

Use of Hedges in English and Japanese: A Comparative Study of Empirical Research Articles by Native English and Japanese Writers

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Abstract

Native English scholarly writers use interactional metadiscourse markers in their research articles to indicate their stance and negotiate their claims with readers. Hedges are a type of interactional metadiscourse marker often used in scientific research articles to soften writers' claims and protect themselves from criticism (Hyland, 2005a). When Japanese researchers write research articles in English, they tend to use fewer English hedges than native English writers. Although hedges are used in research articles written in Japanese, their usage appears to differ from that of English hedges.

This study analyses the use of hedges in research articles by Japanese writers in both English and Japanese in comparison with English hedges employed by native English writers in order to reveal the differences in the use of hedges between the two languages. The analysis focuses not only on the discrepancies in usage between native English and Japanese writers, but also on the characteristics of hedges used in academic articles written in English and Japanese. Furthermore, this study investigates the impact of Japanese writers' first language on their use of English hedges in articles written in English. A total of 30 published empirical research articles in soft science disciplines in English and Japanese were used for the quantitative and qualitative analyses of the use of hedges, revealing both the writing and linguistic differences between the two languages. Thus, this study aims to offer pedagogical suggestions for Japanese learners of English to use hedges more effectively in their research papers written in English.

Keywords: metadiscourse markers, hedges, discourse analysis, academic writing

1. Introduction

Writers of research articles generally guide readers by showing their attitudes and negotiating their claims with readers, and provide them with a framework for understanding texts in written communication by using metadiscourse markers. Metadiscourse markers help guide a receiver's perception of a text showing signals of writer's attitude towards the content and the readers of the text (Hyland, 2005a, p. 3). Metadiscourse markers¹ consist of interactive resources, which include transitions (e.g. *in addition, but*), frame makers (e.g. *finally, to conclude*), endophoric markers (e.g. *see Figure, in Section 2*), evidentials (e.g. *according to X, Z states*), and code glosses (e.g. *e.g., such as*), and interactional resources, which include hedges (e.g. *might, perhaps*), boosters (e.g. *in fact, definitely*), attitude markers (e.g. *unfortunately, I agree*), self-mentions (e.g. *we, my*), and engagement markers (e.g. *note, you can see that*) (Hyland, 2005a, p. 49).

Hedging is a type of interactional marker that writers use to soften their claims and protect themselves from criticism. Lakoff (1973) originally used the term 'hedges' and defined them as 'words whose job is to make things fuzzier or less fuzzy' (p. 471). Hyland (1998a) states that 'hedges emphasize the subjectivity of a position by allowing information to be presented as an opinion rather than a fact and therefore open that position to negotiation' (Hyland, 2005b, p. 61).

Hedging used in speaking and writing has been analysed in both spoken discourse (Coates, 1987; Holmes, 1988) and written discourse (Hyland, 1996a, 1996b; Salager-Meyer, 1994). In written texts, hedging has been widely studied in research articles, not only in English (Hyland, 1995, 1996a, 1996b, 1998a, 1998b), but also in other languages, such as Chinese (Hu & Cao, 2011), Persian (Samaie et al., 2014), and Spanish (Lee & Casal, 2014).

The use of hedges in the spoken Japanese language was analysed by Hotta and Horie (2012), and Kobayashi (2016) investigated the use of metadiscourse markers in essays written by Japanese learners of English and compared them to Asian learners of English. Furthermore, the use of English hedges in research articles by native English and Japanese writers has also been analysed by Fujimura-Wilson (2019, 2020).

However, there remains a gap in understanding why Japanese writers

tend to use fewer hedges than native English writers and how their native language, Japanese, affects their use. In addition, Japanese hedges in research articles written in Japanese have not been investigated systematically. Therefore, this study aims to demonstrate how Japanese writers use English and Japanese hedges in research articles written in English and investigates whether the writers' first language influences the use of English hedges in their research articles in English.

This study first discusses the theoretical background, including the definition and previous studies of hedges used in research articles in English and Japanese. Second, the research methods and data used in this study are introduced. In the results section, the ways in which Japanese writers use hedges in English and Japanese research articles are analysed and compared with the use of English hedges by native English writers to identify how Japanese writers' first language influences their use of hedges in English. Finally, the discussion section addresses the difficulties that Japanese learners of English face when using hedges, and some pedagogical approaches are suggested to overcome these difficulties and acquire the appropriate use of English hedges.

2. Use of hedges in research articles

2.1 English hedges

The use of hedges in English research articles has been widely analysed. Hyland (1995, p. 34) states that hedges represent an absence of certainty and are used as a strategy indicating a lack of commitment to the truth value of an accompanying proposition. It is also stated that writers strategically use hedges to negotiate and build a relationship with readers. Quirk et al. (1985, p. 445) categorised some hedges into 'possibility hedges' (e.g. *perhaps*, *possibly*) and 'downtoners' (e.g. *little*, *slightly*, *fairly*) helping lower effects and scale downward from assumed norms. In his analyses, Hyland (1995, 1996b, 1998a) states that approximately 80-85% of hedges were observed in lexical items such as lexical verbs (e.g. *indicate*, *suggest*, *appear*), modal verbs (e.g. *would*, *may*, *might*), nouns (e.g. *possibility*, *assumption*), adjectives (e.g. *likely*, *possible*), and adverbs (e.g. *generally*, *probably*, *perhaps*, *approximately*).

