University of Pardubice

Faculty of Arts and Philosophy

Hedging in Abstracts of Journal Articles

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Diploma Thesis

2018

ZADÁNÍ DIPLOMOVÉ PRÁCE

(PROJEKTU, UMĚLECKÉHO DÍLA, UMĚLECKÉHO VÝKONU)

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Osobní číslo: **H16345**

Studijní program: **N7503 Učitelství pro základní školy**

Studijní obor: **Učitelství anglického jazyka**

Název tématu: **Atenuace v abstraktech odborných článků**

Zadávající katedra: **Katedra anglistiky a amerikanistiky**

Z á s a d y   p r o   v y p r a c o v á n í :

Cílem diplomové práce je prostudovat výskyt a funkce jazykových prostředků atenuace ('hedging devices') v abstraktech odborných článků a porovnat jejich užití rodilými a nerodilými mluvčími anglického jazyka. Studentka nejprve krátce představí psaný akademický diskurz a charakterizuje jazyk a žánrovou strukturu abstraktu odborného článku. Dále na základě relevantní odborné literatury definuje a vymezí pojem atenuace ('hedging') a popíše nejčastější lexiko-gramatické prostředky této strategie, především prostředky epistemické modality. Zaměří se na jejich klasifikaci a užití v psaném akademickém diskurzu. Následně provede analýzu nashromážděných abstraktů odborných článků s cílem prozkoumat frekvenci výskytu popsaných jazykových prostředků, zmapovat kontexty, ve kterých se vyskytují, a identifikovat jejich funkce s ohledem na zkoumaný žánr. Na závěr autorka zhodnotí užití prostředků atenuace rodilými a nerodilými mluvčími anglického jazyka.

Rozsah grafických prací:

Rozsah pracovní zprávy:

Forma zpracování diplomové práce: **tištěná**

Jazyk zpracování diplomové práce: **Angličtina**

Seznam odborné literatury: **viz příloha**

Vedoucí diplomové práce: **PhDr. Petra Huschová, Ph.D.**

Katedra anglistiky a amerikanistiky

Datum zadání diplomové práce: **30. dubna 2017**

Termín odevzdání diplomové práce: **31. března 2018**

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V Pardubicích dne 31. října 2017

Příloha zadání diplomové práce

Seznam odborné literatury:

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Prohlašuji:

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Souhlasím s prezenčním zpřístupněním své práce v Univerzitní knihovně.

V Pardubicích dne 28.3.2018

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Annotation

This diploma thesis is devoted to a pragmatic analysis of hedging devices distributed in abstracts of journal articles. The theoretical part focuses on a formal and functional description of the aforementioned phenomenon. In addition, the theory of politeness, conversational maxims and epistemic modality are discussed. The analytical part subsequently studies and compares the morphosyntactic as well as pragmatic features of hedges and their distribution in abstracts written by native and non-native speaker researchers.

Keywords

hedging, politeness, maxims, epistemic modality, tentativeness, abstract, academic style

Anotace

Tato diplomová práce se zabývá pragmatickou analýzou atenuačních prostředků v diskurzu abstraků výzkumných článků. Teoretická část vymezuje pojem atenuace a popisuje ho z formálního a funkčního hlediska. Dále vymezuje teorii zdvořilosti, konverzační maximy i epistémickou modalitu ve vztahu k zmíněným prostředkům. Analytická část práce se věnuje rozboru atenuačních prostředků a jejich distribuci s ohledem na porovnání abstraktů od rodilých a nerodilých autorů.

Klíčová slova

atenuace, lingvistická zdvořilost, konverzační maximy, epistémická modalita, tentativnost, abstrakt, akademický styl

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Introduction

The present diploma thesis deals with hedging devices used by authors to employ various strategies in abstracts of journal articles. The main aim is to investigate prevailing formal and functional tendencies of hedges in different contexts. A small-scale corpus study also seeks to explore differences in use by native and non-native English writers.

The thesis is structured into theoretical and analytical parts. The former provides several linguistic points of view on the concept of hedging in relation to several pragmatic theories and strategies. The phenomenon of hedging is understood divergently by linguists - some associate it with politeness strategies and conversational maxims, others recognize hedges as pragmatic markers or devices of vagueness. Hedging is very closely related to the concept of modality, especially epistemic modality, to which a considerable part is devoted.

The theoretical part also tries to provide formal and functional categorizations of hedging devices. The fact that there are no homogeneous classifications proposed by scholars contributes to the fuzziness of hedging. Chapters dealing with individual realizations of hedging devices are divided according to their form. When commenting on the form of hedges, Hyland's framework is adopted - he tries to categorize hedges according to parts of speech. The function of hedges is introduced when discussing specific instances of hedges. There seems to be a consensus of functional classification introduced by Hyland (1996) and Martín-Martín (2008). As the analytical part is concerned with a comparison of hedges in different parts of abstracts, the academic style and the genre of abstracts are briefly described to provide a glimpse of the investigated discourse.

The analytical part subsequently compares and contrasts the form and function of hedging devices used by non-native and native English speakers in journals, namely *English for Specific Purposes* and *International Journal of American Linguistics*. Firstly, the aim and objectives are formulated. Secondly, the source of the corpus and methodology are described. Thirdly, the analysis of 200 instances of hedging devices is conducted. The last chapter is devoted to conclusions supported by graphs and comments on the findings.

All assembled instances of hedges are listed in the Appendices at the end of the thesis.

1 The Concept of Hedging

The term *hedging* has a very broad meaning and has been examined from numerous points of view, e.g. semantics, pragmatics and literary criticism, which has resulted in various interpretations and classifications (Malášková 2012, 31-47). The term, however, was first used by George Lakoff (1973) who defined it as a primarily linguistic phenomenon. In his concept, *hedging* referred to "words whose job it is to make things fuzzier or less fuzzy" (Lakoff 1973, 471). He comments that sentences do not have to be only true or false but are true to a certain degree and therefore have vague boundaries. Based on Lakoff's idea, *a chicken is a bird* is less true than *a robin is a bird*. Thus, *hedges* help us to express lack of certainty to a proposition as can be exemplified by *a chicken is **sort of** a bird* (Lakoff 1973, 458-471).

The concept of hedging was elaborated upon by many linguists and mostly associated with pragmatic strategies, i.e. politeness, indirectness, vagueness, mitigation, tentativeness or attenuation (Wales 2001, 185; Leech 1983; Brown and Levinson 1987; Mey 2001; Quirk et al. 1985). When the force of utterances is to be weakened, most linguists use *hedges* (Lakoff 1973; Wales 2001), or, expressed differently, *softeners* (Crystal and Davy 1975), *downtoners* (Quirk et al. 1985), or *weakeners* (Brown and Levinson 1987) (in Kozubíková Šandová 2017, 7-8). Nevertheless, it is difficult to find a consensus among linguists concerning the taxonomy and use of hedging.

According to Hyland, hedging generally refers to any linguistic means used to "indicate either a lack of complete commitment to the truth value of an accompanying proposition, or a desire not to express that commitment categorically" (Hyland 1996, 433-434). In other words, hedging is a pragmalinguistic device used by writers to weaken the illocutionary force of an utterance, and therefore express uncertainty about a proposition, withhold commitment to a position, entertain alternatives and open dialogue with the reader (Holmes 1984 in Hu and Cao 2011, 2795).

Similarly, Biber et al. define hedges as adverbials or modifiers of phrases and words that are used to convey imprecision, as can be exemplified in the following phrases: *[…] I'll **probably** manage with it*; *It was **kind of** strange*; *They'd bring **like** a little flaming fire thing* (Biber et al. 1999, 558).

Brown and Levinson (1987) agree and point out that hedges can be discussed in relation to mitigation of illocutionary force, i.e. they introduce reasons for softening the

utterance or making it uncertain. Some authors, such as Brown and Levinson, Leech or Fraser, introduce the term *performative hedges* as they may be analyzed as "adverbs or adverbial-clauses on performative verbs that represent the illocutionary force of the sentence" (Brown and Levinson 1987, 146). It can be illustrated in: **Really**, he **probably** *ran that way* and *Close the window,* **if you want** (Brown and Levinson 1987, 147-162). As apparent from the examples above, such hedges are used to minimize the imposition.

Next, hedges can be recognized as devices of negative politeness indicating the speaker's attitude toward what he is saying, i.e. qualify speaker's confidence in the truth of proposition (Brown and Levinson 1987, 172). Hedges as a means of negative politeness are further discussed in relation to the theory of maxims in the following chapters.

Some linguists categorize hedges as pragmatic or discourse markers functioning as devices related to a speaker's opinion and associated with emotions, attitudes or solidarity. Hedges as pragmatic markers are frequently used in conversational discourse to indicate the speaker's uncertainty about a proposition, hesitation or vague assumptions and predictions. Speakers who wish to be inexplicit tend to use expressions such as *well*, *it seems*, *sort of*, *something like that*, etc. (Urbanová and Oakland 2002, 52; Mey 2001, 150-151).

Last but not least, verbal hedges described above can be replaced by prosodic and kinesic means. *Prosodic and kinesic hedges* can be indicated by raised eyebrow, frowns or uttering with very high pitch (Brown and Levinson 1987, 172). As the research part of this thesis concerns only written discourse, these types of hedges are not further described.

In summary, hedges are pragmalinguistic devices used by speakers to be conventionally indirect and thus minimize the imposition, to mitigate the illocutionary force of the utterance and to express uncertainty about a proposition rather than claim assertions. Hedging can also be used to express the relation between the speaker and the addressee, especially as pragmatic markers or means of politeness strategies. In order to be able to identify hedging devices in academic discourse, Hyland's taxonomy (1995, 1996) is followed as it is well organized and seems to represent the consensus among linguists.

2   Hedging and the Theory of Politeness

This chapter delineates the basic terminology concerning the theory of politeness and provides a brief outline of its principal strategies and various conceptualizations. In addition, it explains the inherent relation of hedging to some of the politeness strategies.

In pragmatics, the theory of *politeness*, i.e. strategies employed by the speaker to achieve a variety of goals, has been developed by Brown and Levinson out of Austin's *speech acts* (i.e. basic units of communication produced with a certain intention) theory and Goffman's concept of *face* or public image needs of others (sometimes compared to self-esteem) (Wales 2001, 307; Hudson 1999, 230).

However, some linguists may have different points of view concerning the theory of politeness. The first conceptualization of politeness was introduced by Lakoff, who suggests that politeness is developed by societies to reduce undesirable friction or disagreement in their interactions (Watts et al. 2005, xv-5; Leech 2014, 33). Similarly, Leech perceives the notion of politeness as "strategic avoidance of conflict" and proposes a series of principles/maxims explaining how politeness operates in conversational exchange (discussed later in this chapter) (Leech 1983, 104). Fraser and Nolen perceive politeness as a matter of observing the "conversational contract" which is a set of rights and obligations that must be mutually recognized by participants of a conversation. They argue that politeness is attributed to the speaker rather than to the utterance (Fraser and Nolen in Leech 2014, 37).

As already mentioned, Brown and Levinson work with Goffman's notion of *face* and assume that a person has two kinds of face, namely *positive* and *negative face*. The concepts of *face* and *politeness* are very closely related as positive politeness can be exemplified by an utterance oriented to the positive face of the addressee, who is being treated as a friend or equal, which can be demonstrated in: *Got the time mate?* (Grundy, 2008, 196). On the other hand, an utterance oriented to the addressee's negative face seeks to compensate for potential loss and therefore is an example of negative politeness, as can be illustrated in: *You couldn't let me have a bit of paper by any chance could you* (Grundy 2008, 196). Brown and Levinson's model of politeness, especially their approach to *face*, figures most prominently in this thesis.

Furthermore, Brown and Levinson point out that "people cooperate in maintaining face in interaction, and such cooperation is based on the mutual vulnerability of face" (Brown and Levinson 1987, 61). In other words, face is constantly put at risk during the interaction as speakers may produce utterances that represent potential threat to face (i.e. face threatening acts). For instance, face threatening acts can be expressed by asking someone for a favor, telling them what to do or complaining about the quality of their service (Grundy 2008, 195). In other words, the act of order can represent threat to negative face while the act of complaint might represent threat to positive face (Brown and Levinson 1987, 62). On the other hand, speakers can express utterances that lessen the possible threat (i.e. face saving acts) and

"satisfy the face wants of other interlocutors" (Grundy 2008, 195; Brown and Levinson 1987, 61-62). In order to compensate the threat to face, speakers may employ redressive language, e.g. hedging devices, or apologize for the inconvenience or make a joke of their complaint or simply show their solidarity with the addressee (Grundy 2008, 195).

As has been already stated, hedging can be considered as a means of politeness for several reasons. Generally, two types of politeness are distinguished – positive and negative. The former gives positive value to the addressee by expressing offers, invitations, compliments, etc. The latter tries to mitigate or reduce possible causes of offense, especially by involving indirectness, hedging and understatements (Leech 2014, 11-12; Wales 2001, 308). As mentioned in Chapter 1, normally, hedging strategies are a feature of negative politeness but they can be discussed in connection with positive politeness as well. Especially, functioning as devices for making the speaker's opinion vague by using expressions such as *sort of, kind of, like, in a way*, as apparent in: *I really **sort of** wonder […], It's beautiful, **in a way** […]* (Brown and Levinson 1987, 116). Leech comments that negative politeness (from the pragmalinguistic point of view) becomes more polite through the use of hedges as indicated in: ***Would** you **mind just** being quiet **for a moment***? (contrast it with *Be quiet!*) (Leech 2014, 120).

Brown and Levinson, however, recognize five strategies of polite behavior. Apart from positive and negative politeness, they speak of *bald on record*, *off-record* strategies and also comment on the possibility of not performing face threatening acts at all, i.e. not saying utterances that represent a potential offence or threat to face (Brown and Levinson 1987, 60).

By *bald on record*, Brown and Levinson mean producing utterances directly addressed to the hearer and by *off-record* they mean producing utterances indirectly addressed to the hearer (i.e. trying to avoid direct face threatening acts) (Brown and Levinson 1987, 94 and 211; Grundy 2008, 196). In other words, when following the bald on record strategy, speakers tend to make utterances without any redress and do not try to minimize the threat to the addressee's face. This strategy involves direct, short and accurate utterances, e.g. imperatives, as can be illustrated in: *Open the door!*, *Go!* (Brown and Levinson 1987, 95). In contrary, the off-record strategy helps the speaker avoid responsibility for a communicative act and therefore leaves it up to the addressee to decide how to interpret it. This strategy employs figurative language, indirect speech acts, ambiguous or vague utterances, hinting, etc., as can be demonstrated in: *it's cold in here (communicative intention: shut the window)* (Brown and Levinson 1987, 211-215). They comment that this strategy can cause difficulties

in interpreting the meaning of the utterance, sometimes leading to ignoring it (Brown and Levinson 1987, 211).

As aforementioned, Leech's approach toward politeness is distinct to the strategies proposed by Brown and Levinson, though they may overlap. He proposes politeness maxims which speakers should adhere to minimize the effects of impolite expressions and maximize the politeness of polite statements (Leech 1983, 82):

1. Tact Maxim
   i.e. minimize cost to others/maximize benefit to other
2. Generosity Maxim
   i.e. minimize benefit to self/maximize cost to self
3. Aprobation Maxim
   i.e. minimize dispraise of other/maximize praise of other
4. Modesty Maxim
   i.e. minimize praise of self/maximize dispraise of self
5. Agreement Maxim
   i.e. minimize disagreement between self and other/maximize agreement between self and other
6. Sympathy Maxim
   i.e. minimize antipathy between self and other/maximize sympathy between self and other

(Leech 1983, 132)

As apparent from the descriptions above, tact and agreement maxims can be compared to the strategy of negative politeness and maxims of approbation and sympathy to positive politeness in particular contexts. Leech points out that the avoidance of disagreement should be crucial in the interaction and that speakers can observe more than one maxim of politeness at the same time (Leech 1983; Leech 2014).

3   Hedging and the Theory of Conversational Maxims

Brown and Levinson point out that hedging strategies can be discussed on Grice's Maxims theory. *Maxim* is the term Grice uses to label four sub-principles of his cooperative principle, i.e. the principle enabling an addressee to draw an inference and hence recover an implicature (i.e. non-natural meaning of utterances) (Brown and Levinson 1987, 164).

As mentioned above, Grice recognizes four maxims: quantity, quality, relation (or relevance) and manner. Ideally, speech should be as clear as possible in order to be quickly understood. Therefore, *the maxim of quantity* tells participants to be as informative as required. *The maxim of quality* concerns truthfulness, i.e. speakers should not tell lies or facts

not supported by adequate evidence. In order to follow *the maxim of relation*, speakers should say utterances relevant to the situation and topic. *The maxim of manner* means that speakers should be brief and orderly and avoid obscurity and ambiguity (Wales 2001; Mey 2001, 72).

All maxims are frequently hedged to communicate a speaker's presumptions, or assumptions that the speaker's assessments are different to the hearer's as speakers are often reluctant to make bald statements. In other words, speakers frequently tend to limit their assertions by using hedging devices (Brown and Levinson 1987, 164; Grundy 2008, 96).

First, *quality hedges* weaken a speaker's commitment as apparent in: *I think/believe/assume that...* (Brown and Levinson 1987, 164), ***they say*** *cigarettes are bad for you* (Grundy 2008, 100).

Second, *quantity hedges* are used to limit the quantity of information being conveyed, e.g. ***All I know*** *is, cigarettes are bad for you* (Grundy 2008, 100). According to Brown and Levinson, quantity hedges may be used to redress complaints and requests by using these structures: *roughly, more or less, approximately, to some extent, basically, all in all*. It can be illustrated in: *Could you make this copy **more or less** final?* (Brown and Levinson 1987, 166-171).

Third, Brown and Levinson comment that *relevance hedges* are employed to claim an utterance not being relevant. Such hedges may be used to redress offers or suggestions, as shown in: *This **may be misplaced**, but would you consider [...]* (Brown and Levinson 1987, 171).

Last, hedged *maxim of manner* illustrated by *You're too old, **if you see what I mean*** points out the obscurity of the utterance (Grundy 2008, 101).

Grice's theory of maxims was elaborated by Leech, who came up with more detailed division and introduced other sub-classifications (see Leech's *politeness maxims* in Chapter 2). Furthermore, Grice's theory was criticized by Brown and Levinson as they consider it dated, unclear and overlapping and further criticized Leech's extinction for being too complex (Leech 2014, 85).

To sum up, in academic discourse, hedging devices can be motivated by maxims, especially maxims of quality or quantity, and used to express tentativeness or possibly by avoiding assertions and attenuating the strength of utterances. Hedges can be modal verbs, lexical verbs, adjectives or adverbs, or can additionally consist of clauses, and are primarily associated with epistemic modality, which will be discussed in Chapter 5.

4 Hedging and the Discourse Effects of Vagueness

Having introduced the relationship of hedges to the theory of politeness and conversational maxims, this chapter is focused on another pragmatic concept to which hedging might be closely related. Specifically, hedged propositions can give rise to other discourse effects, such as *vagueness*.

Fraser points out that "all expressions are vague, although we do not realize it" (Fraser 2010, 25). The Oxford English Dictionary defines the word *vague* as "not precise or exact in meaning" when applied to words or phrases (in Khatchadourian 1962, 138). Vagueness of propositions or assertions can be understood as not being clear in context. In other words, vagueness occurs when the received information from the speaker lacks the expected semantic precision and thus might be misleading or result in dispreferred interpretation of the proposition (Fraser 2010, 26).

On the other hand, in spoken language speakers tend to use *intentional vagueness* that might be related to negative or positive politeness strategies. The intentional vagueness is very frequent in conversations and associated with meanings negotiated on the spot. This implicit strategy can occur for various reasons (Urbanová and Oakland 2002, 24). Firstly, vague contribution can be caused by providing lower amount of factual information as more details would be redundant, as in: *I need to buy **a few things** in the shop* (Urbanová and Oakland 2002, 24).

Secondly, speakers may produce vague claims in order to avoid specific terms because they have lexical gaps or need to express uncertain predictions or assumptions rather than assertions, e.g. *The **thing** in my car broke again* and *I will be back at **about** five, six, **maybe***. This can be understood as a result of lacking specific information or a self-protecting strategy. Especially, the self-defence might give rise to hedged claims (Urbanová and Oakland 2002, 24).

Thirdly, as aforementioned, vagueness can help to avoid open criticism and imposition on the other person by applying negative politeness, as can be demonstrated in: *I <u>mean</u> he is not <u>likely</u> to **sort of** work in our team*. On the other hand, vagueness can be identified in propositions, for instance, showing interest in the addressee by using positive politeness as in: *<u>Let's</u> buy **something** <u>we</u> can also eat later, <u>right</u>?* (Urbanová and Oakland 2002, 24).

In some cases, hedged propositions may create propositional vagueness, as can be illustrated in: *I'll be there **around** 6 o'clock* or *A: What score did you receive on the test? B: I **kind of** messed up* (Fraser 2010, 26). In contrary, some hedges do not always result into

vagueness, as apparent in: *It **appears** that we should go* or *Help me lift this box, **would you*** (Fraser 2010, 26).

5 Hedging and Modality

Having foreshadowed various pragmatic strategies concerning hedging previously, the aim of this chapter is focused on delimitating modality and means of expressing modality in terms of polite and tentative behaviour. At first, it is necessary to look at how the term *modality* is approached by various grammarians. Modality is centrally concerned with the speaker's attitude and stance towards the proposition, as Huddleston and Pullum (2002, 173) state. Similarly, Wales or Quirk et al. define *modality* as a subjective and qualifying process in which the participants can judge the truth of propositions in terms of degree of possibility, probability or certainty as well as express meanings of obligation, necessity, volition, prediction, knowledge and belief, etc. (Wales 2001, 256; Quirk et al. 1985, 120).

Based on Lyons (1977), Palmer recognizes two kinds of modality, *epistemic* and *deontic*. The former is concerned with "matters of knowledge or belief" and the latter with "the necessity or possibility of acts performed by morally responsible agents" (Palmer 1986, 18). In other words, epistemic modality expresses speaker's degree of certainty he/she feels about the truth of propositions, i.e. evaluation or opinion about the situation (Wales 2001, 256). As Huddleston and Pullum comment, it involves qualifications of the speaker's knowledge related to past or present situations. On the other hand, deontic modality concerns the speaker's attitude to the actualization of future situations and marks notion of permission, obligation, volition, etc. (Huddleston and Pullum 2002, 178). The distinction between epistemic and deontic modality can be illustrated in the following instances: *he **may** have been delayed* expresses epistemic possibility, whereas *you **may** stay if you wish* expresses deontic permission (Huddleston and Pullum 2002, 178).

To this traditional distinction, Huddleston and Pullum (2002) as well as Palmer (1990) introduce a third category of *dynamic modality*. They point out that dynamic modality is concerned with the ability or volition of the subject of the sentence rather than the opinions (i.e. epistemic) or attitudes (i.e. deontic) of the participants. They go on and argue that it is not strictly a kind of modality because it is not essentially subjective (Huddleston and Pullum 2002, 178-9; Palmer 1990, 36). Dynamic modality expresses ability of the subject, and therefore is not related to the speaker or addressee (Palmer 1990, 36), as apparent in: *she **can** easily beat everyone else in the club* (Huddleston and Pullum 2002, 178).

Some linguists, however, do not follow Lyons' taxonomy and differentiate deontic modality as *intrinsic* and epistemic modality as *extrinsic* (Biber et al. 1999, 485; Quirk and Greenbaum 1990; and Quirk et al. 1985). Halliday uses the term *modulation* to describe the concept of deontic modality (Halliday in Wales 2001, 256) and others, for example, Hoffman, Coates or Huddleston label deontic as *root modality* (in Palmer 1990, 37). It seems that there can be found a consensus among these widespread terminologies when referring to epistemic as *modality*.

The definitions given in Chapter 1 imply that the prototypical hedging devices associated with various degrees of certainty are closely related to epistemic modality. Therefore, hedging in relation to epistemic modality is described and exemplified in the following chapter whereas deontic and dynamic modality is beyond the scope of this thesis.

5.1 Epistemic modality

As has been already noted, epistemic modality is normally subjective and rests with the speaker (Palmer 1990, 51). Therefore, expressions denoting *possibility*, *necessity* and *prediction*, which typically involve human judgment of the truth of the proposition and the speaker's attitude toward the addressees (Yang et al. 2015, 1-10; Quirk et al. 1985, 219), are mentioned.

The difference between *possibility* and *necessity* lies in the strength of commitment to the factuality of the situation, i.e. necessity involves a strong commitment, whereas possibility a weak one (Huddleston and Pullum 2002, 175). This distinction can be demonstrated in *He **must** be guilty* and *He **may** be guilty*, which illustrates different degrees of certainty (Huddleston and Pullum 2002, 176). The fact that hedges enable writers to present uncertain claims as well as help them avoid personal responsibility for statements implies that hedging devices are closely related to epistemic possibility (Hyland 1996). Thus, necessity (often expressed by *must*, e.g. example above) is beyond the scope of this research and not further described as it conveys the speaker's confidence in what he/she is saying and therefore is not concerned with pragmatic weakening, i.e. hedging.

Next, epistemic modality can be also expressed by *will,* which concerns *prediction,* and tentative forms *might*, *would*. Epistemic *will* refers to what is reasonable to expect, i.e. is used when giving an explanation from previous knowledge, as can be illustrated in *John **will** be in his office* (because the lights were on) (Palmer 1990, 57-8). Palmer also points out that sometimes it is difficult to distinguish epistemic *will* from *will* of futurity (Palmer 1990, 58). The concept of prediction does not interfere with hedging and thus is not dealt with in greater

detail. On the other hand, already mentioned tentative forms are often used to express deduction, uncertainty and positive doubt, which is essential for hedging, and are delineated in Chapter 6.1.

Yang et al. comment on the functions of epistemic modality. They point out that it can be two-fold: one function concerns semantics and the other pragmatics. The former use of epistemic modality, as already mentioned, indicates the degree of certainty of the proposition or speaker's confidence in the truth of the proposition. The latter function helps the speaker to establish a relationship with addressees through some politeness strategies (see Chapter 2) that enable a successful communication (Yang et al. 2015, 1-10). For a more detailed description of functions of epistemic modality in relation to hedges see Hyland's classification in Chapter 6.1.1.

Yang et al. also speak of subjective and objective orientation of modality. Orientation reveals how the speaker makes himself/herself responsible for the claim or judgment made in the proposition. The orientation of modality is subjective when the speaker is indicating that he/she is the source of modality as can be demonstrated in: *I think that […], we suggest […]*. Objective orientation is recognized when the speaker is not the source of modality and just tells facts to addressees as apparent in: *it is likely that […], it seems […]* (Yang et al. 2015, 1-10).

