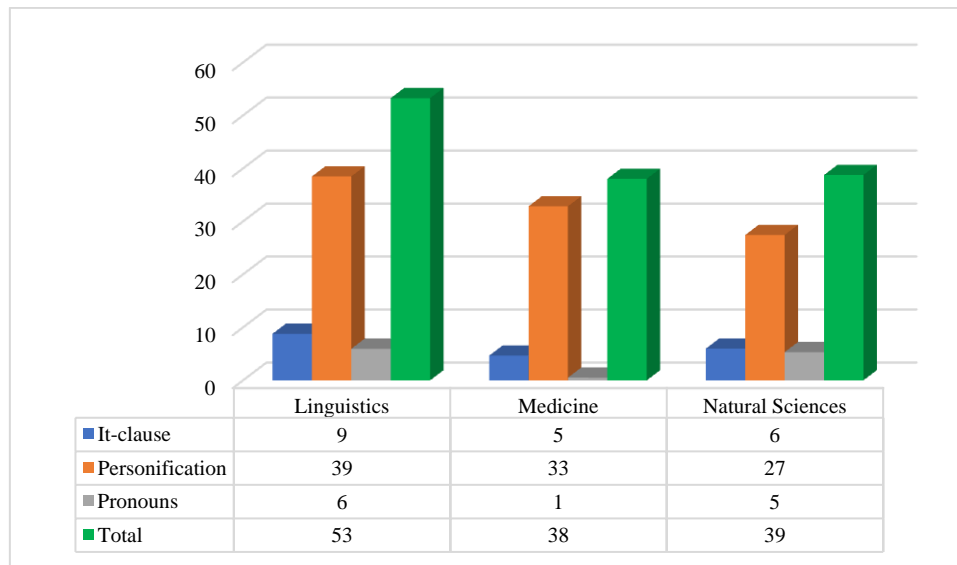


Figure 2 Frequency of Impersonal Constructions in Linguistics, Medicine and Natural Sciences (p10kw)

Turning now to passive constructions, Figure 3 below shows the frequency of agentless passive constructions across the three fields of study under investigation. The use of these three constructions shows a highly significant difference across the three disciplines ($\chi^2_{(4)} = 39.220$, $p < 0.001$). It is interesting to observe that while in medicine and natural sciences, the past passives were much more dominant than the other two categories, in linguistics, the present passives were slightly more common, especially than the past passives. This might be attributable to the more common use of past passives in the methods section in both medicine and natural sciences.

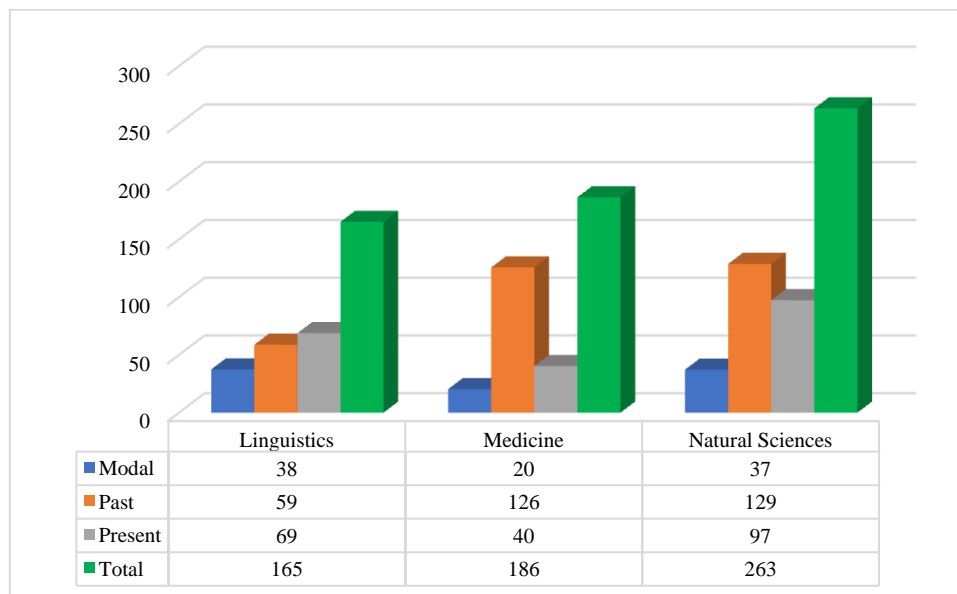


Figure 3 Frequency of Passive Constructions in Linguistics, Medicine and Natural Sciences (p10kw)