Grammatical forms such as *if*-clauses, question forms, and passive

constructions² have sometimes been considered hedges (Hinkel, 1997; Jalilifar, 2011; Loi & Lim, 2019). Unver (2017) states that the passive voice is used not only to indicate important results but also to convey a neutral and impersonal tone to express the meaning more cognitively and make a sentence more reader-friendly and persuasive. Hyland (1998a) also states that writers' statements regarding limited knowledge, limitations of a study, and limitations of model, theory, and method can be considered hedging, as the writers admit the possibility with uncertainty.

In terms of pragmatics, hedges are first divided into two types: content- and reader-oriented hedges (Hyland, 1998a). Content-oriented hedges consist of two other types of hedges, namely accuracy- and writer-oriented hedges, while accuracy-oriented hedges consist of attribute and reliability hedges. In accuracy-oriented hedges, attribute hedges are used to express results less explicitly and approximate the results regarding the described attributes of phenomena (e.g. *generally, approximately, some*) (see example 1), and reliability hedges are used to suggest possibility and probability in the results in terms of the writer's confidence in expressing subjective uncertainty (e.g. *may, likely, probably, possible*) (see example 2). In content-oriented hedges, writer-oriented hedges are used to suggest a writer's knowledge with a high level of claim and to refer to wider bodies of knowledge on the topic (e.g. *suggest, indicate, assume, could*). Reader-oriented hedges are used to involve readers in discussion and try to communicate with them while minimizing any threat to their face (e.g. *I think, we predict, our analysis*) (Hyland, 1998a).

Examples of English hedges

- 1) ... at an acidity that generally guarantees a quite stable assembly of the PS II polypeptides.
- 2) This insertion, which we suspect is the membrane anchor, could associate peripherally with the membrane or might span half the bilayer.
(Hyland, 1998a, p. 165 and p. 167)

Hedges in research articles have been studied as a part of interactional metadiscourse markers in comparison with boosters used to assert suggestions and claims with confidence (e.g. *clearly, obviously, of course*). These results

showed that hedges were generally used more frequently than boosters, indicating that native English writers tend to choose softening claims than assertive ones (Hyland, 1998b).

Hedges have also been studied between major academic disciplines, such as hard science disciplines (e.g. biology, physics, engineering) and soft science disciplines (e.g. philosophy, applied linguistics, sociology). Writers in soft science disciplines tend to use more hedges than do those in hard science disciplines (Hyland, 1996b, 2000; Vázquez & Giner, 2008). Writers in hard science disciplines can rely on statistical results to present their results objectively, whereas writers in soft science disciplines cannot always mathematically verify their results (Vázquez & Giner, 2008) and therefore need to discuss and explain them.

2.2 Japanese hedges

Unlike the English 'hedge', Japanese hedges have been referred to by a variety of names, such as *kanwa hyougen* (mitigation expressions) in *hairyo hyougen* (consideration expressions) and *yawaragego* (softening language). Lexical verbs and modality have been individually analysed with regard to the study of Japanese hedges. *Kanwa hyougen* (mitigation expressions) is a language use in which speakers try to avoid stating definite claims directly (Yamaoka, 2019), and a variety of Japanese modalities, such as *deshou* (will, would), *kamoshirenai* (may, might), and *to omou* (think), have been analysed (Makihara, 2012). These are a part of *hairyo hyougen* (consideration expressions) which is a language use that shows the speaker's hesitation when considering addressees.

The language corpus used in these studies was often chosen from spoken Japanese. For example, Hotta and Horie (2012) examined hedges used by learners of Japanese in refusal situations. In their analysis, lexical hedges including adverbs (*fukushi*) (e.g. *chotto* (a little, a few), *amari* (not many, not much), *tabun* (probably)), particles (*joshi*) (e.g. *ne* (don't you?, you know), *kana* (I wonder), *toka* (and so on)), modal verbs (*jodoushi*) (e.g. *kamoshirenai* (may, might), *souda* (seem), *youda* (seem)), auxiliary verbs (*hojodoushi*) (e.g. *te shimau* (will end up)), verbs (*doushi*) (e.g. *omou* (think), *ki ga suru* (feel as if)), and nouns (*meishi*) (e.g. *kanji* (impression, feeling), *kanousei* (possibility), *kurai*

(about)) were investigated. Their results indicate that learners of the Japanese language tended not to use Japanese hedges for their replies when they received an invitation from those who were close to them, suggesting difficulties in acquiring Japanese hedges.