6 Epistemic Hedging Devices

Since Markkanen and Schröder view epistemic modality as "the most important concept that cuts across the area of hedges," this chapter and its subchapters are devoted to various epistemic expressions that can be employed as hedging devices (Markkanen and Schröder 1997, 5).

Hyland considers epistemic modal verbs (e.g. *might*, *may*, *could*), epistemic verbs (e.g. *seem*, *appear*, *suggest*), epistemic adjectives (e.g. *possible*, *likely*, *probable*) and epistemic adverbs (e.g. *possibly*, *perhaps*, *probably*) to be the most frequent means expressing hedging (Hyland 1996 in Kozubíková Šandová 2017, 11).

6.1 Modal verbs

In this section, the individual modals are discussed in detail concerning their use in terms of tentativeness, indirectness and politeness strategies. Therefore, different uses (permission, volition, etc.) of modal auxiliaries are not included as these are beyond the scope of this thesis.

6.1.1 May and Might

As stated, this pair of morphologically related modal auxiliaries is frequently used to indicate a certain degree of epistemic possibility, e.g. tentative opinion, and therefore can be labeled as prototypical hedges (Quirk et al. 1985, 224-233). Quirk et al. add that *may* can be paraphrased as *it is possible* (usually followed by *that-* clause) or adverbs *perhaps*, *possibly*. It is also used to refer to propositions of various kinds and states in either the present or the future (Quirk et al. 1985, 223; Palmer 1990, 51). *Might*, the past form of *may*, can be used as an alternative to *may* in terms of expressing hedged opinions (Quirk et al. 1985, 223) as can be illustrated in the following examples:

> (1) *You may be right*
>
> *You might be right* (Huddleston and Pullum 2002, 200)

Huddleston and Pullum comment that the preterite version suggests a slightly lower degree of possibility. In other words, they find *may* a little more encouraging than *might*. However, they agree that both epistemic modals can be used to mitigate the illocutionary force of propositions (Huddleston and Pullum 2002, 200).

Quirk et al. point out that in formal English, e.g. academic style, *may* and *might* can be used in the same possibility sense as *can* or *could*. In this sense, they are distinguished by label *root possibility* (Quirk et al. 1985, 223). Bybee and Fleischman associate root possibility with external enabling or disabling conditions that are related to statements of fact (Bybee and Fleischman 1995 in Huschová 2015, 36). Therefore, the instance *Alternatively, theme and rheme **may** be associated with given and new* says that it is possible to associate theme and rheme with given and new, i.e. some particular conditions or circumstances make the action possible, as Huschová (2015, 41) interprets. In this case, the recognition of meaning of *may* and *can* is rather interchangeable as they tend to occur in similar contexts. Palmer, thus, adds that the labeling categories merge into one another so that in some cases it is not possible to classify as determinate categorizations (Palmer 1990, 21).

As aforementioned, deontic modality is generally considered to be incompatible with the concept of hedging. Yet, Huschová investigated that hedging is not restricted only to epistemic modality. Root possibility functioning as hedging devices was recorded in passive structures with *can/could* or *may/might* as well as in instances conveying hypothetical possibility in non-past contexts (Huschová 2015, 45). The following example illustrates root possibility *might* in a non-past context conveying tentative hypothetical possibility associated with a situation where the writer draws conclusions on the basis of experiments or observations:

(2) *We therefore have no solid information which **might** lead us to any satisfactory indication of its dating* (Huschová 2015, 45).

It is apparent from the example above that the preterite form of modals (*might* as well as *could*) does not necessarily convey past tense meaning. Biber et al. comment that their main function is related to "speaker stance rather than the making of time distinction" (Biber et al. 1999, 485). For example, in formal discourse, *might* and *could* can be associated with hypothetical situations, tentativeness and politeness. For this reason, these modal verbs are regarded to be unmarked for tense (Biber et al. 1999, 485).

Further, in auxiliary negation, *may* expressing epistemic possibility is normally replaced by *can*, i.e. compare the following instances *she may not be serious* and *she can't be serious*. The difference between the two instances lies also in their literal interpretation – *it is possible that she is <u>not serious</u>* vs. *it is <u>not possible</u> that she is serious* (Quirk et al. 1985, 224).

As aforementioned, hedging devices conveying epistemic or root possibility are often found in passive structures, especially in academic style, as can be illustrated in the following instances:

(3) *Newly assessed linguistic evidence suggests that the proposed Eastern Ch'olan innovations supporting the Classic Ch'olti'an hypothesis **may be shared** retentions from Proto-Ch'olan-Tzeltalan and Proto-Ch'olan* (Appendix 2, 49).

(4) *This perception **may be triggered** by contextual factors such as the reader's knowledge about the opinions and intentions of the character, or his/her individual speech style* (Huschová 2015, 38).

Hyland associates such use of hedging devices with the depersonalization strategy, i.e. diminishing the role of the author in the text and thus protecting him/her from the consequences of being wrong. This strategy, based on impersonal structures and passive voice and frequently co-occurring with modal verbs, is labeled *writer-oriented hedges*. It is an important face-saving strategy that helps to limit the potential threat resulting from categorical assertions (Hyland 1996, 443-445).

On the other hand, Hyland also introduces *reliability hedges* that are related to a writer's reservations in interpretations of possible findings or less tenuous claims. They typically express an author's tentativeness and lower degree of certainty or confidence in the truth of a proposition. Thus, reliability hedges indicate speculations, alternative explanations or uncertain scientific claims and conclusions rather than protection against overstatements (Hyland 1996, 441-442), as can be illustrated in the following example:

(5) *The results of this study **may** be useful in ENP course development and future research on the English language use of nurses and other health-care workers in Tawian and other countries where English is learned primarily as a foreign language* (Appendix 1, 100).

Moreover, Hyland argues that basically all hedged propositions are also *reader-oriented* as they, in contrary to categorical assertions, open space for negotiation and, thus, invite the reader to participate in a dialogue (Hyland 1996, 446). However, for analytical purposes, reader-oriented hedges will be recognized only as devices acknowledging an author's responsibility by including personal or possessive pronouns (i.e. the strategy of subjectivisation, see 6.2).

6.1.2   Can and Could

As aforementioned, *can* and its preterite form *could* are frequently used to express deontic or dynamic possibility, permission and ability (Palmer 1990, 72). Nevertheless, as already noted in 6.1.1, Quirk and Greenbaum state that can/could is sometimes used in the same possibility sense as may/might as can be illustrated in the following example, in which hedging expression *can* is used to avoid categorical assertions as well as save the author's face from potential threat/disagreement (Quirk and Greenbaum 1990, 61).

(6) *Results indicate that patterns of use of epistemic lexical verb hedges **can be identified** for each genre and **can be linked** to differing communicative purposes* (Appendix 1, 38). = it is possible to identify lexical verb hedges; lexical verb hedges are possible to be linked

Quirk and Greenbaum also comment that in academic discourse, *may* is used more frequently as it is a formal substitute for *can* (Quirk and Greenbaum 1990, 61). Contrarily, Huddleston and Pullum investigated that epistemic possibility *can* is preferred over *may*, also in its tentative preterite form (Huddleston and Pullum 2002, 205). Can/could is, thus, commonly used as a hedging device to express tentative opinion, as in *There **could** be something wrong with the car*, as well as a means of negative politeness strategy when giving polite directives and requests, e.g. ***Could** you please open the door?* (Quirk and Greenbaum 1990, 66-67).

Biber et al. also point out that in academic style can/could can be interpreted as making logical possibility. They add that *could*, especially used in conversational style, marks logical possibility expressing a greater degree of uncertainty or tentativeness as demonstrated in *It **could** be her* (Biber et al. 1999, 492-493). As apparent from the example, logical possibility refers to a proposition which can be the logical consequence of another, or, as the author explains, based on "the axioms of a given system of logic" (Vaidya 2015).

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As mentioned in 6.1.1, modal verbs can/could combined with passive voice are a frequent strategy for diminishing the author (see writer-oriented hedges above). Passives can be constructed as short or agentless, or with a nominalized process given in the by-phrase. In both cases, the use of can/could in passive structures avoids the identification of the person who is able to carry out the action (can be understood as a protecting or face-saving strategy).

> (7) *With little noticeable variation and numerous learning affordances, a pedagogically-downsized specialized corpus **can be** easily **compiled**, analyzed, and implemented in EBP and other ESP contexts* (Appendix 1, 88).
> (8) *I suggest that sub-categories for heterogeneous genres with multiple communicative purposes **could be established** through use of the centrality of a particular purpose* (Appendix 1, 95).

In sum, for analytical purposes of this thesis, epistemic modal verbs will be recognized as (prototypical) hedges. In certain contexts, even non-epistemic modality, especially expressed by *can*, might be recognized as a hedge. Specifically, *can* denoting passive voice and expressing theoretical or hypothetical possibility.

6.2 Lexical verbs

Hyland points out that epistemic modality can be applied not only to modal verbs but to lexical verbs as well. Lexical verbs are generally used to hedge either commitment or assertiveness, i.e. they express lower degree of certainty of a speaker's proposition (Hyland 1998 in Vass 2017, 17-31).

According to Hyland's investigation, native speakers tend to use lexical verb hedges in their research papers the most. He comments that different forms of *indicate*, *suggest*, *appear* and *propose* are the most prominent lexical verbs in scientific writing with the occurrence of 55.7% of all instances (Hyland 1995, 36).

Based on Palmer, epistemic modality (of lexical verbs) can be classified into four categories according to how they help the speaker express lack of commitment to the truth of a proposition: speculative, deductive, quotative and sensorial (Vass 2017, 17-31; Palmer 1986, 51). This means that the writer can use mitigating devices to indicate subjective opinions and deductions based on vicarious propositions or evidence of senses (Palmer 1986, 51). The speculative way includes verbs of cognition such as *believe* or *think*, which are generally used to present subjective opinions rather than objective facts. Deductive lexical verbs, e.g. *infer*, *conclude* are used to express a deductive conclusion or an inference based on known facts. Lexical verb *suggest* can be an example of quotatives which indicate that the writer has been told about information (Vass 2017, 17-31). Sensorial mitigating devices can

include lexical verbs, e.g. *seem* or *appear*, denoting that evidence is based on writer's "possibly fallible senses" (Palmer 1986, 51). Some lexical verbs (and other mitigating devices, e.g. modals or adjectives) can fall into more than one category, depending on how they are used.

As to the function of (lexical) hedges, Pedro Martín-Martín, who includes the socio-pragmatic point of view, says that hedges can be described as realizing these three strategies: indetermination, subjectivisation and depersonalization (Martín-Martín 2008, 133-152).

The strategy of indetermination can be conveyed by giving a proposition a note of uncertainty, fuzziness and vagueness. That can be realized by means of epistemic lexical verbs, semi-auxiliaries, verbs of cognition, as well as modal verbs expressing possibility (see Chapter 6.1), modal adverbs, adjectives and nouns, which are described in greater detail in the following chapters. Epistemic lexical verbs such as *suggest*, *speculate*, *assume* are related to the probability of a proposition or hypothesis being true (Martín-Martín 2008), as can be illustrated in: *Findings of the comparative analysis **suggest** that these aspects of teaching and learning influence teachers' use of metadiscourse in significant ways* (Appendix 1, 82).

Semi-auxiliary verbs *seem* and *appear* are not the only means of the strategy of indetermination as demonstrated in: *it **seems** to be beneficial*; *it **appears** that*, where the verb is denoting a degree of uncertainty. Even the impersonal construction of the proposition can be seen as the depersonalizing strategy, e.g. diminishing the author's presence in the text (also discussed in relation to agentless passives in 6.1.1) (Martín-Martín 2008). The strategy of depersonalization can be syntactically realized by impersonal active constructions in which a personal subject is replaced by some non-human entity (Martín-Martín 2008), e.g. *The results **suggest** convergence of intended and actual uses of TOEPAS results […]* (Appendix 1, 51).

As aforementioned, uncertainty or vagueness of a proposition (the strategy of indetermination) can be achieved by the use of lexical verbs of cognition such as *believe* or *think*. Moreover, the use of first personal pronouns followed by verbs of cognition as well as performative verbs (e.g. suppose, suggest), as demonstrated in: *I **think** that*; *we **suppose** that*, contributes to the strategy of subjectivisation because they can signal a writer's personal or subjective opinion. In this way, the writers show respect for the reader's alternative opinion, which invites and involves the reader in communicative situation and, thus, contributes to a positive writer-reader relationship (Martín-Martín 2008).

It is evident that the strategies described by Martín-Martín (2008) overlap with functional taxonomy of hedges proposed by Hyland (1996) (see Chapter 6.1.1). As has been suggested, the strategy of depersonalization is crucial for writer-oriented hedges, the strategy

of subjectivisation concerns reader-oriented hedges and the strategy of indetermination is achieved when reliability hedges are used. In the analytical part, especially when labeling individual tokens in appendices, Hyland's terminology will be followed. Nevertheless, when analyzing corpora, both approaches can be regarded.

6.3   Nouns

Several linguists have posited that nouns are rather infrequent in comparison to other word classes (verbs or adjectives). Ken Hyland investigated that only 5.4% of nouns were used to express hedging in his research articles corpus (Hyland 1995, 36). Similarly, Janet Holmes found out that scientific writers use epistemic nouns the least frequently (7.7% of all hedging expressions) (Holmes in Hyland 2005, 36).

Based on rather rare incidence of epistemic nouns, it can be assumed that nouns expressing hedged meaning, e.g. *possibility*, *probability*, *likelihood* and *assumption, belief* are often derived from other word classes, such as adjectives or verbs. Such nominalizations are usually followed by a prepositional phrase or a complement clause (Biber et al. 1999, 978), as illustrated in the following instances:

(9) *The findings also highlight the **probability** that speaker's language backgrounds would impact [...]* (Appendix 1, 47).
(10) *The reason for choosing the last phrase first is that there is less **likelihood** of the intonation being distorted* (Biber et al. 1999, 978).

They also comment that *likelihood* expresses a universal reference, whereas *belief* can be attributed to the writer or other conversation participants (Biber et al. 1999, 978).

Further, epistemic nouns can be pre-modified by personal possessive pronouns such as *my* or *our*, as apparent from *my assumption that*, *our belief that*. This strategy to include personal opinion contributes to subjectivisation of a proposition and might positively influence the writer-reader's relationship as it can reduce the distance. Apart from the strategy of subjectivisation, epistemic nouns functioning as content-oriented (reliability) hedges are often used to mitigate a writer's claim and express uncertainty or fuzziness (Hyland 1996).

6.4   Adjectives and Adverbs

Based on Hyland's research findings, the most frequently occurring epistemic adjectives as hedging devices in scientific style were *likely*, *possible* and *consistent with*. He adds that another prominent group of hedges are adverbs that "convey an attitude to the truth of a statement", e.g. *possibly*, *probably* (Hyland 2005, 36).

Biber et al. speak of stance adverbs that sometimes function as hedges because they can show levels of certainty or doubt (11) as well as convey imprecision (12):

(11) *I will* **probably** *manage with it*.
(12) *It was* **kind of** *strange* (Biber et al. 1999, 557).

Nevertheless, most linguists distinguish the term *downtoners*, which they use to label intensifying adjectives and adverbs that have a lowering effect. Downtoners can be divided into four groups - approximators, compromisers, diminishers, minimizers. Hyland comments that usually downtoners mitigate the effect of the verb (Hyland 2005, 36) but they can premodify indefinite pronouns (**nearly** *everybody*), cardinal numerals (**less** *than ten pounds*), noun phrases (**about** *a week; a* **slight** *effort*), etc. (Quirk et al. 1985, 449-50).

However, Biber et al. state that hedges are very common with numbers and quantities. These structures, i.e. approximators*,* are modifiers of quantifying expressions to which they add uncertainty, e.g. *around*, *about*, *approximately* (Biber et al. 1999, 558). As stated, Hyland also recognizes approximators as hedging devices (in certain contexts) and categorizes them as *attribute hedges*. The principal role of this group of hedges is to "specify the extent to which a term accurately describes the reported phenomena" and, thus, helps the writer accurately state uncertain scientific claims and express propositions with greater precision (Hyland 1996, 439-441), as can be illustrated in: *So now I need a job I could do for* **approximately** *four months* (Biber et al. 1999, 558).

6.5   Other kinds of hedging devices

Although hedges can be basically all expressions, phrases or structures that mitigate the illocutionary force of a proposition, the formal classification of hedges in this thesis tries to follow Hyland's categorization according to parts of speech (Hyland 1995; Hyland 1996). In this chapter, expressions that do not fit this categorization are briefly discussed.

Hyland argues that, in addition to lexical hedges, 15% of all hedging devices occurring in his research corpus are realized by *strategic* means. The most numerous strategies are those which "qualify commitment by referring to limiting experimental conditions (see example 13) or to shortcomings in the model, theory or methodology (see example 14)," comments Hyland (1995, 37). Next, authors can also use hedging devices as a means to admit their lack of knowledge (see example 15). In other words, hedges highlight the fact that authors distinguish between conclusions based on speculative possibilities and on results from true evidence (Hyland 1995, 37). Strategic hedges are exemplified in the following instances:

(13) **We did not succeed** in obtaining the complete transcript. (Hyland 1995, 37).
(14) **If this scheme is correct**, then the orientation of the plane will [...] (Hyland 1995, 37).
(15) **We do not know whether** the increase in intensity causes [...] (Hyland 1995, 37).

Hyland adds that the significance of these strategies has been overlooked because they are rather neatly quantifiable (Hyland 1995, 37).

7   Academic style

As one of the goals of this thesis is to explore how writers use hedging devices in abstracts of their academic articles, it is also important to introduce the style of academic (or scientific) writing as well as the function of hedges in written academic discourse.

In every style of writing there are particular conventions that writers should adopt in order to be successful in their writing. According to Day, the basic purposes of academic publications are to provide factual recording of scientific investigations, to inform peers and to educate the next generation of scientists (Day 1995, 1-2). Therefore, the main function of academic style is to inform and communicate knowledge effectively and clearly. In other words, the essential goal of academic writing is clarity, objectivity and simplicity which can be achieved by neutral word order, logical sequence of thoughts and interdependency (Knittlová et al. 2010, 149). Furthermore, due to the lack of extralinguistic context, academic texts should be explicit and accurate as there is usually no shared knowledge between the writer and the addressee (Minářová 2011, 114-115; Knittlová et al. 2010, 149).

Next, academic style is rigidly organized. Day points out that scientists should use prosaic words of certain meaning organized into precise phrases, sentences and paragraphs (Day 1995, 2-3).

Hyland (1995) points out that hedging plays a crucial role in writing academic articles and lists several reasons to use it. First, hedging serves as a means of accurately stating uncertain scientific claims with appropriate caution. He comments that hedges allow scientists to present information as fully, accurately and objectively as possible because their propositions are based on reasoning rather than certain knowledge. Second, hedges can help writers to avoid possible negative consequences of being proved wrong due to, for instance, small samples, doubtful evidence or uncertain predictions. Third, hedges contribute to the development of a positive writer-reader relationship as mitigating the illocutionary force is linked to strategic politeness. Furthermore, it gives space to the reader to create personal

opinion awaiting verification. In sum, Hyland comments that hedging looks toward the proposition, the writer as well as the reader (Hyland 1995, 34-35).

Moreover, Hyland was concerned with investigating the use of hedges in research articles from eight disciplines and discovered that there are considerable differences in the use of hedges between 'soft' (social sciences and the humanities) and 'hard' (natural sciences) disciplines (Hyland 1998 in Hu and Cao 2011). This thesis' research investigates hedging from the pragmalinguistic point of view and only in disciplines of social sciences and the humanities therefore other disciplines and classifications are not dealt with.

8 The Genre of Abstracts

In the previous chapter, the academic style was introduced and since this thesis studies hedges as mitigating devices in abstracts of journal articles, it is necessary to describe the genre of abstracts itself.

Generally, an abstract is a brief and short synopsis of a research article usually placed at the top of a research article. The function of an abstract is not only to encourage the reader to continue reading the article but also to persuade them to obtain a copy of it (Glasman-Deal 2010, 197; Rejtharová and Skálová 1981, 128; and Brown 2014). Glasman-Deal adds that the abstract is a representation of the research article and hence needs to have independent validity. In other words, readers should be able to understand the key points and results of the research article even if they never see the whole article. Moreover, she explains that the content of the abstract is derived from the article and it should not contain material which is not already in the paper (Glasman-Deal 2010, 198).

Most abstracts of academic papers follow a similar structure. They deal with all the main subsections of the research article – introduction (or background), methodology, results and conclusions. Some abstracts, however, focus primarily on the method and the results (Glasman-Deal 2010, 198-9). The introduction is the section where writers describe what is known so far about the area of research and what additional information their study will add. Moreover, researchers also describe the topic of their article, present research aims, comment on hypotheses and state assumptions concerning their research findings. Methodology, i.e. techniques and procedures, used in the study is described in Methods. Research findings are reported in Results. In Discussion or Conclusion, writers interpret the results and argue what their significance is. They might also refer back to what was already known about this area of research or comment on implications for future research (Biber and Conrad 2009, 129).

Next, most abstracts have a strict word limit. It is recommended to use 50-200 words written as a single paragraph (Rejtharová and Skálová 1981, 128).

In sum, since estimating results and drawing conclusions provides hypothetical information that is not supported by research findings yet, it can be assumed that hedging will occur most frequently in the last two subsections, i.e. results and conclusions.

9 Summary of Theoretical Part

In this chapter, information presented in the theoretical part is summarized.

As has been mentioned, the concept of hedging is understood differently by linguists, who associate it with various pragmatic theories and strategies. Generally, hedging refers to any linguistic means that mitigate the illocutionary force of an utterance and express uncertainty about a proposition.

There are numerous reasons for employing hedging devices in academic style. Brown and Levinson (1987) consider hedges as a means of politeness because they are important face-saving devices used to avoid responsibility for an imprecise claim as well as recognize a reader's negative face. Hedges can be also discussed in relation to Grice's conversational maxims. In abstract discourse, researchers frequently hedge maxims, especially the maxim of quality, to communicate their assumptions, hypotheses or uncertain findings.

Concerning the function of hedges, Hyland's (1996) categorization seems to present a consensus among most theorists. First, he speaks of reliability hedges which can be associated with the strategy of indetermination, i.e. presenting an author's assessment of uncertainty, vagueness and fuzziness of a proposition. Second, Hyland introduces writer-oriented hedges that have an important depersonalization function as they diminish the author from the text and help to avoid his responsibility for uncertain claims. Third, reader-oriented hedges that have an interactional effect are recognized. By acknowledging the writer's responsibility and not presenting categorical assertions, the writer invites the reader's involvement, which can contribute to better writer-reader relationship. Moreover, including personal and possessive pronouns (i.e. the strategy of subjectivisation) to present the author's doubt can also enhance their positive relationship. Lastly, Hyland recognizes attribute hedges. This category of hedges does not refer to the relationship of participants and a proposition but rather between propositional elements. More specifically, attribute hedges qualify (limit) the relation between expected and actual experimental results (Hyland 1996, 440).

As to the formal classification, there is no homogeneous taxonomy as hedges can be basically any expressions or phrases. Hyland's categorization of hedges according to parts of speech they represent seems to be most convenient for the analytical part. Based on Hyland's research, the most frequent forms of hedges are modal verbs, lexical verbs, nouns, adjectives and adverbs conveying epistemic modality (Hyland 1995, 36).

10 Analysis

In this part of the thesis, hedging devices occurring in abstracts of journal articles are analyzed, compared and commented on. Firstly, the main aim and objectives of the research are set out. Secondly, the source of linguistic corpora and the methodology used to obtain the relevant instances of hedges needed for the analysis are described. Thirdly, the analysis itself is conducted with respect to theories and strategies described in the theoretical part of this thesis. Finally, the prevalent tendencies are substantiated and the overall occurrence of selected hedging devices is summarized, supported by tables and graphs and compared to investigations by other scholars.

10.1 Aim of the Research

The research of this thesis aims to map the incidence of hedging devices in abstracts of journal articles that are concerned with linguistics and English for specific and academic purposes. The first objective is to comment on communicative functions and forms of hedging devices. The second objective is to detect whether there are any significant differences in distribution of hedges with respect to the structure of abstracts. I am also interested in whether the distribution of hedges in different parts of abstracts has an impact on functional interpretation of hedged propositions. The third objective is set to compare hedging expressions in abstracts written by authors of different language backgrounds, i.e. research articles written by native and non-native authors.

10.2 Source of the Corpus and Methods of Research

As stated in 10.1, the aim of this research is to detect, categorize and subsequently compare instances of hedging devices in abstract discourse. For this purpose, two corpora of randomly chosen abstracts of research articles published in international linguistic journals were created. The first corpus is focused on hedging expressions identified in abstracts written by non-native speaker researchers and the second one deals with hedges used by native speaker researchers. The 'non-native' corpus was assembled from the journal *English for Specific*

Purposes. The abstracts written by native authors were obtained from *International Journal of American Linguistics.* The periodicals were published between the years 2008 and 2018.

The analysis is based on a small-scale corpus of 200 contextualized occurrences of various hedging devices, from which 100 expressions represent hedges used by native speaker researchers and 100 used by non-native speaker researchers. As the extent of the analyzed material is rather small, this thesis does not intend to make any general conclusions but it attempts to draw attention to the use of hedging in the selected texts.

As regards the excerpted material, the sizes of the two corpora are not equal. Due to infrequent occurrence of hedges in abstracts written by native speakers, 164 texts had to be analyzed in order to assemble the required number of tokens, whereas 95 abstracts by non-native speakers were examined. Nevertheless, hedging devices were identified only in 50 'native' (30%) and 43 'non-native' (45%) abstracts. The corpus created from articles written by native speakers contains approximately 24,600 words. The length of the non-native speaker corpus is rounded to circa 19,000 words.

As for the topics, the research papers were chosen randomly, too. The only intention was to deal with abstracts from so-called soft sciences, i.e. social sciences and the humanities. Both corpora are composed of a wide range of abstracts that discuss syntax, phonology and phonetics, pragmatics, stylistic as well as topics concerning L2 acquisition. One of the criteria for my choice of the aforementioned journals was to have world-wide circulation and be well-established within the linguistic discourse community.

The analysis of identified tokens is structured into three major parts. The first part investigates the form, function and distribution of hedges in different sections of abstracts written by non-native speaker researchers. The second part is focused on the same aspects but examines texts by native speaker writers. The last part is devoted to a comparison of findings from the two aforementioned parts.