The findings of the present research suggest that there is significant disciplinary variation in the use of impersonalization in English research articles. Writers in natural sciences employed impersonalization devices significantly more frequently than their counterparts in both linguistics and medicine. In other words, scholars in natural sciences tend to detach themselves from the claims they make in their research articles, while those in linguistics and medicine tend to be more committed to their claims. This disciplinary variation seems to conform to previous studies (Hyland, 2005, 2006, 2008; Varttala, 2001). Hyland (2005) reported that writers, especially in the humanities and social sciences, are more involved than those in the sciences and engineering fields. Likewise, Varttala (2001) also reported that scholars from the fields of economics, engineering, and medicine display variable practices in the use of hedging devices, including impersonal constructions. This disciplinary variation, Hyland (2005, 2006) argues, resides in the fundamental ontological differences between hard and soft knowledge domains, which have distinct effects on rhetorical practices. Scholars in the hard sciences “tend to see their goal as producing public knowledge able to withstand the rigours of falsifiability and developed through relatively steady cumulative growth,” whereas those in the soft sciences “are more interpretative and less abstract, producing discourses which often recast knowledge as

sympathetic understanding, promoting tolerance in readers through an ethical rather than cognitive progression” (Hyland, 2005, p. 187). Such disciplinary differences find further support from Bondi (2005), Bondi and Silver (2004), Busà (2005), and Charles (2003).

It is interesting to note, however, that some studies do not seem to corroborate such disciplinary variation (Sanjaya, 2015; Vold, 2006). Sanjaya (2015), for example, argues that scholars are not always affected by the disciplines they are affiliated with in the use of rhetorical features in their research articles. This means that disciplines may not be the only factor affecting the differing practices of scholars in the use of hedging devices in general and impersonalization devices in particular. Sanjaya (2015) further argues that “rhetorical characteristics (...) of a research article might be significantly determined by the cultural models (...) espoused by the author” (p. 125). However, this does not seem to be the case in the present research.

C. Pragmatic Functions of Impersonalization

As mentioned earlier, impersonalization can be viewed as a sub-strategy of hedging (Luukka & Markkanen, 1997). In answer to the question of what pragmatic functions impersonalization is used to serve, the data in the present research were analyzed using Hyland’s (1998) polypragmatic model of hedging. In this model, the strategy of hedging can be realized by linguistic devices which are “both polysemous and polypragmatic” (p. 156). These linguistic devices, or hedges, can be interpreted differently by different users in different contexts. They can be used for different pragmatic purposes. As a polypragmatic strategy, hedging can be regarded as multifunctional in that particular interpretations cannot be directly made to specific hedging devices. In other words, a specific hedging form can be used to serve several different functions at once. This is precisely because, as Hyland (1998) argues, such forms “are virtually always indeterminate, each containing traces of meaning conveyed by the other” (pp. 158-159).

On the basis of the above arguments, Hyland (1998) distinguished in general between content-oriented hedges and writer-oriented hedges. Content-oriented hedges focus more on the mitigation of “the relationship between propositional content and a representation of reality; they hedge the correspondence between what the writer says about the world and what the world is thought to be like” (p. 162). They are further subdivided into accuracy-oriented hedges, which are used primarily for “reducing the risk of negation on objective grounds” (p. 162), and writer-oriented hedges, which serve “to shield the writer from the possible consequence of negatability by limiting personal commitment” (p. 170). Unlike content-oriented hedges, reader-oriented hedges focus more on the social relationship between the writer and reader. They serve as “conformity to research community expectations concerning deference due to colleagues in presenting information” (p. 178).