In Japanese research articles, lexical verbs and modal verbs have been analysed as Japanese hedges. Phuwat (2018) examined the result sections of 40 research articles in Japanese and found that *kangaerareru* ((can) be thought/considered) was the most frequently used, followed by *darou* (will, would) and *to ieru* ((can) be said). Similarly, Hayakawa et al. (2007) examined the expressions at the end of a sentence in three humanities journals in Japanese for linguistics, literature, and language education and revealed that *darou* including *dearou* (will, would) was the most frequently used, followed by *kangaerareru* ((can) be thought/considered) and *to ieru* ((can) be said).

The explicitness of these expressions differs. *To ieru* ((can) be said) is the most explicitly expressed, followed by *omowareru* ((can) be thought, seem) and *darou* (will, would) (Hayakawa et al., 2007, p. 19) (see example 3). Moriyama (2000) states that *to ieru* (can be said) is used to add validity to suggested information. Moreover, Sato et al. (2013) found that writers of technology research articles in Japanese often used *ieru* ((can) be said) when explicitly explaining evidence. In contrast, *darou* and *dearou* (will, would) used in Japanese research articles can indicate indefinite speculation (*futei suiryō*) and writers' speculative judgement (*suiryōteki handan*) (Kuroki, 2011) (see example 4). Therefore, when *darou* and *dearou* (will, would) are used for speculation, they can be categorized as modal verbs in Japanese.

3) ..., *metonimii wa kizami no komakai, renzokutekina shifuto ni yotte naritatsu to ieru.*

(..., it can be said that metonymy is established by fine, continuous shifts.)
(Hayakawa et al., 2007, p. 15).

4) *Iwayuru "tadashii nihongo" o ikani kouritsuteki ni oshieru ka ni senshin shitekita jisshuusei ya tantou kyōin ni totte wa konnanna sagyou dearou.*

(So to speak, this will be a difficult task for trainees and teachers who have been concentrating on how to teach correct Japanese in an efficient

manner.)

(Kuroki, 2011, p. 28)

When writers make a claim and state their opinions, *kangaerareru* ((can) be thought/considered), *kangaeru* (think), and *omowareru* ((can) be thought, seem) are often used as Japanese hedges. *Kangaeru* (think, consider) is used for writers' personal claims and thoughts when stating results, and *omowareru* ((can) be thought, seem) is used to state their speculation based on their judgement. Writers are required to use *kangaerareru* ((can) be thought/considered) which has a more objective meaning than *kangaeru* (think, consider), when stating suggestions and claims in a result section (Phuwat, 2018) (see example 5). Sugita (2017) states that *kangaeru* (think, consider) expresses a writer's judgement, while *kangaerareru* ((can) be thought/considered) indicates possibility in their claim.

5) ..., *gakushuusha ni totte rikai shiyasui mono ni naru to kangaeru.*

(..., [I] think that [this] will be easier to understand for learners.)

(Phuwat, 2018, p. 144)

According to Sugita (2017, p. 108), *omou* (think) is often used when writers explain purposes and reasons in their study, while *omowareru* ((can) be thought, seem) is used to make spontaneous claims, such as future possibility and necessity in further research (see example 6). Moreover, Kawabata (2013) revealed that university students frequently used *omou* (think) for discreet claims without sufficient explanation in their reports (see example 7).

6) ..., *yoru seijitekina shiten de no kentou ga hitsuyou dearu to omowareru.*

(..., a more political perspective seems to be necessary.)

(Sugita, 2017, p. 108)

7) ..., *kokugo jiten no kaitei ga donoyouna houshin ni yotte okonawareru no ka o shoukai shite ikitai to omou.*

(..., [I] think that [I] want to introduce what kind of policy governs the revision of Japanese dictionaries.)

(Kawabata, 2013, p. 82)

Furthermore, there are potential verbs in the Japanese language which combine the meaning of modal verbs in a lexical verb. The Japanese passive construction can also be considered a form indicating possibility which is equivalent to a combination of a modal verb and a lexical verb in English. For example, *mieru* (can see/observe) is initially often used to indicate spontaneous possibility and ability to see. Mori (2014) explained that *mieru* (can see/observe) and *mirareru* (can be seen/observed) are used to express possibilities of seeing in a certain situation (*joukyou kanou*), and *mirareru* (can be seen/observed) is also used to express the possibility of seeing with the speaker's feelings such as conveying their expectation (*shinjou kanou*) (see examples 8 and 9). These Japanese verbs indicating possibility and ability are called *kanoudoushi* (potential verbs), which contain suffixes such as *-eru* (e.g. *nomeru* (can drink), *hanaseru* (can speak)), *-reru* (e.g. *mireru* (can see), *tabereru* (can eat)), and *-rareru* (e.g. *mirareru* (can see), *taberareru* (can eat)) (Ichikawa, 1991; Nakano, 2008). The modal verb *can* can be replaced by *could* depending on the context.