All selected instances of hedging expressions are listed in appendices in the end of the thesis. Appendix 1 contains texts written by non-native scholars and Appendix 2 contains texts by native researchers. Both corpora are divided into two sub-corpora. The first sub-corpus is concerned with propositions containing hedges structured into four sections (Introduction, Methods, Results, Conclusion) according to their occurrence. The second sub-corpus consists of whole abstracts providing necessary contexts for the analysis of individual tokens.

10.3 Research Analysis

In the following chapters, the findings on hedging devices employed by native and non-native speaker researchers are examined and discussed in relation to several mitigation and politeness strategies and conversational maxims described in the theoretical part of this thesis. As aforementioned, hedges will be commented upon regarding their form, function and distribution in different sections of abstracts of journal articles.

10.3.1 Hedging in Abstracts by Non-native Speaker Researchers

In this section, hedging devices used in abstract written by non-native speaker researchers are analyzed and delineated. The researchers are from different language and cultural backgrounds, consisting primarily of Hispanic, Asian or Turkish origin.

10.3.1.1 Formal and Functional Analysis

The attempts to categorize hedges according to their form were considerably difficult, especially because linguists have not found any consensus in formal classification of hedging devices. This may be caused by the fact that basically any language means can function as a hedge in a particular context, as Markkanen and Schröder (1997) discovered (in Malášková 2012, 35). In other words, this pragmatic phenomenon is fully dependent on the context of occurrence. For the purposes of the analysis, Hyland's (1995) framework of hedges is adopted. He more or less classifies hedges according to the parts of speech they represent. As suggested in the theoretical part, verbs, nouns, adjectives and adverbs are the most prominent forms functioning as hedges in academic style. Nevertheless, it was necessary to consider the particular context to determine the formal classification as there might be various expressions or grammatical structures employed as hedges that do not fit the word class categories.

Ninety-five abstracts were examined in order to assemble 100 instances of hedging devices. The most numerous group of hedges are lexical verbs, occurring in 44 instances. Modal verb hedges are the second significant group of these mitigating devices (35 occurrences in the analyzed texts). Twelve instances of adjectives and seven adverbs functioning as hedges were found. Nouns are a very infrequent category of hedges as only two examples were identified. Interestingly, hedging expressions tend to appear in clusters, as clustered lexical and modal verbs are especially frequent.

Similarly, with formal classification there is no homogeneous functional categorization of hedges. Linguists describe various approaches and strategies that can be employed by writers to hedge propositions. In the analytical part, Hyland's (1996) functional classification is followed even though the fuzziness of hedges may allow one hedging

expression to fit into several categories. The most numerous group in my corpus data are reliability hedges (91% of occurrence). Hedges functioning as writer-oriented were recognized in 26%, attribute hedges in 9% and only 2% functioning as reader-oriented hedges were identified in the non-native corpus.

(1) *Two learner characteristics **suggest** <u>potential</u> challenges for how students respond to EAP instruction and tasks, which in turn have pedagogical implications for genre-focused EAP writing classes.* (Appendix 1, 49)

(2) *Unlike most previous MS studies, which **have tended** to look for a single unified MS model to represent the discipline under investigation and have provided post hoc explanations of intra-disciplinary variability, this study set out to examine how MSs of RAs in IS may vary with the epistemological paradigms they follow.* (Appendix 1, 8)

(3) *Results **indicate** that patterns of use of epistemic lexical verb hedges can be identified for each genre and can be linked to differing communicative purposes.* (Appendix 1, 38)

(4) *Our findings are based on the quantitative and qualitative analysis of a set of features which **are believed** to either "include" or "exclude" the other participants' voices.* (Appendix 1, 52)

(5) *By contrast, ability grouping **did not appear** to be beneficial for more proficient learners.* (Appendix 1,37)

(6) *Given the acceptance of other digital technology for teaching and learning, it **seems** <u>likely</u> that machine translation will become a tool students will rely on to complete their assignments in a second language.* (Appendix 1, 26)

The highlighted expressions above illustrate various kinds and forms of epistemic lexical verbs employed as hedging devices. The most numerous group is Speculatives (see examples 1, 3, 4), accounting for 72% of all lexical verbs. In the corpus data, the verb *suggest* occurred in 21 instances and *indicate* was recognized in 11 examples.

As apparent from the examples, the verbs are marked differently in tense, aspect, mood and negation. Nevertheless, their morphological form is more or less insignificant concerning their function as hedges. The only important criterion is verbal voice as the use of passive structures contributes to depersonalization of propositions and thus is seen as a feature of writer-oriented hedges.

All lexical verbs are recognized as reliability hedges because they express uncertainty to scientific claims, tentativeness and speculations. This strategy is important for showing a writer's reservations in interpretations and uncertain findings or conclusions. Moreover, from the viewpoint of conversational maxims, such strategy can be perceived as hedging the maxim of quality as using epistemic expressions enables writers to propose speculations rather than claim assertions. In abstracts, researchers often do not provide verified information

based on adequate evidence, which helps them to avoid possible conflict and protect their face.

Epistemic lexical verb in (1) expresses probability of the proposition and in combination with the uncertain pre-modification of its object gives a hypothetical note. According to the corpus data, the lexical verb *suggest* is quite frequently (32% of all tokens) used in academic style when presenting results.

Epistemic verb of cognition in (4) is a part of a subordinate clause functioning as a restrictive adnominal relative clause and the use of short passive avoids the need to express the agent. This is a strategy to avoid direct responsibility.

Reliability hedges can also be in the form of modal verbs, adjectives, adverbs and nouns as illustrated in the following examples:

(7) *This article provides a move analysis of the student laboratory report, a genre which is central to science and engineering study, and to which students **may** have had little prior exposure.* (Appendix 1, 7)

(8) *The finding revealed the **likely** significance of the publication context in the discoursal choices of academic writers.* (Appendix 1, 36)

(9) *The findings are **potentially** useful to teachers of science writing.* (Appendix 1, 89)

(10) *The findings also highlight the **probability** that, in highly specialized disciplines, speaker's language backgrounds **would** impact the ease or difficulty of acquiring discipline-specific terminology.* (Appendix 1, 47)

In the example (7), *may* is used to indicate a certain degree of epistemic possibility. Thus, the example can be paraphrased as *[…] students **possibly** have had little prior exposure*. The reason for this hedged utterance is to qualify the statement in terms of uncertainty as well as to present some possibilities based on subjective reasoning.

The example (8) shows that the adjective *likely* is used to pre-modify abstract nouns, to which it adds a note of possibility. Additionally, this adjective is used to complement a verb phrase, e.g. *acquisition is **likely** to be* (Appendix 1, 34), *students are **likely** to have* (Appendix 1, 10) but the function of the mitigating device remains the same.

The adverb *potentially* or a pre-modifier of an adjectival phrase in (9) is used to convey uncertainty or doubt about a future implication of the findings.

The proposition (10) illustrates one of the two examples of a hedge in the form of a noun. Interestingly, the object *probability* (controlling element) in the main clause influences the information in the subordinate clause to which it gives a degree of uncertainty about the research findings. Thus, the writer used another mitigating device, e.g. *would*, instead of an expression denoting inevitability. Further, it can be assumed that this occurrence of a hedging noun appeared due to derivation from the adverb *probably*. Thus, the whole utterance can be

paraphrased as *the findings also highlight that, in highly specialized disciplines, the speaker's language backgrounds would **probably** impact the ease of difficulty acquiring discipline-specific terminology.*

The idea of using modal verbs in clusters with other lexical expressions (both employed as hedges) is a frequent phenomenon in my corpus data. Mostly, modal verbs occurring in subordinate clauses are influenced by lexical verbs functioning as hedges from main clauses, as apparent in the following example:

> (11) <u>Results</u> **indicate** *that patterns of use of epistemic lexical verb hedges **can be identified** for each genre and **can be linked** to differing communicative purposes.* (Appendix 1, 38)

Furthermore, writers cluster not only lexical and modal verbs in matrix clauses, but also lexical verbs with adverbs and adjectives with another lexical verb, as demonstrated in the following instances. The overall occurrence of clustered hedges is 23%.

> (12) *Given the acceptance of other digital technology for teaching and learning, <u>it</u> **seems likely** that machine translation will become a tool students will rely on to complete their assignments in a second language.* (Appendix 1, 26)
>
> (13) *The two learner characteristics **suggest potential** challenges for how students respond to EAP instruction and tasks, which in turn have pedagogical implications for genre-focused EAP writing classes.* (Appendix 1, 49)
>
> (14) <u>These findings</u> **indicate** *that medical RA writers **tend** to make claims mainly in a tentative, reserved and objective way.* (Appendix 1, 77)

The second large functional category of hedges concerns the strategy of depersonalization, as can be illustrated by the passive structure of modal verbs in the example (11). In academic style, especially when presenting assumptions, hypotheses or unsubstantiated data from research or experiments, writers very often protect their face by depersonalizing the information presented in their propositions. Thus, writer-oriented hedges help to avoid possible negative consequences of being proved wrong as well as protect the researcher's reputation. As previously mentioned, they can use agentless passive voice as well as impersonal constructions, where the personal subject is replaced by an impersonal pronoun (as in 12) or some non-human entity, as can be demonstrated in (11, 14) and in the following example.

> (15) <u>These findings</u> **suggest** *that, in terms of exposure to technical vocabulary, science fiction-fantasy **could serve** as a bridge resource for second-language learners studying or prespecializing in the Sciences.* (Appendix 1, 42)

Similarly, in this example, the modal verb is influenced by the lexical verb in the main clause, both trying to present as accurate and objective propositions as possible.

Further, concerning the form of modal verbs, the most frequently occurring is epistemic *may* (46%) and *might* (14%). *Can* and *could* occurred only in 20% of instances. As regards the function, it has been already stated that all modal verbs can be labeled reliability hedges as they present an author's uncertain assessment; and modals in passive constructions belong to the writer-oriented category of hedges.

In contrast to depersonalizing the propositions, researchers can include several expressions that give a note of subjectivity to their texts. For example, they can draw attention to their subjective opinion and involve themselves directly by using personal pronouns followed by a verb of cognition (16) or a personal possessive pronoun (17).

(16) *I suggest that sub-categories for heterogeneous genres with multiple communicative purposes could be established through use of the centrality of a particular purpose.* (Appendix 1, 95)

(17) *Our findings indicate that professional reports exhibit a narrower set of linguistic devices than used by student writers, who tend to use a much wider range of the four stance feature types analysed for discussion of both others' and their own personal stance, both across whole texts and by section.* (Appendix 1, 54)

This strategy contributes to the development of a positive writer-reader relationship as mitigating the illocutionary force is linked to strategic politeness. The avoidance of categorical assertions and the subsequent use of attenuating devices offer space for negotiation and, thus, invite the reader to participate in a dialogue.

(18) *Possible reasons for these findings are discussed, including organizational and instructional features of the program of study the students were taking, and the likely effects of ability grouping on students' academic self-concept.* (Appendix 1, 84)

(19) *These genres were chosen due to the role they potentially play in international higher education law studies, with the corpus deriving from the legal jurisdiction of the United States.* (Appendix 1, 28)

The instances above illustrate hedging devices in the form of adjectives and adverbs. The overall occurrence of these mitigating devices is 20% (13 tokens are adjectives and 7 are adverbs). As has been already mentioned, epistemic adjectives (18) and adverbs (19) were usually used to lower the degree of certainty and evoke indeterminacy of a proposition, i.e. function as reliability hedges. However, some adverbs fit better to the category of attribute hedges, see the following examples:

(20) *A frequency and range-based nursing academic word list including 676 word families, which accounts for approximately 13.64% of the coverage in the NRAC under study, was produced to provide a useful academic word pool for non-native English learners who need to read and publish nursing articles in English.* (Appendix 1, 33)

(21) *In this case study of a small corpus of one-page accounts of pictures, analysis shows that the interpretations are rarely organized in a general-specific or specific-general*

manner, but rather oscillate between reference to the micro image and the broader context, as in this 26-sentence example: […](Appendix 1, 73)

Attribute hedges, such as the downtoner – approximator modifying the quantifying expression in (20) and the adverbial of frequency in (21), help the writer accurately state uncertain scientific claims and express propositions with greater precision.

10.3.1.2 Distribution of Hedging Devices in Different Sections of Abstracts

In this section, the incidence of hedges in different parts of abstracts of research articles is discussed. The theory suggests (see Chapter 8) that abstracts are structured in the same way, i.e. are divided into four sections: Introduction, Methods, Results and Conclusion. The length of abstracts contained in the Non-native corpus is more or less similar – approximately 170-200 words.

Hedging devices are unevenly distributed throughout all sections of abstracts. The most heavily hedged part in the Non-native corpus is the Results (50% of all occurrences), the next most frequently hedged section is the Introduction (27%). The Conclusion (17%) and the Methods (6%) are parts of abstracts, where the occurrence of hedges is rather rare. In my corpus data, this may be the result of non-native researchers having devoted very little attention to these sections, or having decided to skip them completely.

As the data show, researchers most frequently employ hedging devices when presenting results of their studies (22) and comparing or contrasting the findings (5, 23). Researchers tend to use hedging in the Results section when the results are not fully substantiated, are considered to be surprising or evoke the need to justify them. Interestingly, in the Results section, the majority of hedging devices are classified as verbal hedges, from which 78.5% are lexical verbs and 21.5% are modal verbs.

(22) *These findings* **suggest** *that, in terms of exposure to technical vocabulary, science fiction-fantasy* **could** *serve as a bridge resource for second-language learners studying or prespecializing in the Sciences.* (Appendix 1, 42)

(23) *In contrast to Turkish and NSE scholars publishing in international journals, Turkish writers publishing in Turkish national journals* **tended** *to avoid using first person pronouns and displaying an overt authorial presence in their RAs.* (Appendix 1, 35)

Functional analysis in the previous chapter has revealed that mitigating devices employed in the Result section are in most cases (96%) functioning as reliability hedges, i.e. expressing uncertainty and tentativeness (as apparent in 24). Additionally they serve as

authors' face-saving devices as well as expressions lessening assertions possibly threatening a reader's negative face (25), (26).

(24) *Overall, levels of use of AVL items are high, and increase as students progress through the years of undergraduate and taught postgraduate study, **suggesting** that it **may** be a useful resource.* (Appendix 1, 61)

(25) *Popular science writers are more inclined to use this focus construction and **tend** to be more explicit in making evaluations than are professional science writers.* (Appendix 1, 41)

In this case, the researcher does not want to impose on popular science writers so he used a lexical mitigating device that will less likely threaten their negative face.

Next, similarly functioning hedges are not only used in the Result section to present and interpret uncertain results, but they can also situate findings to a wider context exceeding the frame of the research paper, as can be illustrated in the following instance.

(26) *For example, the non-native-speaker students exhibited an uneven command of the subtleties of the pattern, leading to problems with certain functional categories, such as attitude markers (e.g. it is surprising that) and hedges (e.g. it seems that), which **indicates** that this **would** be a fruitful area to focus on in second language instruction.* (Appendix 1, 45)

The hedging lexical as well as the modal verb is used to protect the writer from possible consequences of being proved wrong.

(27) *The <u>results</u> **suggest** convergence of intended and actual uses of TOEPAS results, though the alignment of the expected outcomes and the actual consequences was not complete, especially in relation to the uses of the formative feedback.* (Appendix 1, 51)

In the example (27), the hedging lexical verb helps the writer to avoid negative consequences that would result from claiming assured findings. Moreover, the hedged proposition also shows that the statement is open to discussion, which may contribute to a better author-reader relationship. Therefore, due to the impersonal active construction (marked as underlined), this proposition can be also identified as a writer-oriented hedge as it diminishes the author. In the Results, a noticeable amount (32%) of hedges are writer-oriented.

The function of abstracts is not only to draw attention to research findings and their possible interpretations, but also attract the reader with hypotheses, suggestions and assumptions about the outcomes. Consequently, the second most frequently hedged section of abstracts of research articles is the Introduction, where researchers present aims of their papers and formulate hypotheses, as can be exemplified in (28). When stating hypotheses and preliminary assumptions about results, authors tend to mitigate the illocutionary force of their propositions in order to avoid the possibility of being mistaken.

(28) *Following the theory which* **suggests** *that critical thinkers are problem solvers, <u>it was hypothesized </u>that better critical thinkers* **might** *be better able to cope with unfamiliar terms.* (Appendix 1, 19).

Furthermore, writers often comment on generally known information (29), (30) or other findings related to the topic of their articles (31).

(29) *However, in largely post-industrial communities, the growth of museums and galleries (as well as the corresponding increase in museum studies programs)* **suggests** *that humanities texts in this sector might now warrant attention.* (Appendix 1, 16)

(30) **Little** *attention has been paid so far to keywords and lexical bundles used in the English language typical of the pharmaceutical field.* (Appendix 1, 21)

(31) *Unlike most <u>previous MS studies</u>, which* **have tended** *to look for a single unified MS model to represent the discipline under investigation and have provided post hoc explanations of intra-disciplinary variability, this study set out to examine how MSs of RAs in IS* **may** *vary with the epistemological paradigms they follow.* (Appendix 1, 8)

As apparent from the examples above, the majority (89%) of hedges in the Introduction section are functioning as reliability hedges. Some attribute hedges were identified as well (as can be demonstrated in the example (30), though it was a meagre number - only 11%).

Although the Conclusion was expected to be a frequently hedged section, only seventeen instances of hedging devices were identified. In this part of abstracts, researchers usually conclude and comment on their findings and point at possible implications for their future studies (32), (33) or just provide utterances closing the abstract (34), as can be illustrated in the following examples:

(32) *The study* **suggests** *<u>important pedagogical implications</u> for both ESP teachers and members of the financial services profession.* (Appendix 1, 94)

(33) *The results of this study* **may** *be useful in <u>ENP course development and future research</u> on the English language use of nurses and other health-care workers in Taiwan and other countries where English is learned primarily as a foreign language.* (Appendix 1, 100)

(34) *The article <u>concludes</u> that there* **may** *be a need for critical reflection on the ESP courses that are currently provided in the Hong Kong context.* (Appendix 1, 92)

(35) **Possible** *<u>reasons for</u> these findings are discussed, including organizational and instructional features of the program of study the students were taking, and the* **likely** *effects of ability grouping on students' academic self-concept.* (Appendix 1, 84)

The author of the proposition (35) tries to conclude the abstract with a comment on research data without being very specific. The adjectival hedge contributes to this fact because it is used to avoid making categorical assertions, yet presents information as awaiting evidence from research findings.

Similar to the Results and the Introduction, the Conclusion section is rich in reliability hedges (94%). Furthermore, one third of all tokens were participant oriented, specifically writer-oriented hedges, as evident from the use of non-human subjects (32) and passive constructions (36).

(36) *In this way we illustrate how discourse data can contribute to an evidence base from which principled approaches to communication training for IMGs **may be developed**.* (Appendix 1, 98)

The Methods section is the least hedged in the Non-native corpus. Only six instances of hedging devices were found in this part of abstracts. In the Methods, researchers usually describe their methodology of research and possibly comment on their hypotheses and corpora. Thus, there is not sufficient space for presenting uncertain claims as in the Results or the Introduction.

(37) *While there are many features that reflect and realize evaluation, adjectives are the <u>focus of this inquiry</u> because their overt evaluative quality makes them an accessible item to extract and analyze with basic corpus techniques which **<u>could</u> <u>be taught and applied within a classroom setting</u>**.* (Appendix 1, 30)

The example (37) is taken from the abstract, where the author describes the methodology along with inspiration in taxonomies by other researchers and subsequently introduces this aim and hypothesis. The author's presumptions are depicted in the relative clause where he used a hedging device in the form of a modal verb. The participant-oriented hedge serves as an assertiveness diminishing tool to present the proposition as the author's own interpretation as well as protect him from possible negative consequences by employing agentless passive.

Similarly, the following example demonstrates that, in abstract discourse, authors tend to describe their methods and aims in one sentence. In this case the function of the hedging modal verb is analogous as in examples (36) and (37), i.e. the epistemic device showing uncertainty is used as a face-saving strategy.

(38) *The present study develops <u>a functional classification</u> in order <u>to investigate</u> what factors **may** affect the differences in use of the pattern across different groups of students.* (Appendix 1, 29)

10.3.2 Hedging in Abstract by Native Speaker Researchers

The following sections, not unlike previous chapters, are devoted to formal and functional analysis and distribution of hedging devices in abstract discourse. This section does, however, differ in that it focuses on texts written by native speaker researchers.

10.3.2.1 Formal and Functional Analysis

One hundred and sixty-four texts were studied in order to assemble 100 relevant instances of hedging devices used by native speaker researchers. Hedging seems to be an infrequent strategy employed by native speaker researchers as it occurred in 50 texts (30%) of all analyzed abstracts.

The most numerous forms of hedges are lexical verbs which were recorded in 48 tokens. Twenty-six examples of modal verbs and sixteen instances of adverbs were identified as hedging devices. Hedges in the form of adjectives and nouns are rather infrequent, with only seven adjectives and three nouns classified as mitigating devices.

As regards the functional aspect of the recorded hedges, 92% of all occurrences are reliability hedges, 28% of hedges function as writer-oriented, 8% as reader-oriented and 7% as attribute hedges.

The fact that authors employ so many reliability hedges points to their need to present uncertain scientific claims (39), (40), speculations (41) or alternative explanations (42). As apparent from the following examples, this strategy is associated with expressing vagueness, an author's tentativeness and limitations to the truth of propositions. This contributes to the fact that authors hedge the maxim of quality in all cases.

The following highlighted examples illustrate various realizations of lexical verbs functioning only as reliability hedges.

(39) *Hup case **appears** to be the first documented example of an applicative source for a modal, a broader typological perspective **suggests** that valence-changing operations are in fact a <u>relatively</u> natural step in the grammaticalization of obligation modals, which often involves the introduction and subsequent backgrounding of a participant.* (Appendix 2, 37)

(40) *Some models **propose** that contrast is expressed in sentence grammar (Dik et al. 1981 and Watters 1979); others argue that contrast belongs to conversational implicature (Lambrecht 1994).* (Appendix 2, 46)

(41) *The distribution of these morphosyntactic characteristics across the Uto-Aztecan language family **indicates** that they <u>can probably be reconstructed</u> for Proto-Uto-Aztecan.* (Appendix 2, 93)

(42) *We find only partial support for the claim that Paraguayan Guaraní has a basic subject-verb-object word order (e.g., Gregores and Suárez 1967), since there **does not seem** to be a basic position for subjects.* (Appendix 2, 89)

According to the corpus data, the most significant kind of epistemic lexical verbs are Speculatives, accounting for 75% of occurrence; Quotatives and Sensorial verbs are estimated at 20%. As previously noted in 10.3.1.1, different morphological aspects of lexical verbs and their syntactical function within a sentence have little impact on their function as hedges.

Nonetheless, passive voice or including personal pronouns as a means to express an author's personal involvement seem to be crucial for this study and will be further commented upon.

Similarly as non-native researchers, the examples (39) and (41) display that native speaker researchers tend to cluster various forms of hedging devices, especially lexical verbs and modal verbs or adverbs. Moreover, a couple of lexical verb-noun clusters or noun-modal verb clusters were recorded, as can be demonstrated in the following instances. In the native corpus, the occurrence of clustered hedging devices is 34%.

(43) *This analysis **suggests** that while grammatical transitivity plays a role in the triggering of overt morphological marking of middles, verb meaning plays an even more important overall role, and thus supports the **assumption** of a semantically unified class of middle verbs.* (Appendix 2, 67)

(44) *This proposal builds on the **suggestion** in Larsen and Norman (1979) that the majority of splits in the Mayan family **may be reduced** to subordination.* (Appendix 2, 87)

It is evident from the examples above that authors tend to use hedging devices in subordinate clauses when the main clause of the proposition is also hedged.

The examples (43), (44) and (45) illustrate the only three occurrences of epistemic nouns functioning as reliability hedges.

(45) *This paper is an **attempt** to develop a unified treatment using data from the Salishan language Lushootseed, which derives its transitive verb stems from intransitive radicals using a variety of valency-increasing suffixes.* (Appendix 2, 43)

Researchers decided to mitigate the illocutionary force when presenting hypotheses or assumptions as it helps them to avoid responsibility for uncertain claims and thus protect their face from being wrong. From the instances of epistemic nouns it is evident that writers used the word-formation process of derivation (or zero-derivation in the case of the example (45)) as all three instances (without their noun suffixes) are frequently found in the form of epistemic verbs in the corpus data.

Other expressions functioning as reliability hedges were found in the form of adjectives (100%), adverbs (60%) as well as modal verbs (100%). The fuzzy concept of hedges suggests that all modal verbs can be classified as reliability but only 31% of all modal verbs are recognized to fulfill just one function. The following instances of reliability hedges demonstrate that writers classify their knowledge and hedge against complete accuracy in order to express reservations in their assumptions, findings and deductions.

(46) *This paper thus contributes to the larger debate on stem structure in Algonquian languages and to the growing body of literature on noun incorporation, shedding light on the **possible** relations between the incorporated noun and the rest of the stem.* (Appendix 2, 72)

(47) *More specifically, we show that in Dena'ina iterative verbs, middle marking is more* ***likely*** *to occur when the spatial starting and ending points of the action of the verb are undifferentiated.* (Appendix 2, 68)

The excerpts (46) and (47) illustrate adjectival hedges. The occurrences of the adjective *possible* are used to either pre-modify abstract nouns or complement a verb phrase, whereas *likely* functions only as a complementation to a verb phrase. Nonetheless, the analysis has revealed that the form of adjectives and their syntactical function in a sentence has no impact on performing the reliability function.

(48) *Two levels of center-embedding are attested, as well as the use of extraposition* ***possibly*** *to avoid deeper embedding, supporting Kuno's hypothesis that languages would utilize means to minimize the processing difficulties involved in comprehending multiply center-embedded structures.* (Appendix 2, 75)

(49) *These developments hinge on the remarkably polyfunctional etymon ?ūh, which has two further,* ***apparently*** *related functions in the language, as a nominal kin term and an Interactional (reciprocal) prefix.* (Appendix 2, 36)

Adverbs functioning as reliability hedges were identified in nine instances and all were expressing epistemic modality. The most frequent types of adverbs are *possibly*, *probably*, *apparently* and *perhaps*. There were some adverbs detected as attribute hedges, which will be discussed subsequently.

(50) *The syllabic shapes in this suite of proposed loans* ***may*** *give clues about the elusive shape of pre-PKT stems.* (Appendix 2, 63)

(51) *As in the case of denominal verbs in other languages, they* ***can be formed*** *quite freely, as long as the situation allows for an interpretation.* (Appedix 2, 53)

Epistemic *may* was identified in 50% of all occurrences of modal verbs, in active and passive structures, however, only one instance of epistemic *might* was determined. Precisely as the theory (see 6.1.1) proposes, *might* is viewed as denoting a slightly lower degree of possibility so the writers tend to use *may* more frequently over its preterite counterpart in abstract discourse. However, both epistemic modals are used to mitigate the illocutionary force of propositions.