Based on the model above and acknowledging the indeterminate nature of hedging functions, the data were analyzed for possible prototypical pragmatic functions that impersonalization, as part of the hedging strategy, serves in the corpus. It was found that impersonalization was primarily used as writer-oriented hedging, as a protective strategy. This sub-strategy was used primarily to avoid full responsibility for an assertion that the writer makes. This is especially evident in the use of agentless passives, as shown in the following two examples. In these examples, the writers avoid taking full responsibility for what they say. In other words, they limit their personal commitment to what they assert. Hyland (1998) argues that this lack of writer agentivity is a distinctive characteristic of writer-oriented hedging.

(19) The nativization patterns found in Australia (...), for instance, *might be assumed* to resemble that of Southern British English (...) (L13).

(20) Alternatively, our multivariable analyses *might be used* to justify a decision to prevent subgroups (...) (M07).

This avoidance strategy is closely related to the concept of detachment (Chafe & Danielewicz, 1987; Vassileva, 2001). This is commonly used to distance the writers from the claim they make, as seen below, where the writers made their data speak for them. The inanimate subject here is vested with agentivity other than the writers.

(21) *These data suggest* Schiff base formation with one AP site accelerates reaction with a second lesion (...) (N15).

The avoidance of full responsibility and the detachment from propositions are motivated by the writers’ desire to save their face for possible criticism by the audience. In the following example, the writers avoid direct reference to themselves for politeness purposes through the use of a passive construction. The use of this construction indicates the writers’ awareness that the coinage of a new term or labelling a phenomenon with a new term can threaten the face of the esoteric audience and/or the exoteric audience (Myers, 1989, p. 16). Thus, the writers hedge this face-threatening act (FTA) by using the passive.

(22) As shown in Figure 2b, the roughness width includes a flat land at the trailing edge, which *is called* crest (N09).

Another possible motivation for impersonalization is the writers’ desire to save the readers’ face. Avoidance of explicit authorial reference can be used to indicate that the writers do not want to impinge on the readers (Brown & Levinson, 1987). On the other hand, avoidance of explicit reference to the readers can be regarded as a means of saving the readers’ face. In the following example, the passive is used to avoid direct reference to the readers. The writers’ consideration and awareness of the readers’ negative face increase the acceptability of their arguments by the readers, thus the possibility of their arguments being ratified by the readers.

(23) *As can be seen*, the profile of each national dataset is broadly similar (L01).

Impersonalization also allows the writers to depersonalize opinions. It can present opinions as objective, distanced from the writers, thus making them less open to negotiation (Martin et al., 1997). In other words, impersonalization can

be used to increase the objectivity of the writers' arguments, which in turn enhances the readers' recognition of their knowledge claims. This is evident in the following example.

(24) But *it seems* quite likely that many households around the world share such experiences (...) (L08).

Another characteristic function of impersonalization is attribution, in which the writers "may refer to wider bodies of knowledge in the literature when moving away from what can be confidently implied by their results or methods" (Hyland, 1998, p. 174). Such attribution, Hyland (1998) further argues, is "at the heart of writer-oriented uses" (p.174).

(25) NPCs share sequence similarities with a bacterial PC-PLC that *has been characterized* in microbial systems (Wang, 2001) (N12).

The discussion above has shown that impersonalization as a sub-strategy of the much broader communicative strategy of hedging may be employed for a variety of purposes. However, it is primarily used to serve as writer-oriented hedging functions. It is interesting to note that, in terms of the degree of FTA minimalization as an indication of the deference to the scientific community, impersonalization was found to be highest in minimalizing FTAs, thus clearly showing the writer's deference to the scientific community (Martín-Martín, 2008; Namsaraev, 1997). Further, Hyland (1998) argues that this strategy is commonly used to hedge higher-level claims.

IV. CONCLUSION

This study has shown that impersonalization in English written academic discourse can be expressed through a number of linguistic constructions, i.e., agentless passive constructions, impersonal general pronouns, *it*-clauses, and personification. It has also been shown that out of this small number of constructions, the agentless passive is by far the most commonly used construction. This provides further evidence that passive constructions in general are very common in English academic discourse (Biber et al., 1999) and have thus become highly conventionalized (Hyland, 1998; Swales, 1990, 2004).