8) *Ano yama no sanchou ni noboreba, Mashuuko no zenkei ga mieru/mirareru.*

([I] can see the whole lake Mashu from the top of the mountain.)

9) *Hazukashikute, aite no kao ga matomoni mirarenai.*

([I] am so embarrassed and cannot properly see the face of the person.)

(Mori, 2014, p. 79)

The question form *darou ka* ([I] wonder if) can also be understood as a Japanese hedge. Saegusa (2002) explains that *darou* (will, would) is used for a possible suggestion drawn from facts proved and confirmed by past experience. Therefore, *darou ka* ([I] wonder if) is used within a concept in the process of thinking when trying to confirm an action or event under a certain circumstance (See example (10)).

10) *Amayakashite iru darou ka. Kodomotachi ni sankai no heya o ataetarishite.*

([I] wonder if [I] am spoiling [them]. Since [I] gave the children a room on the third floor.)

(Saegusa, 2002, p. 26)

These studies were individually conducted as linguistic analyses in Japanese and did not focus specifically on the use of hedges. In the following section, for comparison with English hedges, the following aspects will be examined in Japanese research articles: the combined meanings of a modal verb into a lexical verb indicating possibility in Japanese passive voice (Mori, 2014; Shiba, 2018), Japanese lexical verbs and modal verbs discussed in previous research articles (Hayakawa et al., 2007; Kawabata, 2013; Phuwat, 2018; Sugita, 2017), and other lexical items including adverbs (e.g. *amari* (not many, not much), *yaku* (approximately)), adjectives (e.g. *kanouna* (possible), *ippantekina* (general)), and nouns (e.g. *kanousei* (possibility), *kurai* (about)). In the analysis of Japanese hedges, syntactic categories will also be noted. As observed in the above English translations, some Japanese hedges may not be equally categorized as the same lexical items as English hedges.

3. Research questions and methods

This study addressed two research questions: first, whether Japanese writers using English hedges have been influenced by their use of Japanese hedges, and second, how similar the use of English hedges by Japanese writers is to their use by native English writers in research articles.

Research genres and disciplines strongly influence the writing style in academic writing. Two major disciplines have been frequently investigated: hard disciplines such as biology, mechanical and electrical engineering, and physics; and soft disciplines such as philosophy, sociology, marketing, education, humanities, and linguistics. Previous studies (Fujimura-Wilson, 2020; Hyland, 1998b; Vázquez & Giner, 2008) revealed that writers in soft disciplines tend to use more hedges, as they need to discuss and negotiate their claims with readers in their argument using hedges (Hyland, 1998b). Therefore, this study focused on soft disciplines to observe larger and clearer differences.

This study used a total of 30 empirical research articles for analysis; 10 articles written by native English writers in English (EE), 10 articles written by Japanese writers in English (JE), and 10 articles written by Japanese writers in Japanese (JJ).

Comparable fields were selected for each group. In the EE group of native English writers, articles on education, business, and linguistics from *Cambridge Open-Review Educational Research E-Journal*, *International Journal of Educational Research*, *Journal of Economics and Business*, *International Journal of Applied Linguistics*, and *JALT Journal* were selected. In the JE group of Japanese writers in English, articles on education, applied linguistics, linguistics, and economics from *Educational Studies in Japan: International Yearbook*, *Annual Review of English Language Education in Japan*, *Journal of Economics and Business*, *Japanese Journal of Agricultural Economics*, *The International Economy*, *Language in Focus Journal*, and *JALT Journal* were selected. In the JJ group of Japanese writers in Japanese, articles on education, economics, linguistics, and language education from *Kyōikugaku Kenkyū (Educational Studies in Japan)*, *Kyōiku Shinrigaku Kenkyū (The Japanese Journal of Educational Psychology)*, *Kōdō Keizai (The Journal of Behavioral Economics and Finance)*, *Kokusai Keizai (The International Economy)*, *Gengo Kenkyū (Journal of the Linguistic Society of Japan Gengo Kenkyū)*, and *JALT Journal* were selected. All articles were published between 2014 and 2021.

In the analyses of hedges in English and Japanese, Hyland's (1998a) definition of hedges and Japanese hedges discussed in the previous section were used. Lexical hedges including lexical verbs, modal verbs, adjectives, adverbs, and nouns were analysed. Expressions using the first-person pronouns *we* and *I* can be defined as reader-oriented hedges (Hyland, 1998a), and conditional forms of *if*-clauses were also included. The results, discussion, and conclusion sections were examined in this study, since hedges are often used when writers make their claims in the results sections of their research articles. In the study conducted by Hyland (1995), 82% of all hedges occurred in the results and discussion sections (p. 38). All hedges were carefully examined in their context when the writers presented their results and made claims. The software programme MAXQDA was used for coding and counting the number of hedges and for qualitative and quantitative analyses.