(52) *However, both Bloomfield himself and the subsequent scholarship (e.g., Rhodes 1976, Goddard 1988; 1990, and O'Meara 1990) have also recognized that the structure of the stem is more complex than the simple template* ***might*** *suggest.* (Appendix 2, 16)

As aforementioned, the line between hedging confident statements in order to propose some knowledge limitations and hedging an author's commitment is often blurred. The example (50) shows that the epistemic *may* in active voice is a prototypical example of a

reliability hedging expression, whereas passive *can* in (51) carries two functions – it can be recognized as a reliability hedge as well as a writer-oriented hedge.

Writer-oriented hedges are the second most numerous group (rounded to 28%) in the Native corpus. Writer-oriented hedges were identified in the form of modal or lexical verbs. The former is more frequent, accounting for 18 instances and the latter was detected in 10 examples.

Regarding modal verbs, it is the passive voice in all cases that is functioning as writer-oriented hedging, which is commonly associated with the depersonalization strategy. Passive *can* was recorded in 10 tokens (55.5%), *may* in 7 tokens (39%) and one instance of *should* (5.5%) was identified, as can be seen in the following examples.

(53) *This paper also proposes refinements to several Proto-Zapotec reconstructions and suggests that *tty/*ty and *ttz/*tz* **may be identified**, *respectively, with palatal stops and affricates.* (Appendix 2, 27)

(54) *It is suggested, in fact, that the hypothesis* **should be abandoned** *until proper evidence is presented.* (Appendix 2, 100)

(55) *The noun to which the prefix attaches is usually unspecified, generic, or nonindividuated and* **can be doubled** *with a freestanding nominal of more specific meaning.* (Appendix 2, 52)

Can is recognized as a hedging expression when it conveys tentative or hypothetical possibility, particularly in passive structures (see the example 55). In contrary, non-epistemic *can/could* is not considered to be a hedging device in this thesis, as apparent from the following example.

(56) *Subsequently,* <u>we</u> **can** <u>present</u> *the diachronic scenarios that account for the perplexing formal and semantic similarities between body-part prefixes and body-part nouns in Kashibo-Kakataibo.* (Appendix 2, abstract 21)

Can in the example (56) is not a hedging device as it expresses ability of the subject. Generally, when modal *can/could* is used with a personal subject and a dynamic verb, it is considered to be non-epistemic.

In addition to modal verbs, lexical verbs may also be employed to hedge an author's commitment in propositions. In my corpus data, lexical verbs functioning as devices to diminish the author occurred in passive structures (57) or appeared with impersonal constructions where an author's personal subject was replaced by a non-human entity (58).

(57) *A second suite of ten resemblant vocabulary items, including words for economically important wild plants and game animals,* **are suggested** *as loans from PKT into PNUA.* (Appendix 2, 62)

(58) *This paper* **proposes** *a taxonomy of these suffixes based on two parameters—the distinction between a causative, which adds a subject, and an applicative, which adds an object, and the distinction between directand nondirect—that is, whether*

the causee or the applied object is a direct object or is more oblique. (Appendix 2, 44)

Another important function of hedges is the interpersonal one. By hedging propositions, writers try to invite the readers to participate in a dialogue as the objectivity is mitigated and the readers have space for questioning or disagreement. The interactive effect of reader-oriented hedges is achieved by including personal pronouns (either referring to one researcher or a group of researchers), as can be demonstrated in the following examples. The total number of reader-oriented hedges is 8 tokens and all are in the form of lexical verbs.

(59) *Drawing on Oji-Cree, I propose a distinction between two types of stems, based on the complexity of their internal structure.* (Appendix 2, 18)
(60) *We assume that a Dena'ina text consists of informational and prosodic "building blocks" of different sizes that we call paragraphs, story units, intonation units, and prosodic words.* (Appendix 2, 21)

As aforementioned, some adverbs were found to perform the attributive function of hedging devices. In the Native speaker corpus, attribute hedges can be rounded to 37.5% of all adverbs. A significant part of these hedges is represented by time adverbs, specifically adverbs of frequency (61), (62). A single occurrence of a downtoner (63) weakening the force of an attribute hedge was revealed.

(61) *Those working on Creek have rarely agreed on the number of tenses or on their meanings, however, and have rarely examined the seemingly intricate ways that speakers use tenses in texts.* (Appendix 2, 41)
(62) *Cross-linguistically, SR usually indicates subject co-reference across clauses.* (Appendix 2, 74)
(63) *As in the case of denominal verbs in other languages, they can be formed quite freely, as long as the situation allows for an interpretation.* (Appendix 2, 54)

The attribute hedges in the examples above specify the extent to which influenced verbs (by hedging) accurately describe the reported phenomena and indicate a divergence between some actual results and expected concepts.

Next, the following example illustrates the probable indeterminacy of some hedges and the fact that hedging devices are strongly context dependent.

(64) *The contrasts observed between these two semantically related adverbial clauses favor the analysis of Yaqui purpose clauses as a kind of referential control construction.* (Appendix 2, abstract 2)

The expression *kind of* might be considered a vague expression which is giving rise to a hedged claim. In this context (i.e. the exact genre of abstracts), however, *kind of* can be most likely interpreted as 'type of' which is a phrase expressing variety, not uncertainty or lack of terminology, and thus cannot be identified as a hedge.

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10.3.2.2 Distribution of Hedging Devices in Different Sections of Abstracts

This part of the Native corpus analysis is focused on mapping the use of hedges in different parts of abstracts.

The distribution of hedges in individual sections of abstracts is very uneven. Native researchers tend to use hedging devices in the Introduction the most (63%). On the other hand, the Results are the least hedged section of abstracts, where only 6% of hedges were identified. The second most frequently hedged section is the Conclusion (31%). Interestingly, not a single instance of hedges appeared in the Methods. This finding contributes to the fact that the organization of abstracts written by native speaker researches is not in alignment with the theory suggested in Chapter 8.

In abstracts, native speaker writers do not commonly present methods of research. They also seldom provide descriptions (or sources) for the material used for investigation. Sporadically, attempts are made to identify methodology, but these attempts are typically linked to introducing hypotheses (65), aims or commenting on results, however, without hedging the statements.

(65) *The <u>comparative method</u> of historical linguistics is applied to the <u>hypothesis</u> that Chitimacha, a language of southern Louisiana now without fully fluent speakers, and languages of the Totozoquean family of Mesoamerica are genealogically related.* (Appendix 2, abstract 7)

Next, there are considerable differences in the length of individual abstracts in the Native corpus - the extent is roughly estimated to 80-220 words. Thus, it seems that researchers who contribute in *International Journal of American Linguistics* understand abstracts as a kind of introductory annotation rather than a text where they should comment on key points and results of their articles.

A noticeable number (32%) of abstracts consist of the Introduction section only, as can be demonstrated in the following example of a whole abstract. In other words, researchers most likely perceive abstracts as a chance to introduce their topic of research and set it into the field of other studies and investigations rather than a brief synopsis of their research articles or a strategic text to persuade readers in reading the whole paper.

> *The structure of literary narrative in Natchez has rarely been discussed. Although both John R Swanton in 1908 and Mary R. Haas in 1934–36 together collected over 70 Natchez literary narratives, only one has been published with the Natchez text, as an introduction to a grammatical sketch of the language (Kimball 2005). Following the lead of Dell Hymes (1981; 2003), Natchez literary narratives are better understood in a verse format than as prose. This paper is such an analysis of a literary narrative, "The*

Woman Who Was a Fox," told to Haas by Nancy Raven in 1934. (Appendix 2, abstract 14)

As apparent from the abstract above, writers often focus on the general description and interpretation of research findings presented by other scholars rather than on their own surveys. In my corpus data, writers tend to mention and refer to facts proposed by other researchers in the Introduction quite frequently (the total number can be rounded to 24%), as can be demonstrated in the following instances. Hedges occurring in propositions with reference to other studies are repeatedly found in the form of lexical verbs (47%) and adverbs (40%), as well as modal verbs (13%).

(66) *However, <u>both Bloomfield himself and the subsequent scholarship (e.g., Rhodes 1976, Goddard 1988; 1990, and O'Meara 1990)</u> have also recognized that the structure of the stem is more complex than the simple template **might suggest**.* (Appendix 2, 16)

(67) *Some models **propose** that contrast is expressed in sentence grammar <u>(Dik et al. 1981 and Watters 1979)</u>; others argue that contrast belongs to conversational implicature <u>(Lambrecht 1994)</u>.* (Appendix 2, 46)

However, writers more frequently devote the introductory part of abstracts to descriptions of their research topics, where 39% of hedged propositions occurred (mostly in the form of modal (39%) and lexical (30%) verbs, though, some adverbs (22%) and adjectives (7%) occurred as well). Researchers tend to hedge propositions when describing the subject matter (68), situating the subject matter to a broader context (69), comparing their presumptions with other facts (70) or commenting on previous findings but without referring to any specific researches or researchers (71).

(68) *Specifically, nasal consonants **may** take the form of simple nasals, pre-stopped nasals, post-stopped nasals, pre- and post-stopped nasals, as well as simple voiced stops.* (Appendix 2, 34)

(69) *In many languages, prosodic prominence **indicates** which expressions of an utterance are focused.* (Appendix 2, 14)

(70) *As in the case of denominal verbs in other languages, they **can be formed** freely, as long as the situation allows for an interpretation.* (Appendix 2, 53)

(71) *While analyses of numerals typically focus on presenting morphological and phonological data as well as on comparative historical analyses of the numeral systems of related languages, numerals are **rarely** analyzed as indices of the kinds of cultural information seen in such semantic fields as, e.g., kinship terminology.* (Appendix 2, 19)

Next, writers also use hedging devices when introducing hypotheses and assumptions (72) of their researches as well as when presenting proposals (73) and suggestions (74) concerning outcomes of their research methods, as apparent from the following propositions. The total number of hedging devices used for just mentioned reasons can be estimated to

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20.5% (interestingly, only verbal forms were identified, from which 67% were lexical verbs and 33% were modal verbs).

(72) *We **assume** that a Dena'ina text consists of informational and prosodic "building blocks" of different sizes that we call paragraphs, story units, intonation units, and prosodic words.* (Appendix 2, 21)

(73) *We **propose** a scenario for how such an exchange could occur, using Guarayu as a case study.* (Appendix 2, 4)

(74) *We **suggest** that, in Guarayu, this realignment may have been facilitated by an insufficiency of phonetic cues that a listener **might** routinely use to accurately perceive and locate the transition between the vowel and tap involved in the exchange.* (Appendix 2, 5)

Additionally, in the Introduction, writers hedge when they provide a description of what the whole article is concerned with (approximately in 16% of all cases), as can be shown in the following instances. The majority (82%) of hedges used with this intention are classified as lexical verbs.

(75) *The study identifies the main changes affecting these consonants and **proposes** a subgrouping of the Zapotec language family on the basis of the findings.* (Appendix 2, 24)

(76) *This paper provides an acoustic description of the Comanche vowel system based on recordings of six native speakers which **suggests** that Comanche /ɨ/ is actually a central mid vowel—not a high vowel.* (Appendix 2, 32)

The prevalent function of hedging devices in this section of abstracts is to propose assertions that are not definitive but presented with appropriate accuracy and modesty. Hence, the overall occurrence of reliability hedges is 90%. Moreover, in the Introduction, hedges also perform the writer-oriented functions (28.5% of instances), i.e. reduce author's involvement with the claims made in their texts. Several instances (9.5%) were recognized as an intention to involve the reader in the argumentation process. The attributive function of hedges was identified also in 9.5%.

As aforementioned, the second most frequently hedged section is the Conclusion. Native speaker researchers tend to hedge their statements when interpreting and commenting on their findings (77), drawing conclusions (78), comparing results (79) or comparing data to findings of previous researchers (80), as can be demonstrated in these examples:

(77) *Verb use and negation **appear** to be especially sensitive indicators of such change.* (Appendix 2, 80)

(78) *Reconstructed words relating to maize agriculture and the fabrication of paper **indicate** that prehistoric Chitimacha speakers migrated to the Lower Mississippi Valley from Mesoamerica.* (Appendix 2, 76)

(79) *This situation is <u>rather similar</u> to that reported for Nez Perce, but <u>different</u> from cases such as St'át'imcets or Washo, in which modals exhibit a context-*

*dependent meaning, allowing for a small set to denote all logically **possible** modal categories.* (Appendix 2, 70)

(80) *Combined with previous published claims on other Arawá languages, the data presented here **suggest** that number terms existed in Jarawara and other Arawá languages prior to contact with non-indigenes.* (Appendix 2, 81)

Moreover, writers also conclude the abstract by pointing out at what will be discussed in their articles, as the following instances show.

(81) *Additional examples of diffusion between Otomangean and adjacent Mayan languages **are suggested**.* (Appendix 2, 82)

(82) ***Possible** explanations for how these two registers of speech originated are then proposed.* (Appendix 2, 83).

The function of hedges in the Conclusion is similar to that in the Introduction, as 97% of all tokens perform the reliability function. Furthermore, writer-oriented hedges are also significantly used (29%), whereas reader-oriented (6%) and attribute (3%) hedges are rather rare in this section of abstracts. As regards the form, the majority of hedges are verbal – lexical verbs are estimated to occur in 39% of instances and modal verbs in 29%. Hedges in the form of adjectives and adverbs are both rounded to 13% but only 3% of nouns were recognized.

According to the corpus data, writers present results in a more straightforward way than conclusions. In other words, the Result section is rather infrequently hedged - only 6 instances were identified. All six propositions occurring in the Results are hedged in order to present uncertain or unsubstantiated findings (83). Thus, all tokens can be classified as reliability hedges. The lexical verb *suggest* in the following example also illustrates the only occurrence of writer-oriented hedges – the impersonal active construction diminishes the author's involvement in the proposition and his responsibility for uncertain claims.

(83) *This analysis **suggests** that while grammatical transitivity plays a role in the triggering of overt morphological marking of middles, verb meaning plays an even more important overall role, and thus supports the **assumption** of a semantically unified class of middle verbs.* (Appendix 2, 67)

10.3.3 Comparison of the Non-native and the Native corpora

This part of the analysis is concerned with a comparison of what has been investigated in the previous chapters. Similarities and differences of the data assembled in the Native and the Non-native corpora are contrasted and commented on. First, the form, function and distribution of hedges is discussed. Second, areas with diametrical differences are examined in greater detail.

In both corpora, Hyland's classification of hedges was adopted so all instances fit into the parts of speech categories as well as categories according to his functional distinction. In other words, there occurred only hedges in the form of modal verbs, lexical verbs, adjectives, adverbs or nouns and performing reliability, writer-oriented, reader-oriented and/or attribute function.

There are relatively significant differences in the overall distribution of hedges in abstracts by non-native and native speaker researchers. Non-native writers used hedging devices in 43 abstracts of 95 analyzed, which can be rounded to 45%. By contrast, hedges used by native speakers occurred in 50 texts out of examined 164, which is estimated to 30%. Thus, it can be deduced that hedging is not restricted only to native speakers but points to the fact that this phenomenon is commonly used by authors of different language backgrounds when writing in English. Moreover, it can be assumed that non-native researchers are on an advanced level concerning their pragmatic competence in English. The differences in distribution may be caused by the fact that native researchers do not need to express as many tentative propositions as they seem to provide primarily descriptive facts rather than statements of reasoning and speculation, and display a more direct style.

Regarding the form, there are no noticeable differences in occurrences of lexical verbs and nouns – the numbers are relatively similar. On the other hand, Table 1 shows that non-native writers employ more modal verbs as hedges than native researchers. Contrarily, native researchers used more epistemic adverbs, which might be recognized as a matter of wider range of vocabulary (see Table 1b). The reason for using predominantly epistemic verbs might be the fact that stylistically they are the most yielding clausal elements to express uncertainty to a claim and mitigate its illocutionary force.

Form	Non-native corpus	Native corpus
Epistemic modal verbs	35	26
Epistemic lexical verbs	44	48
Epistemic adjectives	12	7
Epistemic adverbs	7	16
Epistemic nouns	2	3

Table 1: Numbers of occurrences of different forms of hedges in Non-native and Native corpora.

Interestingly, it was revealed that native researchers have a richer vocabulary concerning the use of lexical verbs and adverbs employed as hedges. Table 1a and Table 1b illustrate various kinds of epistemic devices used in both corpora.

Category	Non-native corpus	Native corpus	Category	Non-native corpus	Native corpus
Speculative			**Narrators**		
Assume	-	1	Attempt	-	1
Believe	1	-	**Quotative**		
Indicate	11	5	Note	-	1
Propose	-	7	Report	-	1
Suggest	10	17	**Sensorial**		
Tend	7	0	Appear	1	4
			Seem	4	3

Table 1a: Numbers of occurrences of various kinds of epistemic lexical verbs used as hedges in Non-native and Native corpora.

As apparent from Table 1a, the most numerous kind of epistemic lexical verb is the Speculative (especially the verbs *suggest* and *indicate*) in both corpora. Non-native researchers use mainly speculative and sensorial verbs whereas native researchers use all four kinds depicted in the table. Nonetheless, deductive verbs were not identified in either of the corpora. Interestingly, several scholars (Hyland, Martín-Martín, Salagar-Meyer) present *think* and *believe* as prototypical examples of hedging in the form of lexical verbs. However, my corpora data do not contain a single instance of *think* as a hedge and only one example of *believe* as a mitigating device.

Category	Non-native corpus	Native corpus
Downtoner		
Compromiser		quite, usually
Minimizer	rarely	rarely
Approximator	relatively, approximately	relatively
Disjunct – content		
Certainty		possibly, probably, perhaps
Truth		apparently
Sense	potentially	

Table 1b: Categorization of instances of epistemic adverbs (based on Quirk et al. 1985) employed as hedges in Non-native and Native corpora.

As evident from Table 1b, native speaker researchers tend to employ more epistemic adverbs as hedging devices than non-native writers. Specifically, adverbs of frequency functioning as downtoners are employed most frequently. However, the overall occurrence of adverbs in both corpora does not exceed 16%, which means that writers generally do not rely on adverbs more than using epistemic lexical or modal verbs.

In contrast, non-native writers employed more various kinds of modal verbs and adjectives functioning as hedges. Regarding modal verbs, epistemic *may* and *can* are the most frequently occurring in both corpora. On the other hand, their preterite counterparts *might* and *could* are rather rare, especially in the Native corpus, as Table 1c illustrates. *May* and *might* were used in active as well as passive structures, whereas *can* and *could* expressed passive voice only. The incidence of *would* and *should* is exceptional in both corpora.

Epistemic modal verbs	Non-native corpus	Native corpus
May	19	13
Might	5	2
Can	5	9
Could	3	
Should	2	1
Would	2	

Table 1c: Numbers of occurrences of epistemic modal verbs employed as hedges in Non-native and Native corpora.

Hedging devices in the form of adjectives are quite a rarity in the Native corpus. There were found only 4 incidences of epistemic adjectives. The most frequently occurring adjective is *likely*, which was recognized as a hedge in 8 instances in both corpora. Table 1d shows that non-native speaker researchers employ more various forms of epistemic adjectives than native writers.

Epistemic adjectives	Non-native corpus	Native corpus
Possible	1	3
Likely	7	1
Few	1	
Little	2	
Potential	2	
Minor	1	

Table 1d: Numbers of occurrences of epistemic adjectives employed as hedges in Non-native and Native corpora.

Regarding epistemic nouns, they are very infrequently used in both corpora (only 5 occurrences) so it is not possible to draw any conclusions based on a comparative analysis.

As to the function, the fuzzy concept of hedges means that some devices can fit into more than one functional category. According to Table 2, there are no considerable

discrepancies in functional classifications. Reliability hedges are the most frequently occurring in both corpora; reader-oriented and attribute hedges are rather meager. There were identified only two instances of reader-oriented hedges in the non-native corpus but eight examples in the native corpus. These numbers are, however, insignificant in comparison to the total overview of functions of hedging devices.

Function	Non-native corpus	Native corpus
Reliability hedges	91%	92%
Writer-oriented hedges	26%	28%
Reader-oriented hedges	2%	8%
Attribute hedges	9%	7%

Table 2: The function of hedges in Non-native and Native corpora expressed in percentage.

As regards the distribution of hedges in abstract discourse, it is the area with the most notable differences. Table 3 shows that the distribution of hedges in individual sections of abstract written by non-native speaker researchers is distinct from abstract written by native writers. Hedges are prevailing in the Results section in the Non-native corpus. Unlike in the Non-native corpus, hedges used by native speakers predominate in the Introduction and the Conclusion.

Abstract sections	Non-native corpus	Native corpus
Introduction	27%	63%
Methods	6%	0%
Results	50%	6%
Conclusion	17%	31%

Table 3: The distribution of hedges in Non-native and Native corpora expressed in percentage.

Since the distribution of hedges in individual corpora marks the most significant differences, it will be dealt with in greater detail in the following part of the analysis, which is devoted to a comparison of individual sections of abstracts.

Generally, the boundaries of individual sections of abstracts were very difficult to recognize, as this genre is not explicitly segmented. Some writers devoted greater space to introducing their research topics, others were primarily concerned with discussing data and interpreting their research findings.

As has been already mentioned, according to the corpora data, hedges are more frequently employed in the Introduction section by native than non-native writers. It is

important to note that native researchers devote to the introductory part greater prominence and use hedges for various reasons, as illustrated in Table 4.

Reasons for hedging	Non-native corpus	Native corpus
Stating aims and hypotheses	10%	5%
Mentioning findings of other researches	30%	24%
Introducing the research topic	60%	41%
Suggesting and proposing claims		16%
Describing discussion points of the article		14%

Table 4: Reasons for hedging in the Introduction section of abstracts assembled in Non-native and Native corpora (expressed in percentage).

Table 4 shows that the reasons for hedging in both corpora are more or less identical. Considering the fact that in the Introduction section of the Native corpus writers employed twice as many hedges than in the Non-native one, it is not surprising that native researchers hedged propositions with more intentions. Writers mostly employed hedging when introducing and describing their research topics, stating generally known information concerning the subject matter and situating it into a broader context. Next, researchers mitigated the illocutionary force of utterances when stating research aims, proposing hypotheses and pointing at previous researches either by referring to some concrete discoveries and investigators or by not mentioning them at all. Unlike in the Non-native corpus, native speakers also hedge when suggesting and proposing probable outcomes of their researches as well as commenting on key points and other crucial aspects further discussed in their articles. This discovery illustrates the fact that native speakers merge information usually discussed separately in abstract sections into one sentence.

In the Introduction section of abstracts in both corpora, the majority of hedges (90%) are performing reliability functions expressed by various epistemic devices conveying uncertainty and tentativeness (see Table 1). In the Native corpus, one third of hedges are classified as writer-oriented, whereas in the Non-native corpus not even 10% fit into this category. Hence, it can be assumed that non-native researchers use hedges to objectively and accurately present uncertain claims but to a lesser extent as a self-face-protecting and a responsibility-reducing device. Writer-oriented hedges were recognized especially because of passive structures (in 75% of all instances from both corpora), impersonal constructions (5%)

and impersonal active constructions where personal subjects were replaced by some non-human entities (20%). Approximately 10% of reader-oriented hedges were identified in the native corpus, whereas none in the non-native corpus. The interactional effect of reader-oriented hedges is achieved by the use of personal pronouns and performative verbs. The incidence of attribute hedges can be rounded to 10% in both corpora.

As there are no incidences of hedging devices in the Methods section of abstracts written by native researchers, it is meaningless to draw any conclusions based on comparing results. As has been mentioned in 10.3.1.2, writers usually hedge statements when describing the methodology used in their researches (in some cases, along with introducing aims or commenting on corpora). The very rare incidence of hedges in this section is probably caused by the fact that writers describe their material and methodology very little so there are no such propositions to be hedged, especially in the Native corpus.

According to Table 3, there are significant differences in hedging in the Results section in the two corpora. Unlike native researchers, non-native writers mostly hedge statements discussing research findings. Specifically, writers express uncertainty when presenting and commenting on results as well as when comparing and contrasting the research findings (see Table 5). Similarly as in the Methods, the reason for a very little occurrence of hedges in the Results in the Native corpus might be the fact that they apparently do not include propositions discussing the findings in their abstracts but devote more space to introducing their topics.

Regarding the function, the majority of hedges were classified as reliability (89%); writer-oriented function was detected in minor amount (23%) of incidences and reader-oriented and attribute hedges were not identified at all.

Reasons for hedging	Non-native corpus	Native corpus
Presenting results	90%	100%
Comparing results	10%	

Table 5: Reasons for hedging in the Results section of abstracts
assembled in Non-native and Native corpora (expressed in percentage).

As aforementioned, native researchers use almost twice as many hedges than non-native researchers in the Conclusion section. This indicates that the presentation of conclusions and their interpretation is more straightforward in non-native abstracts. Primarily, writers hedge propositions when interpreting or commenting on research findings, drawing conclusions, or when pointing at what will be discussed in the article and when using propositions serving as a closing to the abstracts (see Table 6). Moreover, native researchers

also hedged when contrasting and contrasting their findings to researches by other scholars. On the other hand, in the Non-native corpus, there were some instances of hedged statements suggesting implications for future research. As regards the function and form of hedges in this section of abstracts, the data are analogous in both corpora and very similar to findings from the Introduction section. In other words, the majority of statements are hedged to perform the reliability function (90%), approximately 30% of tokens are writer-oriented hedges, reader-oriented hedges are estimated to 6% of instances and attribute hedges do not exceed 5% in either corpora. Similarly in the Introduction, the majority of writer-oriented hedges are expressed by passive structures (93%); all instances of reader-oriented hedges consist of personal pronoun subjects and performative verbs; and attribute hedges are mostly expressed by adverbs of frequency.

Reasons for hedging	Non-native corpus	Native corpus
Interpreting and commenting on findings	23%	52%
Contrasting results		3%
Comparing data to findings by other researchers		13%
Drawing conclusions	47%	19%
Pointing at discussion points in articles	18%	13%
Suggesting implications for future researches	12%	

Table 6: Reasons for hedging in the Conclusion section of abstracts assembled in Non-native and Native corpora (expressed in percentage).

As far as the conversational maxims are concerned, there are no considerable differences in the corpora data. All tokens can be classified as quality hedges as they are generally used to express tentativeness by mitigating the strength of utterances. Moreover, hedged maxims of quality help to prevent academic researchers from proposing untruthful claims and present them as accurately and objectively as possible. From the viewpoint of the theory of politeness, hedges in both corpora are also analogous. The analyzed hedging devices are most likely a feature of negative politeness, which is conveyed when trying to mitigate possible causes of offence and minimize the imposition.