Another common construction commonly used in English academic discourse to express impersonalization is personification, which transfers agentivity to inanimate, abstract nouns. This is also a common means of agent defocusing, in which authors transfer responsibility to inanimate subjects such as *tables*, *figures*, and *papers*. The relatively high incidence of this construction provides further support to Banks' (1996) argument that together with the passive, it is a feature of English academic discourse that is "related to the avoidance of reference to human agents" (p. 21). The study has also shown that impersonalization was primarily used as a writer-oriented hedging strategy serving the primary pragmatic function of protecting the writer from possible criticism from the reader.

The study also revealed highly significant disciplinary variation in the use of impersonalization in the English research articles under investigation. Impersonalization is far more common in natural sciences than in linguistics or medicine, especially in the use of passive constructions. However, in the use of impersonal constructions, linguistics is more dominant than medicine and natural sciences.

Overall, the study seems to suggest that because of its relatively high frequency across the disciplines, impersonalization seems to be a major feature of academic writing in English. As a sub-strategy of a much broader hedging strategy, impersonalization plays an important role not only in avoiding direct reference to human agents to reflect objectivity, but also in providing protection to authors against any criticism of their claims (Hyland, 1998). Such a strategy protects "the writer from the possible consequences of negatibility by limiting personal commitment" (Hyland, 1998, p. 170). Finally, impersonalization in English academic writing may be viewed as a means of conforming to established writing style.

APPENDIX. LIST OF SELECTED JOURNALS

LINGUISTICS

L01-05 Intercultural Pragmatics (<https://www.degruyter.com/journal/key/iprg/html?lang=en>)

L06-10 Journal of Sociolinguistics (<https://onlinelibrary.wiley.com/journal/14679841>)

L11-15 Language Variation and Change (<https://www.cambridge.org/core/journals/language-variation-and-change>)

MEDICINE

01-05 The American Journal of Medicine (<https://www.amjmed.com/>)

06-10 British Medical Journal (<https://www.bmj.com/>)

11-15 The British Journal of Nutrition (<https://www.cambridge.org/core/journals/british-journal-of-nutrition>)

NATURAL SCIENCES

01-05 Applied Physics A (<https://www.springer.com/journal/339>)

06-10 The Canadian Journal of Chemical Engineering (<https://onlinelibrary.wiley.com/journal/1939019x>)

11-15 Proceedings of the National Academy of Sciences (<https://www.pnas.org/>)

REFERENCES

- [1] Ädel, A. (2006). *Metadiscourse in L1 and L2 English*. John Benjamins.
- [2] Alley, M. (1987). *The craft of scientific writing*. Prentice-Hall.