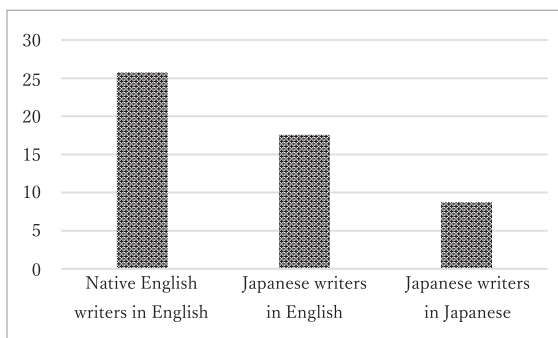
In this study, the corpus of the EE group comprised 32,844 words, the JE group comprised 33,701 words, and the JJ group comprised 56,156 words.

4. Results

4.1 Number of hedges used by native English and Japanese writers in English and Japanese writers in Japanese

The number of hedges differed between English and Japanese in the soft discipline articles. Figure 1 shows the number of hedges used per 1,000 words for each group. In the soft discipline articles, the Japanese writers used fewer English hedges than did the native English writers, which was consistent with the results of the study by Fujimura-Wilson (2019). There is a common observation in previous research that non-native English writers tend to use fewer hedges than native English writers. In addition, Japanese writers used Japanese hedges much less frequently than did those who wrote their articles in English (see Figure 1): native English writers (EE) used 25.8 hedges per 1,000 words, Japanese writers in English (JE) used 17.6 hedges per 1,000 words, and Japanese writers in Japanese (JJ) used 8.7 hedges per 1,000 words.

Figure 1. *Number of hedges in the soft discipline articles in English and Japanese (per 1,000 words)*



The standard deviation in EE was 8.50, JE was 8.10, and in JJ it was 5.99, indicating that the Japanese writers using Japanese hedges were more similar to each other than the native English and Japanese writers of the articles written in English, whose writing style can vary regarding the use of hedges.

The frequencies of hedges might suggest that in academic writing, writers differently understand the importance of hedges. The writers in English appeared to acknowledge the need to use hedges to engage and

negotiate their claims with readers. By contrast, the Japanese writers in the articles written in Japanese tended to employ a writing style that is less reliant on hedges. Nevertheless, the Japanese writers used English hedges to a greater extent than their Japanese counterparts in articles written in Japanese, although they used English hedges less frequently than native English writers. It appeared that they had acquired the use of English hedges to a certain degree.

The results of this study also suggested that Japanese writers using Japanese might use a more explicit writing style than native English writers in English. Takeda and Ishii (2017) state that research papers need to be written using *dearu* (is, are). Ambiguous expressions using passive voice should be avoided, and hedges, such as *yaku* (about, approximately), *teido* (degree), and *rashii* (seem), should be limited in use (Ohtsuka, 2003).

For example, the writer in example 11 uses the common be-verb form *dearu* (is) at the end of the sentence, but he also uses the noun *shisa* (suggestion) as the subject of the sentence to make a tentative claim. In his analysis of the use of *da* and *dearu* (is, are) in the research article, Nakamura (2009) revealed that *dearu* (is, are) is often used when presenting the writer's claims, providing examples, showing coherence, and stating the order of contents. Writers' explicit claims tend to be expressed with *dearu* (is, are) (Kuroki, 2011, p. 26).

11) *Kono kenkyuu ni okeru juuyouna shisa wa, koutekina kyouiku shien o kyohi shigachina hoomu sukuuringu sentaku katei ga sanko o fukamete itta to iu koto ga, hoomu sukuuringu no sanpiron o norikoeru daisan no shikou o teiji shiteiru to iu koto dearu.*

(An important suggestion in this study is that families who have chosen home-schooling and tend to reject receiving educational support from the public have deepened their ties to each other through their participation, which shows the third thought to overcome the argument of home-schooling.)

(JJ article 1, Hirai, 2018, p. 143)³

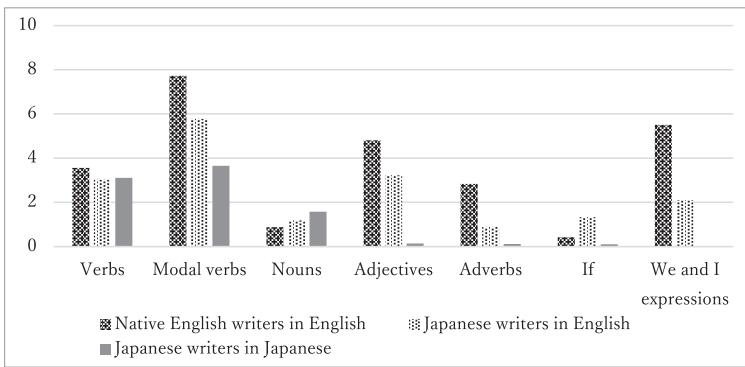
4.2. Use of hedges in lexical items in English and Japanese

While verbs and modal verbs were the most frequently used for hedges

in all groups, the types of lexical items used as hedges varied among the three groups, with some differences between English and Japanese (see figure 2).