Last but not least, I would like to comment on the orientation of epistemic modality. In both corpora, only epistemic lexical verbs functioning as reader-oriented hedges indicated that the writer is the source of modality and thus subjective orientation of modality was recognized. All modal verbs, adverbs, adjectives and nouns functioning as hedges in both

corpora can be classified as devices expressing objective orientation of modality, as the researchers did not include themselves in propositions. Hence, writer-oriented hedges can be classified as prototypical examples of objective modality (they indicate that the writer is not the source of modality).

10.4 Analysis Results and Summary of the Analytical Part

In this chapter, analysis results are summarized, discussed and supported by graphs. The data from both corpora are unified in order to provide a general summary of the study on hedges. Moreover, the findings are compared to Hyland's investigations on hedging in research articles.

According to several studies and their investigations, hedging is a well-documented feature of written discourse, specifically academic papers and articles (Hyland 1995; Martín-Martín 2008; Markkanen and Schröder 1997). Ken Hyland (1995) examined the importance and distribution of hedging devices in journal articles dealing with scientific research. He assembled a corpus of 26 research articles (approximately 75.000 words) and investigated that hedging occurred in 21% (21 devices used per 1000 words).

This thesis' analysis revealed that hedging is an inherent phenomenon in abstract discourse. In contrary to Hyland's material, the genre of abstract is more narrowly focused and restricted by a word limit. Thus, abstracts do not provide as much space for hedging propositions as the entire research articles. Yet, hedging is a relatively frequent phenomenon and a statistically significant figure in abstract discourse, occurring in 93 of 259 (36%) analyzed abstracts (see Chart 1).
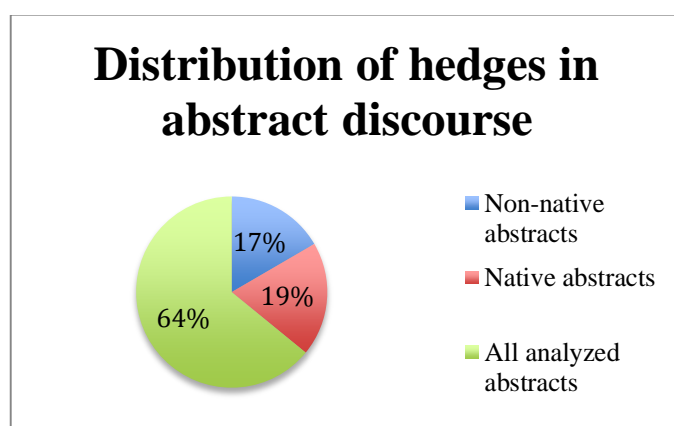

Chart 1: Distribution of hedges in abstract discourse expressed in percentage.

Chart 1 shows that hedging devices were identified in 17% of all analyzed abstracts written by non-native speaker researcher and in 19% of analyzed abstracts by native writers. The green sector illustrates that not a single incidence of hedges was detected in 64% of abstracts.

The comparative analysis in 10.3.3 has revealed that the outcomes concerning formal classification of hedges are more or less analogous in both corpora. All tokens fit into the parts of speech categories suggested by Hyland. Hedges in the form of lexical verbs are the most frequently occurring, whereas nouns are the least employed mitigating devices (see Chart 2). In neither of the corpora, were hedges found in the form of conjunctions, prepositions or interjections. However, there are differences in the variety of individual kinds of such means. Native speaker researchers used more various kinds of lexical verbs and adverbs but less kinds of modal verbs and adverbs than non-native researchers.

Furthermore, it was revealed that the form has no impact on the function of reliability or attribute hedges (it is their semantic interpretation and context that matters). On the other hand, the form, especially the morpho-syntactic point of view, is crucial when identifying participant oriented hedges. In other words, verbs denoting passive voice without an expressed agent (writer-oriented hedges) as well as expressed personal pronouns functioning as subjects (reader-oriented hedges) are the main indications of the function of hedging devices.
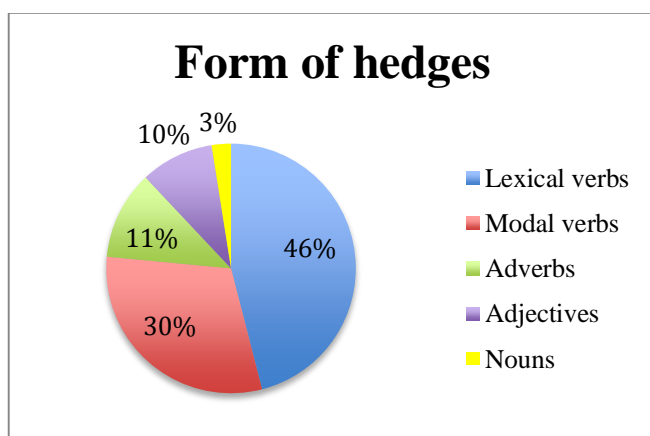

Chart 2: Form of hedges expressed in percentage.

As Chart 2 illustrates, lexical and modal verbs are most frequently identified as hedges in my corpora data. The incidence of hedges in passive structures can be rounded to 25% of all verbal items occurring in both corpora.

Chart 3 shows that Hyland's investigations on relative frequency of grammatical categories to express epistemic modality are correspondent (in proportion) with my outcomes. What makes a difference is the fact that lexical verbs constituted a lower range of items than

modal verbs in his survey. Similarly, he mentions that lexical verbs *suggest*, *indicate* and *propose* were employed as hedges the most frequently, i.e. in 55.7% of all instances (Hyland 1995, 36).
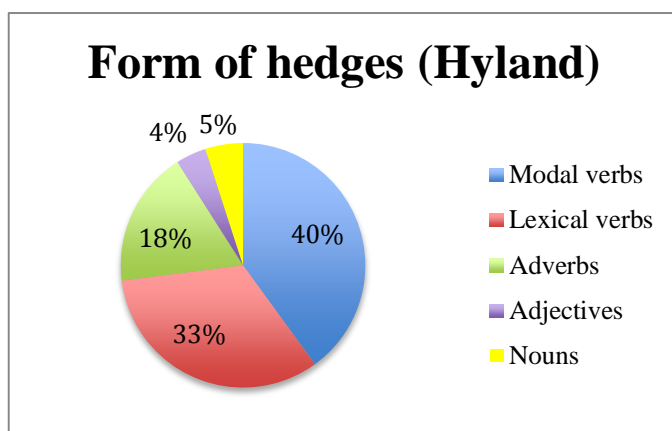
Form of hedges (Hyland)

A pie chart titled "Form of hedges (Hyland)" showing: Modal verbs 40%, Lexical verbs 33%, Adverbs 18%, Adjectives 4%, Nouns 5%.

Chart 3: Hyland's investigations on the form of hedges expressed in percentage.

Next, the function of hedges is almost identical in both corpora of this thesis. Chart 4 shows that the majority of hedges performed the reliability function; approximately one third of items were writer-oriented; and attribute as well as reader-oriented hedges were identified in less than 10% of all incidences.

Function of hedges

A pie chart titled "Function of hedges" showing: Reliability 91,50%, Writer-oriented 27%, Attribute 8%, Reader-oriented 5%.
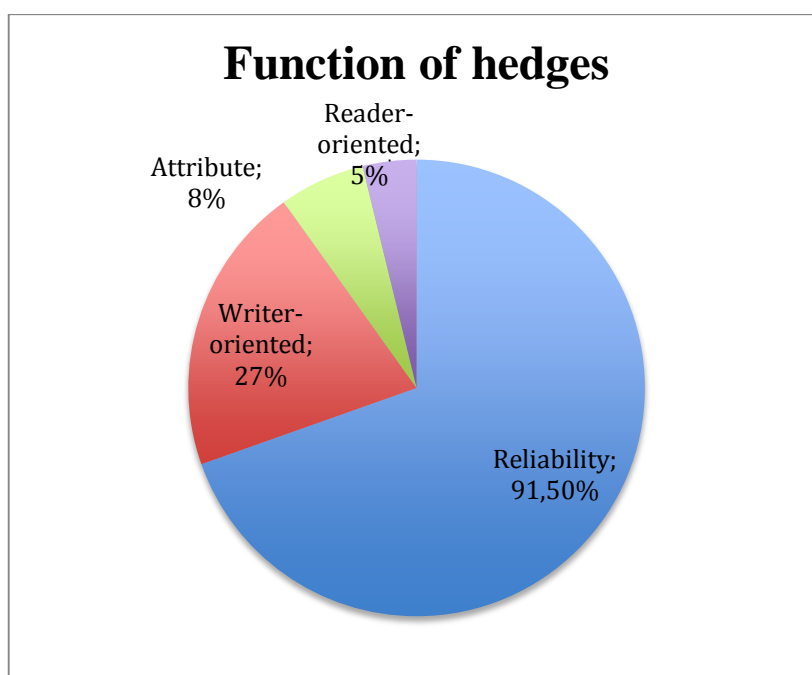
Chart 4: Function of hedges expressed in percentage.

Hyland does not statistically deal with recognizing different functions of hedges in his journal discourse survey from 2005 so no conclusions based on comparing our data can be drawn.

The genre of abstracts is a very specific part of academic style, which is not strictly segmented into particular sections. Therefore, researchers understand divergently what information and data to include in their abstracts, and give different degrees of prominence to individual sections. The comparative analysis in 10.3.3 revealed that there are significant differences in distribution of hedges in individual sections of abstracts between native and non-native speaker researchers. Non-native writers hedge mainly when presenting results, whereas native researchers employ hedging devices when introducing and discussing their research topics in the introductory part the most. In general, the Introduction section is rich in occurrence of hedges (almost a half of all tokens were found there). Chart 5 illustrates that approximately one third of hedging devices were identified in the Conclusion; 24% of the investigated phenomenon was found in the Results and a tenuous number of instances occurred in the Methods (only 3% of all occurrences).
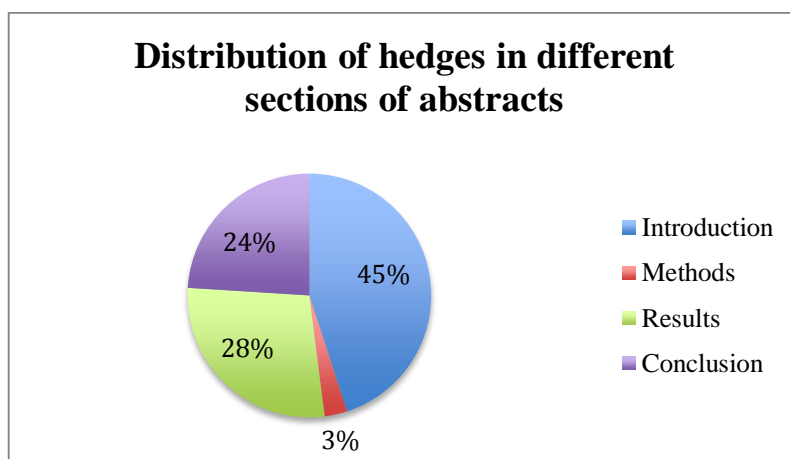

Distribution of hedges in different sections of abstracts

- Introduction — 45%
- Methods — 3%
- Results — 28%
- Conclusion — 24%

Chart 5: Distribution of hedges in different sections of abstracts expressed in percentage.

Hyland investigated that the highest frequency of hedges occurred in the Conclusion where authors make their claims and explore implications to research findings. According to his data, other significantly hedged sections are the Introduction and the Results, as Chart 6 shows. On the other hand, writers used hedges in the Methods the least, only in 4% of occurrences (Hyland 1995, 38).
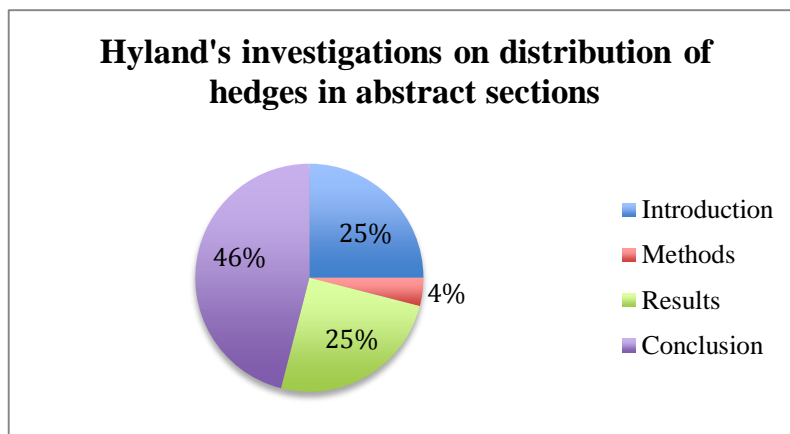
Hyland's investigations on distribution of hedges in abstract sections

25%
4%
46%
25%

■ Introduction
■ Methods
■ Results
■ Conclusion

Chart 6: Hyland's investigations on distribution of hedges in different sections of abstracts (expressed in percentage).

As apparent from Charts 5 and 6, noticeable discrepancies in the studies concern the Introduction and the Conclusion sections, otherwise the data in the Results and the Methods are more or less analogous. Unlike in Hyland's corpus, the majority of hedges were identified in the Introduction and only about a half of items that were found in the Conclusion. The density of hedging devices in abstract sections in Hyland's data varies but is always highest in the Conclusion (Hyland 1995, 38).

Next, one of the objectives of this research is to detect whether the distribution of hedges in different sections of abstracts has an impact on the function of hedged propositions. The comparative analysis has revealed that the distribution of hedges in individual sections of abstract does not influence the function they perform. In other words, the findings are very similar in all four sections. The reliability function of hedges is prevailing (about 90% of all instances). Hedges performing writer-oriented functions can be rounded to 30%. Attribute and reader-oriented hedges do not exceed 10% of occurrences in any sections of either corpora, as apparent from Chart 7, which illustrates different functions of hedges occurring in individual sections of abstracts.
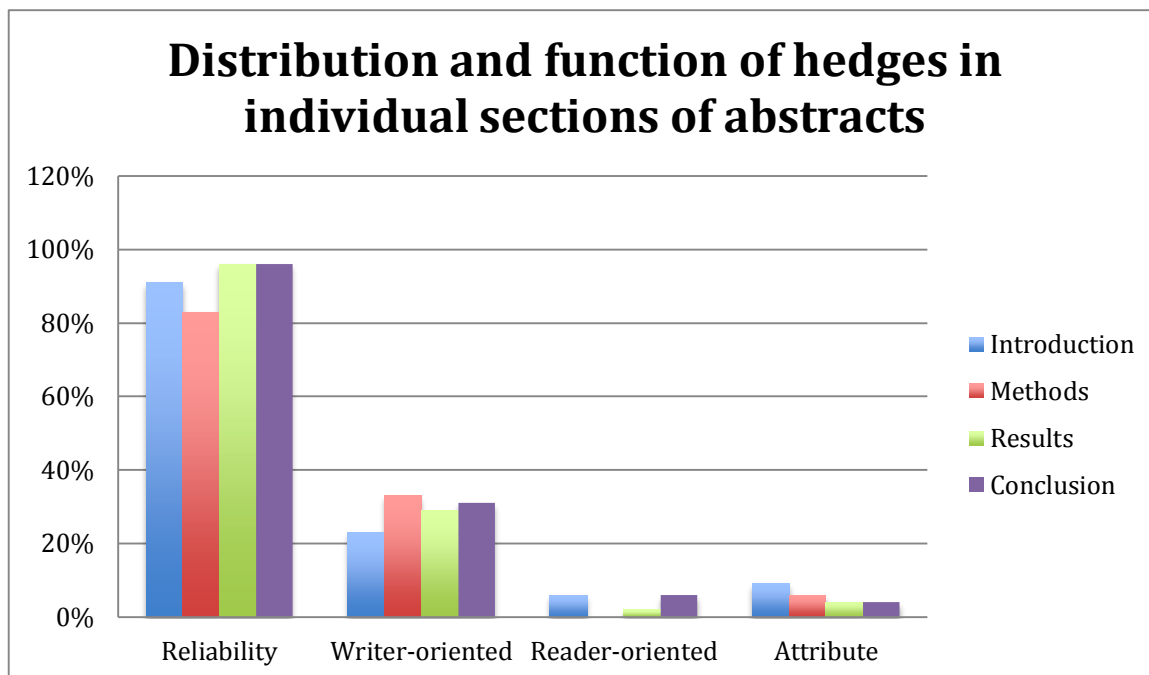
Distribution and function of hedges in individual sections of abstracts

Chart 7: Distribution and function of hedges in different sections of abstracts (expressed in percentage).

Based on Bloor and Bloor's investigations, Hyland concludes that non-native research articles, especially those written by Czech scholars, "display a more direct and unhedged style" (Hyland 1995, 39-40). Moreover, he has revealed that some L2 students might have difficulties with mastering hedging in English and they "fail to hedge" as they may have "inadequate pragmatic knowledge or false perception of appropriate formality and directness" (Hyland 1995, 39). Therefore, Hyland argues that hedging represents a rhetorical gap, which is necessary to be overcome by L2 students before being 'accepted' in the academic research community (Hyland 1995, 39-40).

Based on the fact that non-native researchers employed a higher number of hedging devices than native writers and rather analogous outcomes concerning the form and function of hedges, I cannot claim that non-native researchers present an unhedged or more direct style. In other words, my research findings are not in compliance with Hyland's conclusions because it seems that academic researchers of different language backgrounds have mastered this pragmatic aspect of writing in English. Nonetheless, Hyland takes a wider approach to hedges and considers the phenomenon of hedging from the ESL point of view, which I do not do. Furthermore, our data were conducted in different genres - I focus only on the genre of abstracts whereas Hyland investigated hedging in research articles. Last, the different extents of our investigations may also play its role.

As has been already mentioned, the most significant differences between the corpora concern the distribution of hedges in abstract sections. One cause of this distinction between native and non-native writers might be the genre of abstract itself and the perception of its content. In the majority of analyzed abstracts, native researchers skipped at least one section, mostly they did not comment on the methodology or did not present and discuss results. In contrast, it was detected that non-native writers usually tried to provide information concerning all four parts. Accordingly, it can be assumed that the differences in distribution arose because some writers simply did not have the propositions dealing with some of the four sections to hedge.

Other reasons might include culture and language specific bounds which can be reflected in their academic writing abilities. The use of hedging by native writers might be a matter of subconscious, i.e. they probably might not think about presenting their propositions in a more tentative way as their non-native colleagues. Alternatively, non-native researchers could have been taught by teachers of pragmatics and stylistics to present tentative claims when dealing with results and conclusions.

Lastly, the use of hedging might be determined by the writer's intentions and their individual styles of writing. Nevertheless, it is important to bear in mind that the aforementioned reasons are merely speculative and cannot be drawn as general conclusions.

11 Conclusion

The intention of this thesis is to map the incidence of hedging devices in abstracts of journal articles written by native and non-native speaker researchers. In addition, the thesis attempts to investigate prevailing formal and functional tendencies of various hedging devices in different sections of abstracts.

As the phenomenon of hedging is very broad and perceived differently by linguists, the theoretical part initially tries to delineate and describe it from various points of view. Therefore, the theory of politeness, vagueness and conversational maxims are discussed to introduce some of the most closely related pragmatic concepts. As one of the general reasons for using hedges is to present polite and tentative behavior, which is essentially expressed by epistemic modality, a significant part of the thesis is devoted to describing modality and epistemic modal expressions employed as hedges. Hedging can be basically any linguistic devices that weaken the illocutionary force of an utterance, express uncertainty or indicate lack of writer's commitment to a proposition. As a result, there is no consensus among linguists concerning formal and functional classifications of such devices, which contributes to the fuzziness of hedging. In this thesis, the idea to categorize hedges according to parts of speech seemed an appropriate solution. Last but not least, the theoretical part deals with the academic style and the genre of abstracts in order to provide basic information about the investigated contexts which were necessary to be considered when analyzing and interpreting hedged propositions.

The analytical part consequently reflects the claims from the theoretical part and tries to implement them in analyzing hedged propositions as well as attempts to examine formal features, communicative functions and frequency of deployment of hedges. For the purposes of the quantitative analysis, two corpora of various hedging expressions were assembled. Each corpus contains 100 instances of the aforementioned pragmatic strategy but deals with texts by authors of different L1 language backgrounds – the corpora are divided according to abstracts written by native and non-native authors.

As has been revealed, hedging appears quite frequently in abstract discourse. Mitigating devices occurred in 36% of all analyzed abstracts (the total number of investigated texts is 259), from which 17% were detected in 'non-native' abstracts and 19% were identified in texts by native writers. Generally, researchers employed hedges to reduce categorical or definite claims, present an author's assessment of uncertainty of a proposition, avoid his responsibility by diminishing him from the text or contribute to better writer-reader

relationship by indicating that their claims are open for a dialogue and thus involving the reader to participate in the argumentation process.

For the purposes of this thesis, four functional categories were adopted from Hyland (1996). He distinguishes reliability, writer-oriented, reader-oriented and attribute function of hedging devices. The fuzzy concept of hedges allows one hedging expression to fit into several categories. The majority of hedges (almost 92% of all occurrences) performed the reliability function. Writer-oriented hedges were detected in 27%. Reader-oriented and attribute hedges were rather infrequent, each occurring in less than 10%. This finding shows that writers primarily use hedging devices to present uncertain propositions and avoid claiming assertions; self-protection or establishment of a positive relationship are their secondary aims.

Regarding the form, lexical and modal verbs were identified as hedges most frequently - their overall occurrence can be rounded to 76% in the two corpora. The incidence of epistemic adverbs is 11% and 10% of adjectives. Epistemic nouns are the least occurring form of hedges, only 3% of such instances were recognized. The outcomes show that there are no noticeable distinctions in the form of hedging devices between native and non-native corpora. Native researchers used more epistemic lexical verbs and adverbs whereas non-native researchers employed more modal verbs and adjectives. Nevertheless, the employment of various forms between the two corpora is more or less analogous. However, it was noticed that native authors have a richer vocabulary concerning the use of lexical verbs and adverbs. As native speakers are writing their researchers in their mother tongue (unlike non-native writers), this investigation is probably not so surprising.

Overall, there were no considerable differences between the two corpora concerning the form and function of hedges but their distribution in individual sections of abstracts. The genre of abstracts is not strictly segmented into sections but generally writers should include an introductory part, describe methodology, comment on results of their investigations and mention conclusions. Research findings revealed that the incidence of hedges across different sections of abstracts in the Native corpus is distinct from the Non-native corpus. These differences concern the Introduction, the Results and the Conclusion. Hedging expressions are very rare in the Methods in both corpora. It can be assumed that writers describe their methodologies and materials in a rather straightforward way as only 6 instances occurred in the Non-native corpus whereas not a single example was identified in the Native corpus. Non-native writers hedged propositions when describing the methodology

of their research in this section of abstracts. These findings may be connected with the specific and matter-of-fact content of the particular sections.

Unlike in the Non-native corpus, hedging expressions were predominately used by native writers in the Introduction and the Conclusion. Mitigating devices were employed especially when introducing research topics, mentioning findings of other researches, stating aims and hypotheses, drawing conclusions, interpreting and commenting on research findings and describing discussion points of the article. On the other hand in the Non-native corpus, hedges were prevailing in the Result section. Writers were hedging statements mainly when presenting and comparing results.

The findings of this study show that the distribution of hedges in different sections of abstracts does not influence their form and function as the data regarding the two aspects are more or less analogous in both corpora. Nevertheless, the form of hedges may influence their function. Specifically, writer-oriented and reliability hedges can be determined by their morpho-syntactic features such as passive voice, their occurrence with impersonal active constructions or personal pronouns.

All in all, it can be proposed that the differences in distribution of hedges in particular sections of abstracts written by native and non-native speaker researchers are probably not caused by the structure of abstracts but by the fact that the writers skip some of the sections completely. In other words, the writers simply do not present propositions dealing with introduction, methods, results or conclusion and thus cannot hedge them. Moreover, other reasons might include writers' intentions and their individual styles of writing.

I believe that hedging is an inherent part of academic writing and a frequently occurring phenomenon in abstract discourse. However, the results of this study are not indisputable as all conclusions are only mere suggestions. Further investigations and wider approaches to hedges would be necessary in order to provide a deeper insight into the subject matter.

12 Resumé

Tato diplomová práce zkoumá užití atenuačních prostředků v abstraktech odborných článků, konkrétně v časopisech *English for Specific Purposes* a *International Journal of American Linguistics*. Cílem práce je prostudovat formu, funkci a frekvenci výskytu jazykových prostředků atenuace a porovnat jejich užití rodilými a nerodilými mluvčími anglického jazyka.

Práce je rozdělena na teoretickou a analytickou část. Teoretická část práce nejprve na základě odborné literatury vymezuje pojem atenuace z několika pragmatických pohledů. Odborníci nemají na atenuaci jednotný náhled, neboť je to velmi rozmanitý koncept a může zahrnovat různé pragmatické teorie a strategie. Z tohoto důvodu se teoretická část věnuje i několika pragmatickým teoriím, jako zdvořilostní teorii, konverzačním zásadám kooperativního principu nebo pragmatické vágnosti, což pomáhá pochopit různé perspektivy vnímání atenuace.

Zdvořilostní teorie je založená na principu zachování/ohrožení tváře a podle toho pak atenuace představuje možnost, jak se vyhnout konfliktu (Brownová a Levinson, 1987). Grice uvádí čtyři konverzační zásady, které napomáhají ke splnění základních podmínek komunikace a regulují řečovou interakci mezi účastníky diskuze (v Brownové a Levinsonovi 1987, 164; Urbanové 2002, 40-41). Právě užitím atenuačních prostředků jsou konverzační zásady limitovány a pomáhají mluvčím vyjádřit předpoklady a domněnky spíše než jistá tvrzení. Záměrná vágnost výpovědi je často spojována s negativní zdvořilostí, jelikož pomáhá vyhnout se kritice či nesouhlasu a tím vede k atenuaci. Nicméně většina lingvistů se shodne na tom, že atenuace je prostředek, který modifikuje ilokuční sílu výpovědi tak, že zeslabuje jistotu tvrzení, např. pokud si výpovědí nejsme jistí, potřebujeme si zachovat tvář nebo nechceme ohrozit tvář čtenářů.