- [3] Amdur, R. J., Kirwan, J., & Morris, C. G. (2010). Use of the passive voice in medical journal articles. *Amwa Journal*, 25, 98–104.
- [4] Atkinson, D. (1996). The Philosophical Transaction of the Royal Society of London, 1675-1975: A sociohistorical discourse analysis. *Language in Society*, 25, 333–371.
- [5] Banks, D. (1996). The passive and metaphor in scientific writing. *Cuadernos de Filología Inglesa*, 5(2), 13–22.
- [6] Banks, D. (2008). *The development of scientific writing: Linguistic features and historical context*. Equinox.
- [7] Biber, D., Johnson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. Longman.
- [8] Biber, D., & Jones, J. K. (2009). Quantitative methods in corpus linguistics. In A. Lüdeling & M. Kytö (Eds.), *Corpus linguistics: An international handbook* (pp. 1286–1304). Walter de Gruyter.
- [9] Blevins, J. P. (2003). Passives and impersonals. *Journal of Linguistics*, 39, 473–520. <http://dx.doi.org/10.1017/S0022226703002081>
- [10] Bolisky, M. I. (1988). *Better scientific and technical writing*. Prentice-Hall.
- [11] Bondi, M. (2005). Metadiscursive practices in academic discourse: Variation across genres and disciplines. In J. Bamford & M. Bondi (Eds.), *Dialogue within discourse communities* (pp. 3–30). Niemeyer.
- [12] Bondi, M., & Silver, M. (2004). Textual voices: A cross disciplinary study of attribution in academic discourse. In L. Anderson & J. Bamford (Eds.), *Evaluation in oral and written discourse* (pp. 117–136). Officina Edizioni.
- [13] Brown, P., & Levinson, S. (1987). *Politeness: Some universals in language Usage*. Cambridge University Press.
- [14] Busà M. G. (2005). The use of metadiscourse in abstracts.: A comparison between economics and psychology abstracts. In J. Bamford & M. Bondi (Eds.), *Dialogue within discourse communities* (pp. 31–48). Niemeyer.
- [15] Chafe, W., & Danielewicz, J. (1987). Properties of spoken and written language. In R. Horowitz & S. J. Samuels (Eds.), *Comprehending oral and written language* (pp. 83–113). Academic Press.
- [16] Charles, M. (2003). “This mystery...”: A corpus-based study of the use of nouns to construct stance in theses from two contrasting disciplines. *Journal of English for Academic Purposes*, 2(4), 313–326. [https://doi.org/10.1016/S1475-1585\(03\)00048-1](https://doi.org/10.1016/S1475-1585(03)00048-1)
- [17] Conrad, S. (2018). The use of passives and impersonal style in civil engineering writing. *Journal of Business and Technical Communication*, 32(1), 38–76. <http://dx.doi.org/10.1177/1050651917729864>
- [18] deBakey, L. (1976). *The scientific journal: Editorial policies and practices*. Guidelines for editors, reviewers, and authors. Mosby.
- [19] Downing, A. (2015). *English grammar: A university course* (3rd ed.). Routledge.
- [20] Downing, A., & Locke, P. (2006). *English grammar: A university course* (2nd ed.). Routledge.
- [21] Givón, T. (1994). The pragmatics of de-transitive voice: Functional and typological aspects of inversion. In T. Givón (ed.), *Voice and inversion* (pp. 3–44). John Benjamins.
- [22] Gomez, P. C. (2002). Do we need statistics when we have linguistics? *DELTA*, 18(2), 233–271.
- [23] Hacker, D. (2008). *Rules for writers* (6th ed.). Bedford.
- [24] Halloran, S. M. (1984). The birth of molecular biology: An essay in the rhetorical criticism of scientific discourse. *Rhetoric Review*, 3(1), 70–83.
- [25] Hedge, M. N. (1994). *A coursebook on scientific and professional writing in speech-language pathology*. Singular Publishing Group Inc.
- [26] Hewings, M., & Hewings, A. (2002). “It’s interesting to note that. . .”: A comparative study of anticipatory ‘it’ in student and published writing. *English for Specific Purpose*, 21, 367–383.
- [27] Hinkel, E. (2004a). *Teaching academic ESL writing: Practical techniques in vocabulary and grammar*. Lawrence Erlbaum Associates.
- [28] Hinkel, E. (2004b). Tense, aspect and the passive voice in L1 and L2 academic texts. *Language Teaching Research*, 8(1), 5–29. <https://doi.org/10.1191/1362168804lr1320a>
- [29] Huddleston, R., & Pullum, G. K. (2002). *The Cambridge grammar of the English language*. Cambridge University Press.
- [30] Hyland, K. (1996). Writing without conviction? Hedging in scientific research articles. *Applied Linguistics*, 17(4), 433–454.
- [31] Hyland, K. (1998). *Hedging in scientific research articles*. John Benjamin.
- [32] Hyland, K. (2000). *Disciplinary discourses: Social interaction in academic writing*. Longman Pearson Education.
- [33] Hyland, K. (2005). Stance and engagement: A model of interaction in academic discourse. *Discourse Studies*, 7(2), 173–192.
- [34] Hyland, K. (2006). Disciplinary differences: Language variation in academic discourses. In K. Hyland & M. Bondi (Eds.), *Academic discourse across disciplines* (pp. 17–45). Peter Lang.
- [35] Hyland, K. (2008). Persuasion, Interaction and the Construction of Knowledge: Representing Self and others in Research Writing. *International Journal of English Studies*, 8(2), 1–23. <https://doi.org/10.6018/ijes>
- [36] Johns, A. (1997). *Text, role, and context: Developing academic literacies*. Cambridge University Press.
- [37] Kitagawa, C., & Lehrer, A. (1990). Impersonal uses of personal pronouns. *Journal of Pragmatics*, 14, 739–759. [http://dx.doi.org/10.1016/0378-2166\(90\)90004-W](http://dx.doi.org/10.1016/0378-2166(90)90004-W)
- [38] Knorr-Cetina, K. D. (1981). *The manufacture of knowledge*. Pergamon.
- [39] Lachowicz, D. (1981). On the use of the passive voice for objectivity, author responsibility and hedging in EST. *Science of Science*, 2(2), 105–114.
- [40] Lakoff, G., & Johnson, M. (2003). *Metaphors we live by* (2nd edition). University of Chicago Press.
- [41] Larson-Hall, J. (2010). *A guide to doing statistics in second language research using SPSS*. Routledge.
- [42] Larsson, T. (2017). A functional classification of the introductory it pattern: Investigating academic writing by non-native-speaker and native-speaker students. *English for Specific Purposes*, 48, 57–70. <https://doi.org/10.1016/j.esp.2017.06.001>
- [43] Lee, D. Y. W. (2008). Corpora and discourse analysis. In V. K. Bhatia, J. Flowerdew, & R. H. Jones (Eds.), *Advances in discourse studies* (pp. 86–99). Routledge.