The native English writers used modal verbs most frequently, followed by the first-person pronouns *we* and *I*, adjectives, verbs, and adverbs. *We* and *I* expressions, which can be a reader-oriented hedge, were only used in the articles in English, and the Japanese writers used them much less than the native English writers did.

Figure 2. *Number of hedges in lexical items among the three groups (per 1,000 words)*



The Japanese writers in the articles written in Japanese tended to use modal verbs, verbs, and nouns as hedges. They rarely used adjectives, adverbs, and *if*-clauses, and they did not use reader-oriented hedges using the first-person pronouns *we* and *I* at all. This result shows that Japanese writers used fewer hedges and less variety, suggesting a limited use of lexical hedges compared to English hedges.

Table 1. *Variety of hedges used in the three groups*

	EE	No.	JE	No.	JJ	No.
1	we	148	can	104	<i>kangaerareru/kangaerareteiru</i> ((can) be thought/considered)	50
2	can	81	we	64	<i>keikou ga aru</i> (tend)	45
3	may	56	if	44	<i>kanousei</i> (possibility)	37
4	would	55	some	44	<i>mirareru</i> ((can) be seen)	33
5	some	50	may	38	<i>keikou</i> (tendency)	29
6	suggest	39	indicate	26	<i>erare</i> (can obtain)	23
7	could	31	would	21	<i>darou/dearou</i> (will, would)	21
8	I	31	suggest	19	<i>shisasare</i> ((can) be suggested)	16
9	likely	30	will	19	<i>dekiru</i> (can)	15
10	indicate	27	seem	18	<i>shisasuru</i> (suggest)	14
11	might	18	possible	17	<i>ieru</i> (can say)	14
12	often	18	often	14	<i>kansatsusare</i> ((can) be observed)	10
13	will	18	likely	13	<i>suisokusareru</i> ((can) be assumed)	10
14	many	16	most	13	<i>kangaeru</i> (think)	8
15	if	14	many might	12 12	<i>moshi</i> (if) <i>kamoshirenai</i> (may, might)	6 6

Table 1 presents the most frequently used hedges by the three groups. Some differences in language use between English and Japanese were observed in this result, mostly regarding writers' word choice and the arrangement of words for a rhetorical meaning in the two languages.

First, although native English writers sometimes started sentences using *we* and *I* to negotiate their claims with readers as reader-oriented hedges, Japanese writers did not use them as the subject of sentences in articles written in Japanese. Instead, they preferred to use an impersonal subject in a sentence, as they acknowledge that the first-person pronouns indicate a subjective point of view, and such a sentence can be understood as making a subjective claim.

Expressions using *we* and *I* are understood as reader-oriented hedges in rhetorical meaning. In research articles written in English, first-person pronouns such as *we* and *I* play an important role in not only involving readers in the discussion but also helping to project the writer's real voice to effectively

establish authorial identity (Hyland, 2002). Hyland (1998a) explains that findings and analyses stated using first-person pronouns convey 'a reader-based hedge' (p. 182), leaving it open to the reader to judge their claims. Swale and Feak (2012) note that in academic writing, writers can choose how strongly they highlight their identity. In addition, self-mention using *we* and *I* is often rhetorically used in soft-discipline articles in English (Hyland, 2001). Kuo (1999) states that authors sometimes use inclusive *we*, which refers to themselves and readers, and indicates that they share knowledge, goals, and beliefs.

In a Japanese sentence, the subject can sometimes be omitted, and the topic of the sentence tends to be chosen as the subject of a sentence instead of a personal subject. Kato (2012) explains that the subject is not that important and is not also necessarily used in a Japanese sentence (pp. 1-2). For instance, example 12 shows that the Japanese verb *omou* (think) grammatically suggests that the subject is a person and is omitted in this sentence. Instead, the object and the topic of the sentence, which is the fact that people buying foods in supermarkets are not primarily housewives, is focused and explained in this sentence.

12) *Dansei no mikonritsu no zouka, josei no katsuyaku suishin ni yoru fuufukan de no buntan ga sakebareru nado suupaa nado de shokuryou o kau no wa shufu dake de wa nakunatte kiteiru you ni omou.*

([I] think that people buying foods in supermarkets are not housewives primarily because the percentages of unmarried men and women's opportunities in society are increasing, and sharing chores at home is addressed.)

(JJ article 6, Oka, 2019, p. 113)

Regarding the use of the first-person pronouns *we* and *I* in articles written in English, the native English writers used them more than twice as frequently as the Japanese writers did (see Figure 2). However, some Japanese writers used them in articles written in English, suggesting that they might have acknowledged their importance, and used them for rhetorical purposes to engage readers in their discussions. The articles analysed in this study

suggest that some of the Japanese writers had studied abroad and acquired academic writing skills in English. Nevertheless, the rhetorical uses of first-person pronouns in research articles written in English might need to be clearly addressed for Japanese writers to acquire their appropriate use.