Zeslabování jistoty tvrzení je velmi úzce spjato s jistotní, neboli epistemickou modalitou, které je věnována podstatná část teoretické části. Epistemickou modalitou se rozumí míra jistoty nebo přesvědčení autora o pravdivosti jeho výroku. Atenuace tudíž představuje nejistotu či váhavost výpovědi, která je velmi často vyjádřena různými epistemickými prostředky. Hyland navrhuje formální klasifikaci atenuace dle slovních druhů a rozeznává formu epistemických modálních sloves, epistemických lexikálních sloves, epistemických přídavných a podstatných jmen a epistemických příslovcí (Hyland 1995). Dále pro účely analýzy byla převzata od Hylanda i funkční klasifikace prostředků na reliabilitní, atribuční, zaměřené na autora a čtenáře. Reliabilitní atenuace může být spojována

s neurčitostí, nejistotou a „mlhavostí" výpovědí. Atenuace zaměřená na autora má důležitou depersonalizační funkci, neboť snižuje autorovu zodpovědnost za vyjádřené tvrzení. Atenuace zaměřená na čtenáře, nejen oslabuje rozhodné tvrzení, ale i zahrnuje čtenáře do diskuze a tím napomáhá k lepšímu vztahu mezi ním a autorem. Atribuční atenuace hodnotí a oslabuje vztah mezi předpokládanými a reálnými výsledky.

Vzhledem k tomu, že jsou atenuační prostředky zkoumány v psaném odborném diskurzu, teoretická část také vymezuje akademický styl a žánr abstraktu odborných článků. Struktura abstraktů hraje důležitou roli při porovnávání textů rodilých a nerodilých mluvčí. Abstrakty jsou většinou rozděleny na čtyři části, které popisují úvod, metodiku, výsledky výzkumů a diskutují závěry.

Analytická část je následně zaměřena na pragmatický a morfo-syntaktický rozbor nashromážděných dvou set výskytů atenuačních prostředků a cílí na identifikaci jejich formy, funkce a zmapování kontextu výskytů. Dalším záměrem analytické části je porovnání korpusů obsahující zmíněné aspekty atenuace v abstraktech od rodilých a nerodilých mluvčích. Oba korpusy nejsou velikostně stejné. Atenuace je častější strategií užívanou nerodilými mluvčími než rodilými, a tudíž bylo zanalyzováno pouze 95 abstraktů od nerodilých autorů, kdežto 164 abstraktů od rodilých autorů. Nicméně atenuace byla identifikována ve 45% „nerodilých" abstraktů a ve 30% „rodilých" abstraktů. Témata odborných článků byla vybírána náhodně, jediným požadavkem bylo, aby se články zabývaly humanitními vědami, jako například syntaxí, fonetikou a fonologií, pragmatikou, stylistikou a didaktikou anglického jazyka. Analýza je rozdělena do tří hlavních částí – první část se zabývá formálním a funkčním rozborem a distribucí atenuace v abstraktech nerodilých mluvčích, druhá část se zabývá stejnými aspekty, avšak hodnotí abstrakty rodilých mluvčích a třetí část je zaměřena na porovnání výsledků obou korpusů.

Co se týče formy atenuačních prostředků, nebyly nalezeny žádné významné rozdíly mezi korpusy. Autoři nejčastěji uplatňují epistemická lexikální (46% výskytu) a modální (30% výskytu) slovesa, aby oslabili význam výpovědi. Epistemická přídavná jména a příslovce jsou méně častou formou atenuace (kolem 10% výskytu) a podstatná jména se vyskytují spíše vzácně (3%). Nicméně bylo zjištěno, že rodilí mluvčí používají více druhů epistemických sloves a příslovcí, což poukazuje na jejich rozmanitější slovní zásobu. Avšak vzhledem k jejich jazykovému původu toto zjištění není překvapivé.

Dále bylo vyzkoumáno, že funkce prostředků se v obou korpusech také více méně neliší. Nejvíce prostředků atenuace zastává reliabilitní funkci (91,5%), atenuace zaměřená na autora se vyskytuje v 27%, atribuční funkci plní 8% prostředků a atenuace zaměřená na

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čtenáře je nejméně častou funkcí (pouze 5%). Nejčastější formou atenuace představující reliabilitní funkci jsou lexikální a modální slovesa v aktivním rodu, přídavná jména a příslovce. Atenuace zaměřená na autora byla nejčastěji identifikována ve formě lexikálních a modálních sloves v trpném rodě bez vyjádřeného činitele, nebo v aktivních konstrukcích, kde byl životný podmět nahrazen neživotným subjektem. Atenuace zaměřená na čtenáře byla rozpoznána díky podmětům vyjádřených osobními nebo přivlastňovacími zájmeny. Pro atribuční atenuaci byly zvláště charakteristické příslovce frekvence.

Největší rozdíly mezi oběma korpusy byly odhaleny v distribuci atenuace v jednotlivých částech abstraktů. V textech od rodilých mluvčích převládala atenuace v úvodu a závěru, kdežto nerodilí mluvčí nejčastěji oslabovali sílu výpovědi při popisování výsledků. Je nezbytné upozornit, že hranice jednotlivých úseků abstraktů nejsou pevně stanoveny a odděleny, tudíž je bylo velmi obtížné rozpoznat. Někteří autoři, zvláště rodilí mluvčí, se v několika případech rozhodli vynechat nejednu z částí abstraktu a vyjadřovali se převážně k uvedení jejich výzkumného tématu.

V úvodní části, ve které byla atenuace použita ve 45% všech výskytů, se autoři nejčastěji zabývali představením tématu, zmiňovali výsledky výzkumů jiných výzkumníků či představovali cíle a hypotézy jejich výzkumů. 28% atenuace bylo zaznamenáno v části *Výsledky*, kde autoři prezentovali a porovnávali výsledky setření. V *Závěrech* se atenuace vyskytla v 24%, zejména při vyvozování závěrů, interpretaci výsledků výzkumů, porovnávání dat s jinými zjištěními v oboru a poukazování na další témata diskutovaná v článku. Autoři se velmi zřídka vyjadřovali k metodice jejich práce, a proto i počet prostředků atenuace v této části abstraktu je zanedbatelný (pouze 3% výskytu).

Dále bylo prokázáno, že distribuce atenuace v jednotlivých částech abstraktů nemá vliv na funkci prostředků. Jinými slovy, reliabilitní funkce atenuace je nejvíce zastoupena ve všech částech abstraktů a nejméně výraznou funkcí je atribuční a také zaměřená na čtenáře.

Jedním z důvodů pro výrazné rozdíly v distribuci prostředků v korpusech může být chápání obsahu abstraktu, tedy co by měli autoři okomentovat a jaké informace zahrnout. Jak již bylo zmíněno, na rozdíl od nerodilých mluvčích se rodilí velmi často nevyjadřovali ke všem čtyřem částem, a tudíž neposkytovali prostor pro atenuační prostředky. Další důvody mohou zahrnovat kulturní a jazyková specifika, která se pravděpodobně odrážejí v jejich akademickém stylu psaní. Předpokládám, že pro rodilé mluvčí je užívání atenuace činnost, nad kterou tolik vědomě nepřemýšlejí. Naopak nerodilí mluvčí byli pravděpodobně naučeni k používání takových prostředků, kterými potřebují vyjádřit nejistotu v akademickém stylu, a tak jsou si více vědomi důležitosti začlenění v jejich projevech. V neposlední řadě hraje

velkou roli autorův individuální styl psaní a jeho záměry při prezentování tvrzení. Nicméně je důležité brát v potaz, že tyto navržené důvody pro odlišnou distribuci atenuace jsou pouhými spekulacemi a nemohou být brány jako všeobecné závěry.

Závěrem bych ráda dodala, že z výzkumu vyplývá, že je atenuace poměrně častou strategií v žánru abstraktu (objevuje se ve 36% zkoumaného vzorku). Avšak výsledky této studie jsou odvozeny z malého vzorku příkladů a další šetření se širším záběrem je nezbytné pro hlubší nahlédnutí a porozumění zkoumaného fenoménu.

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14 Appendix 1

In the Appendices, all assembled instances of hedging devices marked in bold are listed in two sub-corpora. The first sub-corpus lists all propositions containing hedges highlighted in bold and structured into four sections (Introduction, Methods, Results, Conclusion) according to their occurrence. The second sub-corpus provides contextualized hedges in whole abstracts where highlighted devices are followed by letters in brackets referring to individual sections of abstracts. Each token of hedging is followed by abbreviations of its formal and functional classifications in brackets (see List of Abbreviations). Appendix 1 contains hedges employed in abstracts written by non-native speaker researchers and Appendix 2 includes hedges used by native speaker researchers.

List of Abbreviations
Form:
ModV – modal verb
LexV – lexical verb
N – noun
Adj – adjective
Adv – adverb
Function:
WO – writer-oriented hedges
R – reliability hedges
RO – reader-oriented hedges
A – attribute hedges
Abstract sections:
I – introduction
M – methodology
R – results
C - conclusion

14.1 Non-native Corpus 1

14.1.1 The Introduction Section:

1. Pre-service teacher education courses on subjects such as Biology, Geography or Spanish **may (ModV; R)** include ESP in their curricula.
2. **Few (Adj; A)** studies to date have investigated the role of publication context in shaping academic writers' linguistic choices in establishing authorial identity in different writing cultures.
3. However, questions still remain as to whether learner characteristics and any characteristics they have in common **may (ModV; R)** need to be considered in ESP genre-based pedagogy.

4. After reviewing the notion of positioning and its relevance in professional discourse analysis, we explore the hypothesis that English users not only adopt an L2 voice, as one **might (ModV; R)** expect but, also, professional and corporate voices respectively defined by how professionals appraise situations according to the field of activities in which they are engaged and by the strategic choices made by the companies in which the exchanges occur.

5. In business English, many research-informed teaching ideas **have been suggested (LexV; R)**, but the effects of these ideas have rarely been investigated.

6. In business English, many research-informed teaching ideas have been suggested, but the effects of these ideas have **rarely (Adv; A)** been investigated.

7. This article provides a move analysis of the student laboratory report, a genre which is central to science and engineering study, and to which students **may (ModV; R)** have had little prior exposure.

8. Unlike most previous MS studies, which **have tended (LexV; R)** to look for a single unified MS model to represent the discipline under investigation and have provided post hoc explanations of intra-disciplinary variability, this study set out to examine how MSs of RAs in IS may vary with the epistemological paradigms they follow.

9. Unlike most previous MS studies, which have tended to look for a single unified MS model to represent the discipline under investigation and have provided post hoc explanations of intra-disciplinary variability, this study set out to examine how MSs of RAs in IS **may (ModV; R)** vary with the epistemological paradigms they follow.

10. In this paper, I argue that words chosen for an explicit classroom focus should be words that students are **likely (Adj; R)** to have problems dealing with autonomously, and that these are polysemous words where the meaning required is not the usual meaning; in other words, opaque words.

11. It is contended that while all legal texts share some similarities, such as precision and inclusiveness, each variety **may (ModV; R)** have its own peculiarities in linguistic features and illocutionary acts.

12. However, the research on cultural identity **has** for a long time **tended (LexV; R)** either to essentialize cultural identity as being unified, permanent, and bounded to and by national culture or to romanticize it as readily selectable.

13. Amongst these, research into the effects of EMI on students' disciplinary knowledge is of great importance and **should (ModV; R/WO) be regarded** as crucial so that HEIs offer the same possibilities for student construction of knowledge, irrespective of the language used.

14. Grounded in sociocultural perspectives on language and learning, this study explores a recurring discourse event—student-led presentations in a US Grade 5 Science classroom—in order to better understand how discursive practices of a classroom **might (ModV; R)** shape and challenge the learning experience of ESL learners.

15. The question of whether to include voice in an ESP program in Japanese tertiary contexts **may (ModV; R/WO) be** further **complicated** by both lack of available classroom time and falling English proficiency levels of incoming students.

16. However, in largely post-industrial communities, the growth of museums and galleries (as well as the corresponding increase in museum studies programs) **suggests (LexV; R)** that humanities texts in this sector might now warrant attention.

17. However, in largely post-industrial communities, the growth of museums and galleries (as well as the corresponding increase in museum studies programs) suggests that humanities texts in this sector **might (ModV; R)** now warrant attention.

18. An intercultural rhetoric framework **suggests (LexV; R)** that we need to view English writing as a local practice in which students appropriate resources from various "small cultures" (Holliday, 1999).

19. Following the theory which **suggests (LexV; R)** that critical thinkers are problem solvers, it was hypothesized that better critical thinkers might be better able to cope with unfamiliar terms.

20. Following the theory which suggests that critical thinkers are problem solvers, it was hypothesized that better critical thinkers **might (LexV; R)** be better able to cope with unfamiliar terms.

21. **Little (Adj; A)** attention has been paid so far to keywords and lexical bundles used in the English language typical of the pharmaceutical field.

22. Lexical profiling research **has indicated (LexV; R)** the vocabulary sizes that may be necessary to comprehend different spoken and written text types.

23. Lexical profiling research has indicated the vocabulary sizes that **may (ModV; R)** be necessary to comprehend different spoken and written text types.

24. These figures are based on studies of lexical coverage that have **indicated (LexV; R)** that comprehension is likely to rise as the number of known words in a text increases (e.g., Laufer, 1989).

25. These figures are based on studies of lexical coverage that have indicated that comprehension is **likely (Adj; R)** to rise as the number of known words in a text increases (e.g., Laufer, 1989).

26. Given the acceptance of other digital technology for teaching and learning, it **seems (LexV; R/WO)** likely that machine translation will become a tool students will rely on to complete their assignments in a second language.

27. Given the acceptance of other digital technology for teaching and learning, it seems **likely (Adv; R)** that machine translation will become a tool students will rely on to complete their assignments in a second language.

14.1.2 The Methodology Section:

28. These genres were chosen due to the role they **potentially (Adv; R)** play in international higher education law studies, with the corpus deriving from the legal jurisdiction of the United States.

29. The present study develops a functional classification in order to investigate what factors **may (ModV; R)** affect the differences in use of the pattern across different groups of students.

30. While there are many features that reflect and realize evaluation, adjectives are the focus of this inquiry because their overt evaluative quality makes them an accessible item to extract and analyze with basic corpus techniques which **could (ModV; R/WO) be taught** and applied within a classroom setting.

31. To help determine how the feedback data **may (ModV; R)** be unique, comparisons were made to previous studies investigating metadiscourse in other types of academic discourse, both written (university student proficient L1 writing and university student L2 writing) and spoken (university lectures).

32. Our paper duly examines the impact that EMI **may (ModV; R)** have on student academic performance when compared to their counterparts' in their L1 (Spanish).

33. A frequency and range-based nursing academic word list including 676 word families, which accounts for **approximately (Adv; A)** 13.64% of the coverage in the NRAC under study, was produced to provide a useful academic word pool for non-native English learners who need to read and publish nursing articles in English.

14.1.3 The Results Section:

34. This description of how experienced tutors support their trainees' vocabulary acquisition is **likely (Adj; R)** to be of value to new and experienced tutors in trades teaching and beyond.

35. In contrast to Turkish and NSE scholars publishing in international journals, Turkish writers publishing in Turkish national journals **tended (LexV; R)** to avoid using first person pronouns and displaying an overt authorial presence in their RAs.

36. The findings revealed the **likely (Adj; R)** significance of the publication context in the discoursal choices of academic writers.

37. By contrast, ability grouping **did not appear (LexV; R)** to be beneficial for more proficient learners.

38. Results **indicate (LexV; R/WO)** that patterns of use of epistemic lexical verb hedges can be identified for each genre and can be linked to differing communicative purposes.

39. Results indicate that patterns of use of epistemic lexical verb hedges **can (ModV; R/WO) be identified** for each genre and can be linked to differing communicative purposes.

40. Results indicate that patterns of use of epistemic lexical verb hedges can be identified for each genre and **can (ModV; R/WO) be linked** to differing communicative purposes.

41. Popular science writers are more inclined to use this focus construction and **tend (LexV; R)** to be more explicit in making evaluations than are professional science writers. In popular science articles, shell nouns express more epistemic certainty, news-worthiness, and subjectivity, whereas in research articles these nouns express more tentativeness, objectivity, and scientific rationality.

42. These findings **suggest (LexV; R/WO)** that, in terms of exposure to technical vocabulary, science fiction-fantasy could serve as a bridge resource for second-language learners studying or prespecializing in the Sciences.

43. These findings suggest that, in terms of exposure to technical vocabulary, science fiction-fantasy **could (ModV; R)** serve as a bridge resource for second-language learners studying or prespecializing in the Sciences.

44. The results show that there were differences across all three parameters, **suggesting (LexV; R)** that these variables are all important to take into account in studies of this kind.

45. For example, the non-native-speaker students exhibited an uneven command of the subtleties of the pattern, leading to problems with certain functional categories, such as attitude markers (e.g. it is surprising that) and hedges (e.g. it seems that), which **indicates (LexV; R)** that this would be a fruitful area to focus on in second language instruction.

46. The results show that there were differences across all three parameters, suggesting that these variables are all important to take into account in studies of this kind. For example, the non-native-speaker students exhibited an uneven command of the subtleties of the pattern, leading to problems with certain functional categories, such as attitude markers (e.g. it is surprising that) and hedges (e.g. it seems that), which indicates that this **would (ModV; R)** be a fruitful area to focus on in second language instruction.

47. The findings also highlight the **probability (N; R)** that, in highly specialized disciplines, speakers' language backgrounds would impact the ease or difficulty of acquiring discipline-specific terminology.

48. The findings also highlight the probability that, in highly specialized disciplines, speakers' language backgrounds **would (ModV; R)** impact the ease or difficulty of acquiring discipline-specific terminology.

49. The two learner characteristics **suggest (LexV; R)** potential challenges for how students respond to EAP instruction and tasks, which in turn have pedagogical implications for genre-focused EAP writing classes.

50. The two learner characteristics suggest **potential (Adj; R)** challenges for how students respond to EAP instruction and tasks, which in turn have pedagogical implications for genre-focused EAP writing classes.

51. The results **suggest (LexV; R/WO)** convergence of intended and actual uses of TOEPAS results, though the alignment of the expected outcomes and the actual consequences was not complete, especially in relation to the uses of the formative feedback.

52. Our findings are based on the quantitative and qualitative analysis of a set of features which **are believed (LexV; R/WO)** to either "include" or "exclude" the other participants' voices.

53. The study shows that **most (N-determiner; A)** of the learners found learning from transcripts interesting and useful and that some learners demonstrated their awareness of politeness strategies and interpersonal language in the final role-play of the course.

54. Our findings **indicate (LexV; R/RO)** that professional reports exhibit a narrower set of linguistic devices than used by student writers, who tend to use a much wider range of the four stance feature types analysed for discussion of both others' and their own personal stance, both across whole texts and by section.

55. Our findings indicate that professional reports exhibit a narrower set of linguistic devices than used by student writers, who **tend (LexV; R)** to use a much wider range of the four stance feature types analysed for discussion of both others' and their own personal stance, both across whole texts and by section.

56. The results also **suggest (LexV; R/WO)** that a strategic use of vague language can achieve several communicative purposes of legislative texts, for example, to extend applicability of legal terms, to provide flexibility in fulfilling obligations and exercising power, and to mitigate potential problems.

57. The results also suggest that a strategic use of vague language **can (ModV; R)** achieve several communicative purposes of legislative texts, for example, to extend applicability of legal terms, to provide flexibility in fulfilling obligations and exercising power, and to mitigate potential problems.

58. While the students **seemed (LexV; R)** able to exercise agency in an attempt to claim ownership of Anglophone discourse in writing requests, they were unable to resist or undo the cultural stereotypes that make them feel culturally inferior.

59. These results **may (ModV; R)** be relevant for other EMI contexts, the business education community and ESP course developers in general.

60. In general, it was found that what can be defined as active strategies, such as clarification, repetition and direct questioning, were more successful in achieving effective communication from a transactional perspective, while passive strategies, such as ignoring unknown language produced by an interlocutor in the expectation that it would either become clear or redundant, were more **likely (Adj; R)** to lead to ambiguity and misunderstanding.

61. Overall, levels of use of AVL items are high, and increase as students progress through the years of undergraduate and taught postgraduate study, **suggesting (LexV; R)** that it may be a useful resource.

62. Overall, levels of use of AVL items are high, and increase as students progress through the years of undergraduate and taught postgraduate study, suggesting that it **may (ModV; R)** be a useful resource.

63. While the former is **relatively (Adv; R/A) minor (Adj; A)**, the latter is extensive, suggesting the list is more relevant to some student writers than others.

64. While the former is relatively minor, the latter is extensive, **suggesting (LexV; R)** the list is more relevant to some student writers than others.

65. An analysis by items **indicates (LexV; R)** that around half of the words on the list are used very little.

66. This **suggests (LexV; R)** that a generic productive academic vocabulary does exist, but that it is smaller in scope than the full Academic Vocabulary List.

67. In relation to writing pedagogy, these findings **suggest (LexV; R/WO)** the need for novice writers to develop awareness of the use of these important textual elements to formulate critical statements and to develop the ability to incorporate them into their own writing.

68. Analysis **suggests (LexV; R)** that rather than representing a clear distinction between general and specific reference, these linguistic features indexically reference and blend various "mental spaces" that are necessary for common law argumentation.

69. An analysis of the organization of the commentary section of manuscript reviews **indicates (LexV; R)** that "major revision" reviews are characterized by discourse units with the function of recommendation while "reject" reviews tend to foreground discourse units with the function of negative evaluation.

70. An analysis of the organization of the commentary section of manuscript reviews indicates that "major revision" reviews are characterized by discourse units with the function of recommendation while "reject" reviews **tend (LexV; R)** to foreground discourse units with the function of negative evaluation.

71. Close analysis of the data **suggests (LexV; R)** that coordinated instruction in the metaphorical underpinnings of different aspects of grammatical voice may better inform the teaching of voice in the English for Computer Science writing syllabus.

72. Close analysis of the data suggests that coordinated instruction in the metaphorical underpinnings of different aspects of grammatical voice **may (ModV; R)** better inform the teaching of voice in the English for Computer Science writing syllabus.

73. In this case study of a small corpus of one-page accounts of pictures, analysis shows that the interpretations are **rarely (Adv; A)** organized in a general-specific or specific-general manner, but rather oscillate between reference to the micro image and the broader context, as in this 26-sentence example: […]

74. The results of this study **indicated (LexV; R/WO)** a stronger relationship between the CCTST and the MC test of unfamiliar terms, supporting the researcher's hypothesis.

75. National writing styles, discipline conventions and language barriers to effective interpersonal communication **seem (LexV; R)** to have an influence on these writers.

76. The findings further **suggest (LexV; R/WO)** that the use of specific clusters strongly manifests, and is conditioned by, the research article genre.

77. These findings **indicate (LexV; R/WO)** that medical RA writers tend to make claims mainly in a tentative, reserved and objective way.

78. These findings indicate that medical RA writers **tend (LexV; R)** to make claims mainly in a tentative, reserved and objective way.

79. The results **indicated (LexV; R/WO)** that there was large variation between the lexical profiles of the texts. At the 1000 word frequency level, there were differences ranging from 15.22% to 20.05% coverage between the most and least lexical demanding passages in the three parts of the test.

80. The results **indicated (LexV; R/WO)** that there was either no correlation or a small correlation in all comparisons.

81. The findings **suggest (LexV; R/WO)** that it is necessary to generate field-specific academic word lists for EFL nursing students to strengthen their academic reading and writing proficiency.

82. Findings of the comparative analysis **suggest (LexV; R/WO)** that these aspects of teaching and learning influence teachers' use of metadiscourse in significant ways.

83. EAP teachers **seem (LexV; R)** to be more concerned with explicitly framing the discourse primarily to set up classroom tasks and engendering greater student involvement and participation.

14.1.4 The Conclusion Section:

84. **Possible (Adj; R)** reasons for these findings are discussed, including organizational and instructional features of the program of study the students were taking, and the likely effects of ability grouping on students' academic self-concept.

85. Possible reasons for these findings are discussed, including organizational and instructional features of the program of study the students were taking, and the **likely (Adj; R)** effects of ability grouping on students' academic self-concept.

86. **Potential (Adj; R)** lexical gains, as well as both practical and theoretical implications, are discussed.

87. With **little (Adj; A)** noticeable variation and numerous learning affordances, a pedagogically-downsized specialized corpus can be easily compiled, analyzed, and implemented in EBP and other ESP contexts.

88. With little noticeable variation and numerous learning affordances, a pedagogically-downsized specialized corpus **can (ModV; R/WO) be** easily **compiled**, analyzed, and implemented in EBP and other ESP contexts.

89. The findings are **potentially (Adv; R)** useful to teachers of science writing.

90. This article concludes that vague use **should (ModV; R/WO) be considered** as one of the specialised communicative strategies for drafting legislative texts, and explicit instructions on such a strategy may help develop legislative draftsmen's communicative competence.

91. This article concludes that vague use should be considered as one of the specialised communicative strategies for drafting legislative texts, and explicit instructions on such a strategy **may (ModV; R)** help develop legislative draftsmen's communicative competence.

92. The article concludes that there **may (ModV; R)** be a need for critical reflection on the ESP courses that are currently provided in the Hong Kong context.

93. The study concludes that the identification of emotion terms for a conceptual metaphor analysis **can (ModV; R/WO) be** more effectively **carried out** by combining the methods of corpus linguistics, semantic annotation and Metaphor Identification Procedure.

94. The study **suggests (LexV; R/WO)** important pedagogical implications for both ESP teachers and members of the financial services profession.

95. I **suggest (LexV; R/RO)** that sub-categories for heterogeneous genres with multiple communicative purposes could be established through use of the centrality of a particular purpose.
96. I suggest that sub-categories for heterogeneous genres with multiple communicative purposes **could (ModV; R/WO) be established** through use of the centrality of a particular purpose.
97. We draw on the distinction between the pragmalinguistic and sociopragmatic aspects of the inter-professional context to illuminate the different areas of communication that **might (ModV; R/WO) be tackled** explicitly and systematically as part of IMG preparation for practice in Australia.
98. In this way we illustrate how discourse data can contribute to an evidence base from which principled approaches to communication training for IMGs **may (ModV; R/WO) be developed**.
99. The findings of the study **may (ModV; R)** help non-native medical RA writers to produce more acceptable medical RAs.
100. The results of this study **may (ModV; R)** be useful in ENP course development and future research on the English language use of nurses and other health-care workers in Taiwan and other countries where English is learned primarily as a foreign language.

14.2 Non-native corpus 2

1. *'We learn as we go': How acquisition of a technical vocabulary is supported during vocational training* by Emma McLaughlin, Jean Parkinson

This study provides insights into language development in a trades training context in New Zealand. Its key focus is to identify how the acquisition of the specialised words is supported in a primarily practical training environment. Transcribed recordings of 16.5 h of talk on a building site and in theory classrooms, along with interviews with tutors and learners, were analysed to explore the extent and nature of episodes where attention is drawn to the specialised terms and provide insight into strategies for and beliefs about learning these new words. Findings show that both tutors and learners do draw attention to the language they are using, primarily the meanings associated with new forms, mainly through tutor-talk and tutor-learner interaction. This description of how experienced tutors support their trainees' vocabulary acquisition is **likely (R)** to be of value to new and experienced tutors in trades teaching and beyond.