- [44] Lipson, C. (2005). *How to write a BA thesis: A practical guide from your first ideas to your finished paper*. University of Chicago Press.
- [45] Luukka, M.-R., & Markkanen, R. (1997). Impersonalization as a form of hedging. In R. Markkanen & H. Schröder (Eds.), *Hedging and discourse: Approaches to the analysis of a pragmatic phenomenon in academic texts* (pp. 168–187). Walter de Gruyter.
- [46] Lyngfelt, B., & Solstad, T. (Eds.). (2006). *Demoting the agent: Passive, middle and other voice phenomena*. John Benjamin.
- [47] Malchukov, A., & Ogawa, A. (2011). Towards a typology of impersonal constructions: A semantic map approach. In A. Malchukov & A. Siewierska (Eds.), *Impersonal constructions: A cross-linguistic perspective* (pp. 19–56). John Benjamins.
- [48] Malchukov, A., & Siewierska, A. (Eds.). (2011). *Impersonal constructions: A cross-linguistic perspective*. John Benjamins.
- [49] Manser, M. (2006). *The facts on file: Guide to good writing*. Infobase Publishing.
- [50] Marín Aresse, J. I. (Ed.). (2002). *Conceptualization of events in newspaper discourse: Mystification of agency and degree of implication in news reports*. Universidad Complutense de Madrid.
- [51] Martin, J. R., Matthiessen, C. M. I. M., & Painter, C. (1997). *Working with functional grammar*. Arnold.
- [52] Martín-Martín, P. (2008). The mitigation of scientific claims in research papers: A comparative study. *International Journal of English Studies*, 8(2), 133–152.
- [53] Master, P. A. (1991). Active verbs with inanimate subjects in scientific prose. *English for Specific Purposes*, 10, 15–33. [http://dx.doi.org/10.1016/0889-4906\(91\)90013-M](http://dx.doi.org/10.1016/0889-4906(91)90013-M)
- [54] Matthews, J. R., & Matthews, R. W. (2008). *Successful scientific writing: A step-by-step guide for the biological and medical sciences* (3rd ed.). Cambridge University Press.
- [55] McEnery, T., & Wilson, A. (2001). *Corpus linguistics: An introduction* (2nd ed.). Edinburgh University Press.
- [56] Meyer, C. F. (2004). *English corpus linguistics: An introduction*. Cambridge University Press.
- [57] Minitab. (2017). *Minitab 18 Statistical Software*. Minitab, Inc.
- [58] Myers, G. (1989). The pragmatics of politeness in scientific articles. *Applied Linguistics*, 10, 1–35.
- [59] Namsaraev, V. (1997). Hedging in Russian academic writing in sociological texts. In R. Markkanen & H. Schröder (Eds.), *Hedging and discourse: Approaches to the analysis of a pragmatic phenomenon in academic texts* (pp. 64–79). Walter de Gruyter.
- [60] Penrose, A. M., & Katz, S. B. (2003). *Writing in the sciences: Exploring conventions of scientific discourse* (2nd ed.). Allyn & Bacon.
- [61] Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (1985). *A comprehensive grammar of the English language*. Longman.
- [62] Rodman, L. (1994). The active voice in scientific articles: Frequency and discourse functions. *Journal of Technical Writing and Communication*, 24, 309–331.
- [63] Rundblad, G. (2007). Impersonal, general, and social: The use of metonymy versus passive voice in medical discourse. *Written Communication*, 24(3), 250–277. <http://dx.doi.org/10.1177/0741088307302946>
- [64] Rundblad, G. (2008). We, ourselves and who else? Differences in use of passive voice and metonymy for oneself versus other researchers in medical research articles. *English Text Construction*, 1(1), 23–40.