Second, the Japanese writers often used ‘possibility’ and ‘tendency’ in their claims. The modal verb *can* was the most frequently used by Japanese writers in the articles written in English, while the modal verb *could* was only used several times. Potential verbs (*kanoudoushi*) were frequently used, with a total of 189 potential verbs in articles written in Japanese. As for Japanese hedges, writers often used Japanese potential verbs (e.g. *kangaerareru* ((can) be thought), *suisokusareru* ((can) be assumed), *shisasareru* ((can) be suggested). In example 13, the writer uses the potential verb *kangaerareru* ((can) be thought) to suggest his claim.

- 13) *Mazu wa kanbun no chikara ga seiji no chikara ni ten'isare, tsugi ni bunka no chikara e to henkansareru dankai ni utsutta to kangaerareru.*
(First, the power of Chinese writing can be thought to have been transferred to political power, and then moved to the stage where it was transformed into cultural power.)
(JJ article 3, Matsushita, 2019, p. 179)

In Japanese, expressions of tendency are sometimes used when presenting results. The Japanese writers used the verb *keikou ga aru* (tend) the second most frequently among Japanese hedges (45 times), while the native English writers used the verb *tend* only eight times. The Japanese writers used the verb *tend* 11 times in research articles written in English. Regarding articles written in English, both the native English and Japanese writers used the verbs *indicate* and *suggest* and the adverb *likely* more frequently than the verb *tend*. In example 14, the verb *keikou ga aru* (tend) is used to describe the shopping tendency of men in supermarkets.

- 14) *Dansei wa shashin ga keiji sareta yasai o kau keikou ga aru ga, josei wa sou dewanai.*
(Men tend to buy vegetables with a picture displayed, whereas women do

not.)

(JJ article 6, Oka, 2019, p. 109)

Third, although writers did not use many lexical nouns for hedges, these were used slightly more frequently in articles written in Japanese than in English. Lexical nouns were the third most frequently used hedges in the articles written in Japanese. For example, expressions of possibility and tendency were sometimes used in their noun forms in Japanese (e.g. *kanousei* (possibility), *keikou* (tendency)). In addition, in the articles written in English, the Japanese writers used nouns slightly more frequently than native English writers did (see Figure 2). Some attribute hedges in Japanese were used in noun form. For example, the adjective phrase *a few* in English, which describes a small number, can be equivalent to the Japanese noun *shousuu* (a small number).

This result showed that word choice differs between English and Japanese writers, and Japanese writers tended to choose nouns for hedges. For example, the noun *possibility* could be replaced by the adjective *possible* or the adverb *possibly*. In this study, the writers in English chose the adjective form *possible* more often than the noun form *possibility*, while those in Japanese chose the noun form *kanousei* (possibility). In example 15, when the Japanese writers explain the possible differences between native English and Japanese learners of English in error-based learning, they use the phrase *kotonaru kanousei o shimesu* (show a possibility of difference), which could be substituted by ‘may possibly differ’ with the adverb *possibly* and/or a modal verb *may* in English. The modal verb *may* indicates the meaning of possibility.

- 15) *Kono koto wa, eraa ni motozuku gakushuu kouka toshite no puraimingu kouka no eikyou ga nihonjin eigo gakushuusha to eigo bogowasha no aida de kotonaru kanousei o shimeshiteiru.*

(This shows the possibility that the impact of the priming effect as an error-based learning effect may differ between Japanese learners of English and native English speakers.)

(JJ article 9, Kumagai & Kawahara, 2019, p. 25)

5. Discussion and conclusion

Native English writers carefully use hedges to soften their claims when negotiating them with readers. This study examined the use of hedges in research articles written in English by native English and Japanese writers and in research articles written in Japanese by Japanese writers to reveal differences in the use of hedges among the three groups. The findings of this study suggested some difficulties for Japanese learners of English in using English hedges appropriately in their research articles.

The first research question was whether the use of hedges by Japanese writers in articles written in English is influenced by their use of Japanese hedges. The result indicated that in soft-discipline research articles, they used fewer hedges in both English and Japanese than native English writers did. The way in which the Japanese writers used English hedges appeared to be influenced by their use of Japanese hedges to a certain extent, indicating that Japanese writers tend to choose similar words to indicate possibility in articles written in both English and Japanese.

The frequency of hedges varied between native English and Japanese writers. The native English writers used them the most frequently, followed by the Japanese writers in the articles written in English. By contrast, the Japanese writers in the articles written in Japanese used them the least. Japanese writers tended to use fewer hedges and write statements making claims more explicitly in their articles. These differences in the use of hedges seem to derive from differences in the use of language between English and Japanese. Ohtsuka (2003) emphasized the importance of writing accurately and explicitly in research articles, stating that the use of ambiguous words should be limited.