2. *Learning subject-specific content through ESP in a Geography teaching programme: An action research story in Argentina* by Darío Luis Banegas

Pre-service teacher education courses on subjects such as Biology, Geography or Spanish **may (I)** include ESP in their curricula. ESP can be taught with a view to reinforcing content and language integrated learning (CLIL). The purpose of this study is to understand how CLIL and ESP can complement each other. In an initial Geography teacher education programme in southern Argentina, a group of student-teachers felt unmotivated to learn English as a foreign language because they perceived their lack of subject matter knowledge in Geography as a higher priority. Instead, they demanded more Geography-related coursework. In this research setting, English language-learning motivation, authenticity and identity played a crucial role. Through action research, the group of student-teachers and their

tutor examined and implemented practices during the course of one academic year. Data were collected by means of a questionnaire, diaries and interviews. Results show that the use of authentic materials, a focus on subject matter knowledge and language awareness-based activities had a positive impact on student-teachers' trajectories as future teachers and foreign language learners.

3. *Authorial identity in Turkish language and English language research articles in Sociology: The role of publication context in academic writers' discourse choices* by Elvan Eda Işık-Taş

Few (I) studies to date have investigated the role of publication context in shaping academic writers' linguistic choices in establishing authorial identity in different writing cultures. This study explores how authorial identity is represented through first person pronouns in 130 Sociology research articles (RAs) in Turkish and in English published in national and international journals. Both corpus-based and interview-based analyses were employed. Three sub-corpora were analyzed: (1) Turkish writers' Turkish RAs in national journals, (2) Turkish writers' English RAs in mainstream international journals, and (3) Native Speaker (NSE) writers' English RAs in mainstream international journals. The findings revealed extensive similarities in the frequency and discourse functions of first person pronouns in English RAs written by NSE and Turkish scholars in mainstream international journals. Both groups utilized first person pronouns in high-risk functions, such as expressing an opinion, to front a powerful authorial identity. In contrast to Turkish and NSE scholars publishing in international journals, Turkish writers publishing in Turkish national journals **tended (R)** to avoid using first person pronouns and displaying an overt authorial presence in their RAs. The findings revealed the **likely (R)** significance of the publication context in the discoursal choices of academic writers.

4. *Is ability grouping beneficial or detrimental to Japanese ESP students' English language proficiency development?* by Chris Sheppard, Emmanuel Manalo, Marcus Henning

This study investigated whether ability grouping was beneficial to Japanese university science and engineering students who had taken compulsory ESP (English for specific purposes) courses. By examining the change in their standardized general proficiency test scores (using the Test of English for International Communication or TOEIC) and using data from across six years of enrollment (a cohort of 13,000 students), the performance of students who had been placed into a broader band of English ability (i.e., less similar language proficiency) was compared with the performance of students who had been placed into a narrower band (i.e., more similar language proficiency). Findings showed that ability grouping benefited less proficient learners. By contrast, ability grouping **did not appear (R)** to be beneficial for more proficient learners. **Possible (C)** reasons for these findings are discussed, including organizational and instructional features of the program of study the students were taking, and the **likely (C)** effects of ability grouping on students' academic self-concept.

5. *Lexical verb hedging in legal discourse: The case of law journal articles and Supreme Court majority and dissenting opinions* by Holly Vass

Hedging can play a particularly important role in nuancing language in such language-dependent disciplines as law. This article presents a corpus-based study of the use of epistemic lexical verbs as hedging devices in three written legal genres: The law journal

article, the Supreme Court majority opinion and the Supreme Court dissenting opinion. These genres were chosen due to the role they **potentially (M)** play in international higher education law studies, with the corpus deriving from the legal jurisdiction of the United States. Realization, frequency and function of speculative, quotative, sensorial and deductive lexical verb hedges are compared. Results **indicate (R)** that patterns of use of epistemic lexical verb hedges **can (R) be identified** for each genre and **can (R) be linked** to differing communicative purposes. The article concludes that better understanding of hedging use in different genres can enhance hedging competence, especially hedging interpretation skills.

6. *A genre-based study of shell-noun use in the N-be-that construction in popular and professional science articles* by Qingrong Liu, Liming Deng

This article investigates the N-be-that construction in popular and professional science articles with a focus on shell nouns. This examination of shell-noun use in two corpora, one consisting of popular science articles and the other of research articles, reveals the preferred ways of evaluation in these two genres. The study shows that, despite the overall similarity in semantic distribution, there are distinct variations in shell-noun use between the two genres. Popular science writers are more inclined to use this focus construction and **tend (R)** to be more explicit in making evaluations than are professional science writers. In popular science articles, shell nouns express more epistemic certainty, news-worthiness, and subjectivity, whereas in research articles these nouns express more tentativeness, objectivity, and scientific rationality. This comparative study further expands current understanding of the evaluative functions of shell-noun use and can also help cultivate writers' genre awareness.

7. *Science-specific technical vocabulary in science fiction-fantasy texts: A case for 'language through literature'* by Heather Rolls, Michael P.H. Rodgers

This study investigated the lexical coverage and frequency of occurrence of 318 common science-specific technical word families in a corpus of science fiction-fantasy texts in order to determine the potential for science fiction-fantasy literature to be a resource for incidental technical vocabulary acquisition. Coverage of the word list in the science fiction-fantasy corpus was found to be 0.50%, which was 46% higher than coverage of the same list in a corpus of fiction texts (0.27%), and 70% lower than coverage of the same list in a corpus of academic science journals (1.68%). These findings **suggest (R)** that, in terms of exposure to technical vocabulary, science fiction-fantasy **could (R)** serve as a bridge resource for second-language learners studying or prespecializing in the Sciences. A frequency analysis revealed that the highest potential for lexical learning occurs at the 500,000-word reading level, at which 21% of science words occurred 10+ times and 83% occurred 1+ times. **Potential (C)** lexical gains, as well as both practical and theoretical implications, are discussed.

8. *A functional classification of the introductory it pattern: Investigating academic writing by non-native-speaker and native-speaker students* by Tove Larsson

The introductory it pattern, as in it is important to remember the differences, is a functionally diverse pattern of great importance to academic discourse. However, previous studies have found that using the pattern in an expert-like manner can prove challenging in particular for non-native-speaker students. The present study develops a functional classification in order to investigate what factors **may (M)** affect the differences in use of the pattern across different groups of students. It maps out the functional distribution of the pattern across three parameters: academic discipline, native-speaker status (non-native-speaker vs. native-speaker

students) and level of achievement (lower-graded vs. higher-graded NNS student texts). The study uses data from three corpora of student writing: ALEC, BAWE and MICUSP. The results show that there were differences across all three parameters, **suggesting (R)** that these variables are all important to take into account in studies of this kind. For example, the non-native-speaker students exhibited an uneven command of the subtleties of the pattern, leading to problems with certain functional categories, such as attitude markers (e.g. it is surprising that) and hedges (e.g. it seems that), which **indicates (R)** that this **would (R)** be a fruitful area to focus on in second language instruction.

9. *The impact of frequency and register on cognate facilitation: Comparing Romanian and Vietnamese speakers on the Vocabulary Levels Test* by Maria Claudia Petrescu, Rena Helms-Park, Vedran Dronjic

The Cognate Facilitation Hypothesis **proposes (I)** that L2 learners register phonetic/orthographic similarities between L1 and L2 lexical items, ascribing L1 meanings to L2 counterparts. This study's purpose was to examine how cognate facilitation varies in degree between frequency and registers (academic versus general). Data were collected from L1 speakers of Romanian or Vietnamese via Schmitt's (2000) Vocabulary Levels Test (VLT), at the 10,000 and Academic levels together with a newly designed VLT comprising extremely low-frequency words. The Romanian group outperformed the Vietnamese one on the cognate-rich Academic level only on account of cognates, but the effect size was moderate and due to dispersion. On the 10,000 level, the Romanian group outperformed the Vietnamese one and once again cognate facilitation was evident only in the Romanian group. However, this time the effect size was large. The same was true in our low-frequency section. Our findings underline the special advantage that cognates bestow on L2 learners in low-frequency bands. For testing, we recommend that performance on cognates and non-cognates be considered separately rather than holistically. The findings also highlight the **probability (R)** that, in highly specialized disciplines, speakers' language backgrounds **would (R)** impact the ease or difficulty of acquiring discipline-specific terminology.

10. *"New opportunities" and "Strong performance": Evaluative adjectives in letters to shareholders and potential for pedagogically-downsized specialized corpora* by Robert Poole

This paper analyzes the use of evaluative adjectives within letters to the shareholders from the top 100 corporations from the 2016 Fortune 500 list. The letter represents an important promotional genre and is published annually to report financial performance while also projecting a vision for future success and continued growth. These influential messages detail and frame institutional vision and strategy as they attempt to maintain relationships with current investors while attracting new ones. This paper adopts Thompson and Hunston's term of evaluation and its definition as "the expression of the speaker or writer's attitude or stance towards, viewpoint on, or feelings about the entities or proposition" (2000, p. 5) as it investigates the semantic classes of evaluative adjectives present in the letters and their function within this ESP genre of interest. While there are many features that reflect and realize evaluation, adjectives are the focus of this inquiry because their overt evaluative quality makes them an accessible item to extract and analyze with basic corpus techniques which **could (M) be taught** and applied within a classroom setting. This paper **reports (C)** the use of evaluative adjectives while also displaying that little salient variation exists between a sub-corpus of only 10 letters and the full corpus collection. With **little (C)** noticeable variation and numerous learning affordances, a pedagogically-downsized

specialized corpus **can (C) be** easily **compiled**, analyzed, and implemented in EBP and other ESP contexts.

11. *Learner characteristics in an EAP thesis-writing class: Looking into students' responses to genre-based instruction and pedagogical tasks* by Wei Wang

The individual differences of learners in genre-focused EAP writing classes, as well as their learning trajectories, have become a subject of focused attention in recent ESP research on the learning of academic genres. However, questions still remain as to whether learner characteristics and any characteristics they have in common **may (I)** need to be considered in ESP genre-based pedagogy. This study examines the characteristics of the students in an EAP thesis preparatory course at a Chinese university. Drawing on data from interviews, participants' process logs, and their written texts in the course, the study identifies two salient learner characteristics that influenced the learning process. One was the students' self-direction in response to the general EAP instruction of thesis writing, a characteristic conditioned by the teacher's role and the pedagogical writing tasks. The second characteristic was the learners' positioning themselves as merely doing assignments when doing thesis-preparation writing tasks, which revealed a potential mismatch between the course goal of increasing students' genre awareness and the pedagogical nature of the EAP writing tasks. The two learner characteristics **suggest (R) potential (R)** challenges for how students respond to EAP instruction and tasks, which in turn have pedagogical implications for genre-focused EAP writing classes.

12. *Life after oral English certification: The consequences of the Test of Oral English Proficiency for Academic Staff for EMI lecturers* by Slobodanka Dimova

Internationalization of higher education has resulted in rapid developments of English-medium instruction (EMI) courses in non-Anglophone countries in Europe and Asia. Due to the growing concerns about lecturers' ability to teach in English, several European universities have implemented policies for internal assessment of lecturers' English proficiency to ensure the quality of teaching in EMI programs. However, research on the measured construct and the reliability and the validity of these assessments remains scarce. Based on interviews with tested university lecturers and formative feedback analysis, this study discusses the consequences resulting from score and feedback interpretations and uses as part of the validation process of TOEPAS (Test of Oral English Proficiency for Academic Staff), which is a performance-based test used for oral English certification of lecturers at the University of Copenhagen. The results **suggest (R)** convergence of intended and actual uses of TOEPAS results, though the alignment of the expected outcomes and the actual consequences was not complete, especially in relation to the uses of the formative feedback. The implications of these findings point to the need for a distributed stakeholder responsibilities regarding result communication, decision-making, and learning.

13. *Inclusivity and exclusivity in English as a Business Lingua Franca: The expression of a professional voice in email communication* by Philippe Millot

In this article, we explore the interpersonal functions of language in the field of English as a Business Lingua Franca. Our study is based on a corpus of 400 emails sent and received by 14 French professionals who use English for both internal and external communication. After reviewing the notion of positioning and its relevance in professional discourse analysis, we explore the hypothesis that English users not only adopt an L2 voice, as one **might (I)** expect

but, also, professional and corporate voices respectively defined by how professionals appraise situations according to the field of activities in which they are engaged and by the strategic choices made by the companies in which the exchanges occur. Our findings are based on the quantitative and qualitative analysis of a set of features which **are believed (R)** to either "include" or "exclude" the other participants' voices.

14. *Investigating a research-informed teaching idea: The use of transcripts of authentic workplace talk in the teaching of spoken business English* by Clarice S.C. Chan

Abstract

In business English, many research-informed teaching ideas **have been suggested (I)**, but the effects of these ideas have **rarely (I)** been investigated. The present paper **seeks (I)** to show the value of pedagogically-oriented research in establishing the validity of novel teaching ideas and identifying ways of dovetailing them with actual teaching situations. The paper investigates the impact of using transcripts of authentic workplace talk in teaching spoken business English, which is an idea advocated by researchers for raising learners' awareness of features of spoken workplace discourse. The study involved two business English courses for university students in Hong Kong. The data sources included questionnaire surveys and samples of learners' language produced during role-plays. The study shows that **most (R)** of the learners found learning from transcripts interesting and useful and that some learners demonstrated their awareness of politeness strategies and interpersonal language in the final role-play of the course. The study also helps to identify some issues in using transcripts as teaching material that need to be tackled to make the learning from transcripts more effective and motivating. Overall, the paper illustrates that pedagogically-oriented research can help to refine research-informed teaching ideas and to strengthen the link between research and pedagogy in business English.

15. *Writing with attitude: Stance expression in learner and professional dentistry research reports* by Peter Crosthwaite, Lisa Cheung, Feng (Kevin) Jiang

Medical students often lack key skills in academic writing, yet good academic writing is often a pre-requisite for employment, promotion and enculturation into the profession. This article focuses on the rhetorical strategies used for the presentation of academic stance by student writers of dentistry research reports. Adopting a contrastive, corpus-based approach, we compare student writing with that of comparable professionally-written research reports for evidence of hedging, boosting, self-mention and attitude markers. Our findings **indicate (R)** that professional reports exhibit a narrower set of linguistic devices than used by student writers, who **tend (R)** to use a much wider range of the four stance feature types analysed for discussion of both others' and their own personal stance, both across whole texts and by section. We discuss pedagogical implications for ESP professionals working to more closely align student writing with that of professional norms.

16. *The student laboratory report genre: A genre analysis* by Jean Parkinson

This article provides a move analysis of the student laboratory report, a genre which is central to science and engineering study, and to which students **may (I)** have had little prior exposure. Using a data set of 60 highly-graded laboratory reports from the BAWE corpus (British Academic Writing in English, Gardner & Nesi, 2013), moves are described, together with typical linguistic features. Laboratory report moves are compared with moves previously identified in empirical research articles (RAs), a genre which has the same macrostructure and also presents experimental findings. The different writer-reader relationships and different

purposes in these genres (pedagogical in the laboratory report, and presenting new research in RAs) result in some significant differences in the realization of moves. The findings are **potentially (C)** useful to teachers of science writing.

17. *A cross-paradigm macro-structure analysis of research articles in Information Systems* by Becky S.C. Kwan

The study presented in this paper examined the macro-structures (MSs) of research articles (RAs) in Information Systems (IS). Unlike most previous MS studies, which **have tended (I)** to look for a single unified MS model to represent the discipline under investigation and have provided post hoc explanations of intra-disciplinary variability, this study set out to examine how MSs of RAs in IS **may (I)** vary with the epistemological paradigms they follow. Thirty articles of behavioural science research and thirty design science research articles were collected from eight IS journals. Their main sections were subjected to a series of analyses. Results show distinct macro-structural variations across the two corpora. Implications for teaching and future research of MS will be discussed.

18. *An opaque engineering word list: Which words should a teacher focus on?* by Richard Watson Todd

Word lists have become influential in the last twenty years, but do not help teachers identify which words to explicitly focus on in the classroom. In this paper, I argue that words chosen for an explicit classroom focus should be words that students are **likely (I)** to have problems dealing with autonomously, and that these are polysemous words where the meaning required is not the usual meaning; in other words, opaque words. The paper shows how to create a list of opaque words for teaching engineering English at a Thai university by comparing the meanings of words in the context against the main meanings given in the online dictionaries that students often rely on. The resulting list shows that most opaque words are high-frequency words with unusual meanings.

19. *Remember that your reader cannot read your mind: Problem/solution-oriented metadiscourse in teacher feedback on student writing* by Annelie Ädel

Feedback on student writing is a common type of discourse to which university teachers dedicate much time. A pilot corpus of feedback—40,000 words representing five teachers' comments on 375 student texts—was investigated for metadiscourse, defined as reflexive expressions referring to the evolving discourse, the writer-speaker, or the audience. The overarching question concerned how visible the writer, reader and current text were. To help determine how the feedback data **may (M)** be unique, comparisons were made to previous studies investigating metadiscourse in other types of academic discourse, both written (university student proficient L1 writing and university student L2 writing) and spoken (university lectures). The feedback data had considerably higher proportions of metadiscourse and the overall frequency of metadiscourse was exceptionally high. The student reader ('you') was considerably more visible than the teacher writer giving feedback ('I'). The material involved large quantities of references to the text, e.g. 'here' used to indicate trouble spots. Previously studied data have resulted in a view of metadiscourse as prototypically discourse-organising, but the metadiscourse in feedback is instead problem/solution-oriented, serving the metalinguistic function and aiming to solve communication problems. The findings have led to a revision of the model of metadiscourse in which the roles of the writer, audience and text are multidimensional rather than one-dimensional.

20. *A corpus-based study of vague language in legislative texts: Strategic use of vague terms* by Shuangling Li

Legislative language is a sub-type of legal discourse that is less extensively explored than other subjects like contracts. It is contended that while all legal texts share some similarities, such as precision and inclusiveness, each variety **may (I)** have its own peculiarities in linguistic features and illocutionary acts. This article investigates vague language, specifically in legislative texts, using a corpus-based approach, and explores the role that vague use plays in the discoursal functions of legislative language. The analysis shows that vague language is mainly used in relation to four semantic groups in legislative texts: 1) 'quantity' (e.g. a number of); 2) 'time' (e.g. from time to time); 3) 'degree' (e.g. appropriate); and 4) 'category' (e.g. such measures). The results also **suggest (R)** that a strategic use of vague language **can (R)** achieve several communicative purposes of legislative texts, for example, to extend applicability of legal terms, to provide flexibility in fulfilling obligations and exercising power, and to mitigate potential problems. This article concludes that vague use **should (C) be considered** as one of the specialised communicative strategies for drafting legislative texts, and explicit instructions on such a strategy **may (C)** help develop legislative draftsmen's communicative competence.

21. *"Business is Business": Constructing cultural identities in a persuasive writing task* by Haiying Feng, Bertha Du-Babcock

In tandem with increasing attention to sociocultural contexts of learning, ESP researchers and practitioners have in recent years begun to advocate bringing into focus learners' identity, especially cultural identity, to further ESP's needs-responsive practice (Belcher, 2012; Belcher & Lukkarila, 2011). However, the research on cultural identity **has** for a long time **tended (I)** either to essentialize cultural identity as being unified, permanent, and bounded to and by national culture or to romanticize it as readily selectable. Drawing upon the critical realist perspective (Archer, 2007; Block, 2013), this study analyzed 65 Chinese university students' discursive and meta-discursive acts in a simulated business writing task, including pre-writing group discussions, individual request writing, and post-writing reflective essays. By examining the (in)consistencies in these discursive and meta-discursive acts, the study revealed the multiple layers of cultural identities that the students constructed, co-constructed, and negotiated in the process. While the students **seemed (R)** able to exercise agency in an attempt to claim ownership of Anglophone discourse in writing requests, they were unable to resist or undo the cultural stereotypes that make them feel culturally inferior. Implications for research and teaching in ESP and intercultural communication/rhetoric are discussed.

22. *Exploring the impact of English-medium instruction on university student academic achievement: The case of accounting* by Emma Dafouz, M. Mar Camacho-Miñano

As higher education institutions (HEIs) across the world strive to become increasingly international, English-medium instruction (EMI) is swiftly becoming mainstream in contexts where English has traditionally held a foreign language status. This change in the language of instruction has given rise to a number of concerns, which are still largely under-explored. Amongst these, research into the effects of EMI on students' disciplinary knowledge is of great importance and **should (I) be regarded** as crucial so that HEIs offer the same possibilities for student construction of knowledge, irrespective of the language used.

Our paper duly examines the impact that EMI **may (M)** have on student academic performance when compared to their counterparts' in their L1 (Spanish). As sample data, a comparable set of first year student grades was collected for the subject of Financial Accounting I in a Spanish university during four academic years (2010–14). A total of 383 student grades were gathered and compared using mean difference tests. Overall, findings show no statistical differences across groups and that the use of EMI does not lower student final academic outcomes. These results **may (R/C)** be relevant for other EMI contexts, the business education community and ESP course developers in general.

23. *Talking to learn: The hidden curriculum of a fifth-grade science class* by Hye Yeong Kim

Grounded in sociocultural perspectives on language and learning, this study explores a recurring discourse event—student-led presentations in a US Grade 5 Science classroom—in order to better understand how discursive practices of a classroom **might (I)** shape and challenge the learning experience of ESL learners. Findings show that discursive practices are developed not only from the wider cultural contexts of the discipline of science, but also from the local, immediate activity. Accordingly, academic challenges during the discourse events are products of local culture, as well as the broader academic field. The findings of this study point to the lack of transparency in the presentation of rules and norms of practice and expose the need for teachers to constantly self-evaluate their practice to increase this transparency in rules and norms of the classroom in order to promote the socialization of English learners into the community.

24. *English as a lingua franca communication between domestic helpers and employers in Hong Kong: A study of pragmatic strategies* by Noel Kwan, Katie Dunworth

This paper discusses an exploratory, small-scale study that investigated the use of English as a lingua franca in domestic workplaces in Hong Kong between Filipino employees and Hong Kongese employers. Through data collected from surveys of and interviews with employers and employees, the study explored the characteristics of the pragmatic features of communication, and identified the challenges experienced by participants and the pragmatic strategies that they used to communicate. In general, it was found that what can be defined as active strategies, such as clarification, repetition and direct questioning, were more successful in achieving effective communication from a transactional perspective, while passive strategies, such as ignoring unknown language produced by an interlocutor in the expectation that it would either become clear or redundant, were more **likely (R)** to lead to ambiguity and misunderstanding. The study also found that pragmatic competence was viewed as being more important than language 'proficiency' as it has traditionally been conceived. The article concludes that there **may (C)** be a need for critical reflection on the ESP courses that are currently provided in the Hong Kong context.

25. *Metaphors in financial analysis reports: How are emotions expressed?* by Janet Ho, Winnie Cheng

This study critically investigates the use of emotion metaphors in a corpus of BNP Paribas financial analysis reports produced during the credit crisis from 2011 to 2012. The corpus was examined to identify constituent words in the semantic category of 'Emotion'. Concordances for selected words in 'Emotion' were examined by adopting the Metaphor Identification Procedure in order to identify metaphors in the corpus. The emotion metaphors identified

were then classified into different semantic domains, underpinned by Conceptual Metaphor Theory. The main findings of the study revolve around the conceptualisation of emotion words reflecting the market turbulence circa 2011. In addition, the findings show that BNP Paribas' corporate culture is revealed by the use of emotion metaphors in their financial analysis reports. The bank also uses varied metaphors to describe the emotions of investors. The study concludes that the identification of emotion terms for a conceptual metaphor analysis **can (C) be** more effectively **carried out** by combining the methods of corpus linguistics, semantic annotation and Metaphor Identification Procedure. The study **suggests (C)** important pedagogical implications for both ESP teachers and members of the financial services profession.

26. *To what extent is the Academic Vocabulary List relevant to university student writing?* by Philip Durrant

This paper investigates the use of Academic Vocabulary List (D. Gardner & Davies, 2014) items in successful university study writing. Overall, levels of use of AVL items are high, and increase as students progress through the years of undergraduate and taught postgraduate study, **suggesting (R)** that it **may (R)** be a useful resource. However, significant variation is found across text types and disciplines. While the former is **relatively (R)** minor, the latter is extensive, **suggesting (R)** the list is more relevant to some student writers than others. An analysis by items **indicates (R)** that around half of the words on the list are used very little. Moreover, the items which are frequent differ across disciplines. However, a small core of 427 items was found to be frequent across 90% of disciplines. This **suggests (R)** that a generic productive academic vocabulary does exist, but that it is smaller in scope than the full Academic Vocabulary List.

27. *Constructing critical stance in University essays in English literature and sociology* by Ian Bruce

The aim of this study was to investigate the means used by writers to establish a critical stance in university essays. Specifically, the study identified the particular statements in essays that overtly expressed a critical evaluation, and explored the textual resources that these statements employed. This involved the manual analysis of two samples of 15 student essays from the subject disciplines of English literature and sociology in terms of the social genre/cognitive genre model of the author (Bruce, 2008a). Two generic elements, operating together, emerged as the principal means used by writers to express a critical evaluation. First, the critical statements employed a small range of coherence relations operationalized in terms of Crombie's (1985) interpropositional relations. Most frequently they used: Grounds Conclusion, Concession Contraexpectation and Reason Result. Secondly, embedded within these relations, two devices from Hyland's (2005) metadiscourse model were also used to help construct a critical stance, specifically hedging and attitude markers. In relation to writing pedagogy, these findings **suggest (R)** the need for novice writers to develop awareness of the use of these important textual elements to formulate critical statements and to develop the ability to incorporate them into their own writing.

28. *Conceptual blending in legal writing: Linking definitions to facts* by Alissa J. Hartig

Although the body of research on legal language is significant, analysis of the kinds of texts that lawyers learn to write in the vocational stage of their training remains limited. While some legal writing textbooks explicitly address the lexicogrammatical resources necessary to

write common genres such as the legal memorandum, the use of features such as tense and articles is largely tied to explanations based on generality or specificity. Drawing on conceptual blending theory, this study examines the use of such features in the "Question Presented" section of eleven legal memoranda. Textual analysis is further supplemented with questionnaire data from legal writing professionals. Analysis **suggests (R)** that rather than representing a clear distinction between general and specific reference, these linguistic features indexically reference and blend various "mental spaces" that are necessary for common law argumentation. The study highlights the need to connect discipline-specific concepts to linguistic meaning in English for Legal Purposes, particularly for L2 students trained in other jurisdictions.