- [65] Sanjaya, I. N. S. (2013). *Hedging and boosting in English and Indonesian research articles* [Unpublished doctoral dissertation]. Pennsylvania State University.
- [66] Sanjaya, I. N. S. (2015). Revisiting the effects of sociocultural context and disciplines on the use of hedges in research articles. *Indonesian Journal of Applied Linguistics*, 5(1), 116–125. <http://dx.doi.org/10.17509/ijal.v5i1.838>
- [67] Schreiber, J., & Asner-Self, K. (2011). *Educational research: The interrelationship of questions, sampling, design, and analysis*. John Wiley & Sons.
- [68] Scott, M. (2008). *WordSmith Tools version 5*. Lexical Analysis Software.
- [69] Sheen, A. P. (1982). *Breathing life into medical writing: A handbook*. Mosby.
- [70] Siewierska, A. (2008a). Introduction: Impersonalization from a subject-centred vs. Agent-centred perspective. *Transactions of the Philological Society*, 106(2), 1–27. <https://doi.org/10.1111/J.1467-968X.2008.00211.X>
- [71] Siewierska, A. (2008b). Ways of impersonalizing: Pronominal vs. Verbal strategies. In M. González, J. L. McKenzie, & E. Álvarez (Eds.), *Current trends in contrastive linguistics: Functional and cognitive perspective* (pp. 3–26). John Benjamins.
- [72] Strunk Jr., W., & White, E. B. (2000). *The elements of style* (4th ed.). Pearson.
- [73] Swales, J. (1983). *Developing materials for writing scholarly introductions*. In R.R. Jordan (ed.) *Case studies in ELT* (pp. 188–200). Collins ELT.
- [74] Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.
- [75] Swales, J. (2004). *Research genres: Explorations and applications*. Cambridge University Press.
- [76] Swales, J., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks and skills* (3rd ed.). University of Michigan Press.
- [77] Tarone, E., Dwyer, S., Gillette, S., & Icke, V. (1998). On the use of the passive and active voice in astrophysics journal papers: With extensions to other languages and other fields. *English for Specific Purposes*, 17(1), 113–132. [https://doi.org/10.1016/S0889-4906\(97\)00032-X](https://doi.org/10.1016/S0889-4906(97)00032-X)
- [78] Taylor, R. B. (2005). *The clinician's guide to medical writing*. Springer.
- [79] van Aertselaer, J. N. (2002). Metaphor and metonymy in the representation of agency. In J. I. Marín Aresse (Ed.), *Conceptualization of events in newspaper discourse: Mystification of agency and degree of implication in news reports* (pp. 89–103). Universidad Complutense de Madrid.
- [80] Varttala, T. (2001). *Hedging in scientifically oriented discourse: Exploring variation according to discipline and intended audience* [Doctoral dissertation, University of Tampere]. Trepo. Retrieved March 5, 2015, from <https://trepo.tuni.fi/handle/10024/67148>.
- [81] Vassileva, I. (2001). Commitment and detachment in English and Bulgarian academic writing. *English for Specific Purposes*, 20, 83–102.

- [82] Vold, E. T. (2006). The choice and use of epistemic modality markers in linguistics and medical research articles. In K. Hyland & M. Bondi (Eds.), *Academic discourse across disciplines* (pp. 225–249). Peter Lang.
- [83] Zhang, G. (2015). It is suggested that...or it is better to...? Forms and meanings of subject it-extraposition in academic and popular writing. *Journal of English for Academic Purposes*, 20, 1–13. <https://doi.org/10.1016/j.jeap.2015.02.004>

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