The results also revealed differences in writers' word choice between native English and Japanese writers. For example, the characteristics of the Japanese language, such as a subject sometimes being omitted in a sentence and the tendency to avoid the first-person pronouns *we* and *I* to make a subjective statement, affected the result. In their articles written in Japanese, the Japanese writers did not use the first-person pronouns such as *we* and *I* as reader-oriented hedges. Moreover, in their articles written in English, these forms were used less than half compared to native English writers. Thus,

Japanese learners of English might need to pay more attention to the differences in writing conventions and language choice and especially to the variations in the use of hedges in articles written in English and Japanese in order to acquire the appropriate use of English hedges. Moreover, the Japanese writers used lexical nouns more frequently and fewer adjectives and adverbs than did the native English writers. Among Japanese hedges observed in this study, noun forms indicating possibility and tendency were often used.

The second research question concerned the extent to which Japanese writers acquired a similar use of English hedges to that of native English writers in research articles. The results revealed that the Japanese writers used hedges to a certain degree in their articles written in English. They frequently used modal verbs, adjectives, and verbs as English hedges.

In terms of the pedagogical implications of these findings, first, Japanese learners of English need to recognize the rhetorical purpose of English hedges. Second, instruction is needed regarding the different writing conventions in English and Japanese research articles. The findings of this study suggest that the characteristics and word choices of the Japanese writers' first language can influence their writing in English. Therefore, comparative language analysis is necessary for instruction to help learners understand the differences between two languages, including how hedges may be used differently in English and Japanese, which inevitably affects the rhetorical meanings of sentences in English.

Teachers need to instruct learners in the appropriate use of English hedges with regard to the characteristics of language and lexical use in rhetorical meanings and make them aware of the differences in the use of hedges between English and Japanese. A variety of English hedges could be introduced with various lexical items, along with an explanation of how and why native English writers use hedges in their writing.

This study has several limitations. For instance, further investigation is needed to find out the use of hedges in different academic disciplines, including hard science disciplines, as the use of hedges varies across academic fields. More detailed analyses are needed in a wider variety of academic genres. In the investigation of Japanese hedges, more data need to be analysed in detail to further classify possible Japanese hedges. However, this study highlights

how Japanese writers use hedges in both English and Japanese research articles, which addresses the gap in studies on the use of hedges in English and Japanese, focusing on the importance of language use and writing conventions in academic research articles in the two languages.

Notes

1. Interactive metadiscourse markers consist of ‘transitions’ used to express relations between main clauses (e.g. *in addition, but*); ‘frame markers’ used to refer to discourse acts, sequences or stages (e.g. *finally, to conclude*); ‘endophoric markers’ used to refer to information in other parts of the text (e.g. *noted above, see Table 1*); ‘evidentials’ used to refer to information from other texts (e.g. *according to X, Z states*); and ‘code glosses’ used to elaborate propositional meanings (e.g. *namely, in other words*). Interactional metadiscourse markers consist of ‘hedges’ used to withhold commitment and open dialogue (e.g. *might, perhaps*); ‘boosters’ used to emphasize certainty or close dialogue (e.g. *in fact, definitely*); ‘attitude markers’ used to express a writer’s attitude towards a proposition (e.g. *unfortunately, I agree*); ‘self-mentions’ used for explicit references to authors (e.g. *we, my*); and ‘engagement markers’ used to explicitly build relationships with readers, (e.g. *consider, note*) (Hyland, 2005a, p. 49).
2. Although writers are encouraged to use the active voice by scientific journals, approximately 30% of all clauses examined by Leong (2014) were in the passive voice. It was noted that the passive voice is used where the active voice is not appropriate and is often used in the methodology sections of journal articles (Leong, 2014).
3. Examples in the results section of this article are quoted from the following articles:
Hirai, Y. (2018). *Kindaigata gakkou kyouiku shisutemu no yuragi to kyouiku no koukyousei no yukue* [Fluctuations of the modern schooling system and the future of the publicity of education]. *Kyouiukugaku Kenkyuu [Educational Studies in Japan]*, 85(2), 138-149.
Kumagai, G., & Kawahara, S. (2019). *Pokemon no nazuke ni okeru boin to yuusei sogaion no kouka – Jikken to riron kara no apuroochi* – [Effects of vowels and voiced obstruents on *Pokémon* names: Experimental and

theoretical approaches]. *Gengo Kenkyuu* [*Journal of the Linguistic Society of Japan Gengo Kenkyu*], 155, 65-99.

Matsushita, H. (2019). *Nihon ni okeru honyaku jissen no engen o meguru keifugakuteki kousatsu* [Genealogical study of the genesis of translation practice in Japan]. *Kyouikugaku Kenkyuu* [*Educational Studies in Japan*], 86(2), 176-187.

Oka, C. (2019). *Shouhisha to seisansha no kyori to shoku e no anshin, anzen – Yasai seisansha no kaojashin no keiji o rei toshite* – [Distance between consumers and farmers and relief and safety for food: For research, posting the farmer's portrait]. *Koudou Keizaigaku* [*The Journal of Behavioral Economics and Finance*], 12, 105-114.

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