29. *Discourse structure and variation in manuscript reviews: Implications for genre categorization* by Betty Samraj

Recent studies on the manuscript review, an occluded genre, have focused mainly on its discourse features and not on discourse variation in reviews according to final reviewer recommendation. This paper **reports (I)** on a study of two sub-sets of manuscript reviews written for English for Specific Purposes, with the final reviewer recommendation of "major revision" and "reject." An analysis of the organization of the commentary section of manuscript reviews **indicates (R)** that "major revision" reviews are characterized by discourse units with the function of recommendation while "reject" reviews **tend (R)** to foreground discourse units with the function of negative evaluation. Lexicogrammatical features associated with the functions of recommendation and negative evaluation were also found to vary in frequency in the two sub-groups of texts through analysis using Python, a computer language. I argue that "reject" and "major revision" reviews have different positions on two continua, one for recommendation and the other for negative evaluation, and I use these positions to explain the variation in discourse organization and lexicogrammatical features revealed in the "text-first" analysis suggested by Askehave and Swales (2001). I **suggest (C)** that sub-categories for heterogeneous genres with multiple communicative purposes **could (C)** be established through use of the centrality of a particular purpose.

30. *Developing rapport in inter-professional communication: Insights for international medical graduates* by Lynda Yates, Maria R. Dahm, Peter Roger, John Cartmill
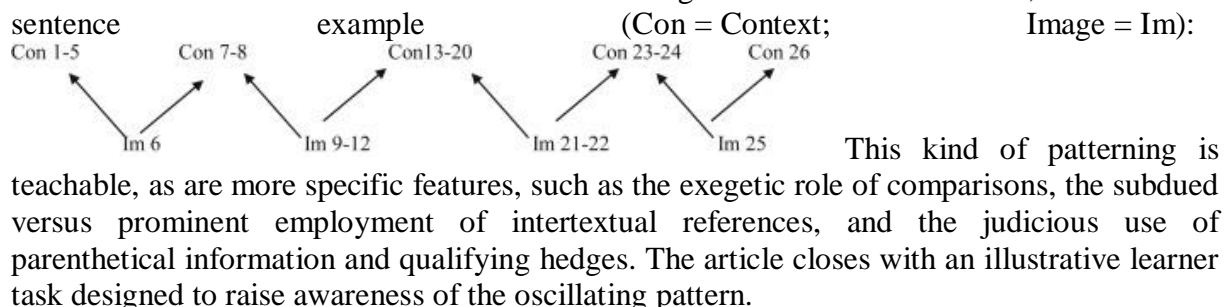
Many Western countries including Australia have become reliant on international medical graduates (IMGs) to strengthen their medical workforce. In Australia, the majority of IMGs are now from non-English speaking backgrounds and work in medical and communicative environments in which they were not raised or trained themselves. They therefore face the challenge of understanding unfamiliar hospital systems and guidelines, and a new set of cultural and communicative parameters. In this paper, we **report (I)** findings from a pilot study investigating the communicative challenges that IMGs face in simulated medical handovers in an Australian hospital context. Using a case study approach and tools from applied linguistics and intercultural pragmatics, we analyse the discourse of two doctors to identify some of the discourse features that native English-speaking and expert medical practitioners use to establish and maintain rapport with colleagues. We draw on the distinction between the pragmalinguistic and sociopragmatic aspects of the inter-professional context to illuminate the different areas of communication that **might (C) be tackled** explicitly and systematically as part of IMG preparation for practice in Australia. In this way we illustrate how discourse data can contribute to an evidence base from which principled approaches to communication training for IMGs **may (C) be developed**.

31. *Teaching grammatical voice to computer science majors: The case of less proficient English learners* by Neil H. Johnson, Paul A. Lyddon

Grammatical voice is an important element of computer science discourse as an effective rhetorical means of establishing disciplinary membership and describing the procedures and processes in the research methodologies of a rapidly expanding, cosmopolitan discipline. This particular relationship between verbs and their arguments has proved especially challenging for Asian students as a result of not only L2 structural complexity but also L1 conceptual interference. The question of whether to include voice in an ESP program in Japanese tertiary contexts **may (I) be** further **complicated** by both lack of available classroom time and falling English proficiency levels of incoming students. In this paper, we describe a pilot project aimed at teaching grammatical voice to computer science students in a Japanese university setting. The instruction comprised a three-week concept-based unit based upon a sociocultural understanding of language development and included a grammaticality judgment task as part of a pretest-posttest quasi-experimental design. The findings confirm the difficulty of teaching the various facets of voice to learners with low English proficiency, yet some significant gains were also made. Close analysis of the data **suggests (R)** that coordinated instruction in the metaphorical underpinnings of different aspects of grammatical voice **may (R)** better inform the teaching of voice in the English for Computer Science writing syllabus.

32. *Configuring image and context: Writing 'about' pictures Original* by
John M. Swales

Humanities texts have been little studied in ESP, and the few analyses attempted have not always been as successful as those directed at the social sciences, life sciences and natural sciences. However, in largely post-industrial communities, the growth of museums and galleries (as well as the corresponding increase in museum studies programs) **suggests (I)** that humanities texts in this sector **might (I)** now warrant attention. Since, outside English-speaking countries, these texts about artworks or cultural artifacts are typically produced both in English and the local language, there is clearly potential here for ESP development. In this case study of a small corpus of one-page accounts of pictures, analysis shows that the interpretations are **rarely (R)** organized in a general-specific or specific-general manner, but rather oscillate between reference to the micro image and the broader context, as in this 26-sentence example (Con = Context; Image = Im):

This kind of patterning is teachable, as are more specific features, such as the exegetic role of comparisons, the subdued versus prominent employment of intertextual references, and the judicious use of parenthetical information and qualifying hedges. The article closes with an illustrative learner task designed to raise awareness of the oscillating pattern.

33. *Reasoning patterns of undergraduate theses in translation studies: An intercultural rhetoric study* by Mianjun Xu, Chenchen Huang, Xiaoye You

ESP/EAP professionals, by focusing on issues that arise from instructional practice in Anglo-American nations, have unwittingly perpetuated a deficit model in teaching and researching academic writing in other parts of the world. Students' writing is often measured against the language standards in those "center" nations. An intercultural rhetoric framework **suggests (I)**

that we need to view English writing as a local practice in which students appropriate resources from various "small cultures" (Holliday, 1999). Further, representing writing practice outside of Anglo-American contexts in research requires a dialectical process, negotiating between local and translocal frames and concepts. Adopting this rhetorical framework, we examined the reasoning patterns of 75 highly rated undergraduate theses in translation studies at a Chinese university. Our study reveals that the thesis writing community has established its own language standards and the students appropriate these standards to fashion their reasoning styles. Further, they marshal additional resources from national, professional-academic, and instructional cultures. We conclude by offering suggestions for teaching and researching thesis writing in non-English dominant contexts.

34. *Critical thinking and discovering the meaning of unfamiliar terms through the word part analysis strategy: A study of Iranian medical students* by Masumeh Taie

ESP courses designed for medical students are often concerned with word building and the memorization of word parts, which is explained by the key role medical terms play in understanding the related literature. It is expected that students who master these skills will be able to deduce the meanings of unfamiliar terms they will inevitably encounter. However, not all students have the same levels of ability to master these skills. Following the theory which **suggests (I)** that critical thinkers are problem solvers, it was hypothesized that better critical thinkers **might (I)** be better able to cope with unfamiliar terms. Therefore, this research was conducted with the aim of investigating the relationship between critical thinking and guessing the meanings of familiar and unfamiliar medical terms through the word part analysis strategy. The California Critical Thinking Skills Test (CCTST) was utilized along with two multiple choice (MC) tests, consisting of familiar and unfamiliar terms respectively. The results of this study **indicated (R)** a stronger relationship between the CCTST and the MC test of unfamiliar terms, supporting the researcher's hypothesis. Implications are then discussed concerning the teaching and testing of medical terminology based on unfamiliar terms.

35. *Announcing one's work in PhD theses in computer science: A comparison of Move 3 in literature reviews written in English L1, English L2 and Spanish L1* by Carmen Soler-Monreal

In this paper I explore cross-linguistic rhetorical variation in the Literature Review chapters of 30 computer science doctoral theses written by English L1 (EngL1), Spanish L1 (SpaL1) and English L2 (EngL2) writers. Using Kwan's (2006) genre-analytical framework (Move 1: Establishing one part of the territory of one's own research; Move 2: Creating a niche; Move 3: Occupying the research niche), I particularly examine how writers present their research in Move 3 (M3). The results show the functional importance of M3 strategies in the computer science PhD thesis Literature Reviews. The texts in English present a higher number of occurrences and a wider range of M3 strategies than the SpaL1 texts. However, the SpaL1 texts are more homogeneous in terms of rhetorical distribution. Variation is also found in the linguistic mechanisms that the writers of the three groups use to make themselves visible and promote their work. National writing styles, discipline conventions and language barriers to effective interpersonal communication **seem (R)** to have an influence on these writers. EAP courses and specific genre-based writing instruction could help junior scholars to successfully manage M3 strategies.

36. *Phraseology used to comment on results in the Discussion section of applied linguistics quantitative research articles* by Thi Ngoc Phuong Le, Michael Harrington

This paper presents word clusters used to comment on results in the Discussion section of quantitative research articles in the field of applied linguistics. The corpus linguistic approach was adopted to identify clusters in 124 Discussion texts from leading applied linguistics journals. The identified clusters were then comprehensively analysed in context for their discourse functions. Next, the present study mapped the clusters onto an analytical framework termed the 'four-Step model', based on Yang and Allison's (2003) genre-based description of the Commenting on results Move. The study provided a detailed corpus linguistic account of how the clusters were used in specific Steps described in the model. A detailed description of the linguistic features, the internal structure (Move/Step cycles and embedding) and communicative functions of specific Steps in the Commenting on results Move were also presented based on the concordance analysis of the clusters. The findings further **suggest (R)** that the use of specific clusters strongly manifests, and is conditioned by, the research article genre. The study has pedagogical implications for academic writing courses for students, especially for those from non-English language backgrounds.

37. *Epistemic modality in English-medium medical research articles: A systemic functional perspective* by An Yang, Shu-yuan Zheng, Guang-chun Ge

Epistemic modality is a critical yet intricate linguistic device in academic writing. In this study, we investigated the use of epistemic modality in 25 English-medium medical research articles (RAs) from a systemic functional perspective. We focused on the distribution of the value and the orientation of epistemic modality and their functions in medical RAs. The results showed that medical RA writers mostly rely on low and median values, and implicitly subjective, implicitly objective and explicitly objective orientations of epistemic modality. These findings **indicate (R)** that medical RA writers **tend (R)** to make claims mainly in a tentative, reserved and objective way. The findings of the study **may (R/C)** help non-native medical RA writers to produce more acceptable medical RAs.

38. *Keywords and lexical bundles within English pharmaceutical discourse: A corpus-driven description* by Łukasz Grabowski

Little (I) attention has been paid so far to keywords and lexical bundles used in the English language typical of the pharmaceutical field. Conducted from a register-perspective (Biber & Conrad, 2009), this exploratory and descriptive research is intended to fill in the gap in corpus linguistics studies on phraseology and register variation within written English pharmaceutical discourse. More specifically, this empirical study presents a corpus-driven description of the use and functions of keywords (top-50 by keyness) complemented by a similar description of lexical bundles (top-50 by frequency) used across samples of patient information leaflets, summaries of product characteristics, clinical trial protocols and chapters from academic textbooks on pharmacology, all collected in a purpose-designed corpus. The results revealed salient links between situational, linguistic and functional features of the four pharmaceutical registers under scrutiny and showed that patterns of language use differ considerably due to topic- and function-related differences between the text types, despite their dealing with a similar theme, namely with medicines or medicinal products. Although primarily intended as descriptive, the data presented in this paper **may (C)** have significant pedagogical value, notably with respect to teaching ESP to students and practitioners in the pharmaceutical field.

39. *What is the relationship between the lexical profile of test items and performance on a standardized English proficiency test?* by Stuart Webb, T. Sima Paribakht

Lexical profiling research **has indicated (I)** the vocabulary sizes that **may (I)** be necessary to comprehend different spoken and written text types. These figures are based on studies of lexical coverage that have **indicated (I)** that comprehension is **likely (I)** to rise as the number of known words in a text increases (e.g., Laufer, 1989). This study examined the lexical profiles of passages included in an English L2 proficiency test used for university admission purposes. A total of 87 reading comprehension, listening comprehension, and cloze passages from CanTEST were analyzed to determine the vocabulary size needed to reach 95% and 98% lexical coverage. The results **indicated (R)** that there was large variation between the lexical profiles of the texts. At the 1000 word frequency level, there were differences ranging from 15.22% to 20.05% coverage between the most and least lexical demanding passages in the three parts of the test. The correlations between the lexical profiles of the texts at the different word frequency levels and performance on the corresponding test items were calculated to determine the relationship between these two variables. The results **indicated (R)** that there was either no correlation or a small correlation in all comparisons.

40. *Nurses' narratives on workplace English in Taiwan: Improving patient care and enhancing professionalism* by Susan Bosher, Joel Stocker

Based on a qualitative study of 19 nurses' written narratives on their use of English in the nursing workplace, we explore the current and changing use of English for Nursing Purposes (ENP) in countries where English is learned primarily as a foreign language, using Taiwan as the case study. The study gathered qualitative data regarding why and how nurses use English in the workplace. The most significant themes that emerged regarding why English is used were quality of nursing care, professionalism, and career advancement: to "Keep abreast of medical/nursing research and new treatments," "Improve quality of care/provide health education," "Communicate with doctors and other health-care professionals," and "Communicate with foreign caregivers." Regarding how they use English, in contrast to previous studies (Lee, 1998; Yang & Su, 2003), our study's participants emphasized professional reading to improve patient care and communicating with foreign caregivers more than communicating with foreign patients, and instructing foreign caregivers rather than patients' family members on patient care. The results of this study **may (C)** be useful in ENP course development and future research on the English language use of nurses and other health-care workers in Taiwan and other countries where English is learned primarily as a foreign language.

41. *A nursing academic word list* by Ming-Nuan Yang

This corpus-based lexical study aims to explore the most frequently-used nursing academic vocabulary across different sub-disciplines in the nursing field. A 1,006,934-word corpus called the Nursing Research Articles Corpus (hereafter NRAC), which contains 252 English nursing research articles from online resources, was established for this study. A Nursing Academic Word List containing the most frequently-used nursing words in nursing research articles, was developed from the corpus. A frequency and range-based nursing academic word list including 676 word families, which accounts for **approximately (M)** 13.64% of the coverage in the NRAC under study, was produced to provide a useful academic word pool for non-native English learners who need to read and publish nursing articles in English. The

findings **suggest (R)** that it is necessary to generate field-specific academic word lists for EFL nursing students to strengthen their academic reading and writing proficiency. Pedagogical implications are made for English for Nursing Purposes instructors, English for Academic Purposes researchers, material designers and nursing graduate students.

42. *Metadiscourse in the classroom: A comparative analysis of EAP lessons and university lectures* by Joseph J. Lee, Nicholas C. Subtirelu

This exploratory study investigates teachers' use of metadiscourse in EAP lessons and academic lectures. The analysis is based on two corpora of instructor contributions to classroom discourse: 18 EAP lessons from the L2CD corpus and 18 university lectures from the MICASE corpus. Based on Hyland's (2005) interpersonal model of metadiscourse, the two corpora were compared to examine the influence of pedagogical content and context on teachers' enactment of metadiscourse in the classroom. Findings of the comparative analysis **suggest (R)** that these aspects of teaching and learning influence teachers' use of metadiscourse in significant ways. EAP teachers **seem (R)** to be more concerned with explicitly framing the discourse primarily to set up classroom tasks and engendering greater student involvement and participation. On the other hand, university instructors' priority lies in establishing relationships between ideas in the unfolding arguments of lectures. Yet for some metadiscoursal features, the real-time spoken environment of the classroom **appears (C)** to override pedagogical focus and approach. The paper concludes with a few pedagogical implications.

43. *Friend or foe? Google Translate in language for academic purposes* by Michael Groves, Klaus Mundt

A recent development in digital technology, machine translation (MT), is improving in its ability to translate with grammatical and lexical accuracy, and is also becoming increasingly available for students of language for academic purposes. Given the acceptance of other digital technology for teaching and learning, it **seems (I) likely (I)** that machine translation will become a tool students will rely on to complete their assignments in a second language. This would have implications for the community of practice of academic language teaching. In this study students were asked to submit an essay in their first language and this was then translated into English through a web-based translation engine. The resulting English text was analysed for grammatical error. The analysis found that the translation engine was far from able to produce error-free text – however, judging in relation to international testing standards, the level of accuracy is approaching the minimum needed for university admission at many institutions. Thus, this paper sets out to argue, based on the assumption that MT will continue to improve, that this technology will have a profound influence on the teaching of Languages for Academic Purposes, and with imaginative use, will allow this influence to be positive for both the students and their instructors.

15 Appendix 2

15.1 Native Corpus 1

15.1.1 The Introduction Section:

1. A notable feature of the Tlingit system is that—relative to other languages of the Pacific Northwest—Tlingit exhibits a striking paucity of grammaticalized modal expressions, and only a limited subset of the aforementioned modal categories **can be expressed (ModV; R/WO)** by the conventionalized, truth-conditional semantics of a statement.

2. The central proposal is that the obligatory presence of the modifier on the left edge (i.e., the left-edge requirement) falls out naturally from the selectional restrictions on the suffix -e: I **propose (LexV; R/RO)** that it selects for a small clause complement.

3. As such, iʔ **may (ModV; R/WO) be analyzed** as a pragmatically conditioned overt determiner, filling in a gap in the determiner typology developed by Déchaine and Tremblay (2011).

4. We **propose (LexV; R/RO)** a scenario for how such an exchange could occur, using Guarayu as a case study.

5. We **suggest (LexV; R/RO)** that, in Guarayu, this realignment may have been facilitated by an insufficiency of phonetic cues that a listener might routinely use to accurately perceive and locate the transition between the vowel and tap involved in the exchange.

6. We suggest that, in Guarayu, this realignment **may (ModV; R/WO)** have been facilitated by an insufficiency of phonetic cues that a listener might routinely use to accurately perceive and locate the transition between the vowel and tap involved in the exchange.

7. We suggest that, in Guarayu, this realignment may have been facilitated by an insufficiency of phonetic cues that a listener **might (ModV; R)** routinely use to accurately perceive and locate the transition between the vowel and tap involved in the exchange.

8. It shows that although the alphabet used for recording Colonial Yucatec does not include schwa, it is nevertheless **possible (Adj; R)** to demonstrate that Colonial Yucatec actually had schwa.

9. It **is suggested (LexV; R/WO)** that the causative marker *k- arose as a language-internal innovation after Zapotec split away from its sister branch, Chatino.

10. More generally, we **suggest (LexV; R/RO)** that diffusion plays a greater role in language diversification than is usually recognized.

11. While nominal compounding **has been noted (LexV; R)** in Mesoamerican (Campbell, Kaufman, and Smith-Stark 1986) and other Mixean languages (Romero-Méndez 2008, Ruiz de Bravo Ahuja 1980, Schoenhals and Schoenhals 1982, and Van Haitsma and Van Haitsma 1976), there are no studies examining its formal properties or its productivity, possibly due to the fact that nominal compounding is a lesser-studied topic in polysynthetic languages where most information is encoded in verbs.

12. While nominal compounding has been noted in Mesoamerican (Campbell, Kaufman, and Smith-Stark 1986) and other Mixean languages (Romero-Méndez 2008, Ruiz de Bravo Ahuja 1980, Schoenhals and Schoenhals 1982, and Van Haitsma and Van Haitsma 1976), there are no studies examining its formal properties or its productivity, **possibly (Adv; R)** due to the fact that nominal compounding is a lesser-studied topic in polysynthetic languages where most information is encoded in verbs.

13. The structure of literary narrative in Natchez has **rarely (Adv; A)** been discussed.

14. In many languages, prosodic prominence **indicates (LexV; R)** which expressions of an utterance are focused.

15. However, the occurrence of these principal parts in natural texts **suggests (LexV; R)** that the semantics of the system are far more complex than previously understood, and that in addition to marking objects as singular and plural, the system also marks objects for dual number.

16. However, both Bloomfield himself and the subsequent scholarship (e.g., Rhodes 1976, Goddard 1988; 1990, and O'Meara 1990) have also recognized that the structure of the stem is more complex than the simple template **might (ModV; R)** suggest.

17. However, both Bloomfield himself and the subsequent scholarship (e.g., Rhodes 1976, Goddard 1988; 1990, and O'Meara 1990) have also recognized that the structure of the stem is more complex than the simple template might **suggest (LexV; R)**.

18. Drawing on Oji-Cree, I **propose (LexV; R/RO)** a distinction between two types of stems, based on the complexity of their internal structure.

19. While analyses of numerals typically focus on presenting morphological and phonological data as well as on comparative historical analyses of the numeral systems of related languages, numerals are **rarely (Adv; A)** analyzed as indices of the kinds of cultural information seen in such semantic fields as, e.g., kinship terminology.

20. This paper presents an analysis of these two systems and **suggests (LexV; R)** that locating the data gained through an in-depth linguistic analysis within their proper sociocultural context can both clarify an understanding of these two counting systems and inform language planning.

21. We **assume (LexV; R/RO)** that a Dena'ina text consists of informational and prosodic "building blocks" of different sizes that we call paragraphs, story units, intonation units, and prosodic words.

22. These forms, mainly designating body-part notions and semantic extensions of these, **appear (LexV; R)** at first glance to be synchronically derived from polysyllabic body-part noun roots.

23. The paper also **reports (LexV; R)** on a medio-passive heretofore undocumented in the language.

24. The study identifies the main changes affecting these consonants and **proposes (LexV; R)** a subgrouping of the Zapotec language family on the basis of the findings.

25. This paper also **proposes (LexV; R/WO)** refinements to several Proto-Zapotec reconstructions and suggests that *tty/*ty and *ttz/*tz may be identified, respectively, with palatal stops and affricates.

26. This paper also proposes refinements to several Proto-Zapotec reconstructions and **suggests (LexV; R/WO)** that *tty/*ty and *ttz/*tz may be identified, respectively, with palatal stops and affricates.

27. This paper also proposes refinements to several Proto-Zapotec reconstructions and suggests that *tty/*ty and *ttz/*tz **may (ModV; R/WO) be identified**, respectively, with palatal stops and affricates.

28. The Kiowa clause **may (ModV; R/WO) be divided**, on the basis of syntactic theory, into three distinct domains.

29. Verbal direct and inverse marking **indicates (LexV; R)** the roles (actor/undergoer) of the event participants.

30. First and second person **can (ModV; R/WO)** only **be encoded** in the first way and therefore do not show any alignment effect with the argument of the intransitive clause.

31. However, pragmatic factors can override the person hierarchy: when, for pragmatic reasons, first and second person are expressed by a free pronoun in clause-initial topic position, they **can (ModV; R/WO) be treated** like lower-ranking persons.

32. This paper provides an acoustic description of the Comanche vowel system based on recordings of six native speakers which **suggests (LexV; R)** that Comanche /ɨ/ is actually a central mid vowel—not a high vowel.

33. It is **likely (Adj; R)** that in K'ichee' an innovative syntactic rule for agreement marking has been introduced that requires it for animates and not for inanimates, thus converting a pragmatic strategy, still used in Mam, to a syntactic strategy that pays attention to animacy features.

34. Specifically, nasal consonants **may (ModV; R)** take the form of simple nasals, pre-stopped nasals, post-stopped nasals, pre- and post-stopped nasals, as well as simple voiced stops.

35. This paper **attempts (LexV; R/WO)** to trace the historical sequence of events that led to the synchronic pattern of nasal harmony in Mundurukú (Tupi), motivated by the idea that historical information can play a central role in explaining synchronic properties of grammars.

36. These developments hinge on the remarkably polyfunctional etymon ʔūh, which has two further, **apparently (Adv; R)** related functions in the language, as a nominal kin term and an Interactional (reciprocal) prefix.

37. Hup case **appears (LexV; R)** to be the first documented example of an applicative source for a modal, a broader typological perspective suggests that valence-changing operations are in fact a relatively natural step in the grammaticalization of obligation modals, which often involves the introduction and subsequent backgrounding of a participant.

38. Hup case appears to be the first documented example of an applicative source for a modal, a broader typological perspective **suggests (LexV; R)** that valence-changing operations are in fact a relatively natural step in the grammaticalization of obligation modals, which often involves the introduction and subsequent backgrounding of a participant.

39. Hup case appears to be the first documented example of an applicative source for a modal, a broader typological perspective suggests that valence-changing operations are in fact a **relatively (Adv; R/A)** natural step in the grammaticalization of obligation modals, which often involves the introduction and subsequent backgrounding of a participant.

40. Nevertheless, several lines of evidence **indicate (LexV; R)** that the Chimila lexicon includes nasal morphemes in contrast with oral morphemes.

41. Those working on Creek have **rarely (Adv; A)** agreed on the number of tenses or on their meanings, however, and have rarely examined the seemingly intricate ways that speakers use tenses in texts.

42. Those working on Creek have rarely agreed on the number of tenses or on their meanings, however, and have **rarely (Adv; A)** examined the seemingly intricate ways that speakers use tenses in texts.

43. This paper is an **attempt (N; R)** to develop a unified treatment using data from the Salishan language Lushootseed, which derives its transitive verb stems from intransitive radicals using a variety of valency-increasing suffixes.

44. This paper **proposes (LexV; R/WO)** a taxonomy of these suffixes based on two parameters—the distinction between a causative, which adds a subject, and an applicative, which adds an object, and the distinction

between directand nondirect—that is, whether the causee or the applied object is a direct object or is more oblique.

45. While the existence of strategies dedicated to code scope **seems (LexV; R)** clear, the existence of grammar dedicated to pragmatic contrast is in dispute (Lambrecht 1994 and Myhill and Xing 1996).

46. Some models **propose (LexV; R)** that contrast is expressed in sentence grammar (Dik et al. 1981 and Watters 1979); others argue that contrast belongs to conversational implicature (Lambrecht 1994).

47. This morpheme is an important cue to identifying pragmatically marked sentences, by itself it **can (ModV; R/WO) be associated** with specific subtypes of focus.

48. Newly assessed linguistic evidence **suggests (LexV; R)** that the proposed Eastern Ch'olan innovations supporting the Classic Ch'olti'an hypothesis may in fact be shared retentions from Proto-Ch'olan-Tzeltalan and Proto-Ch'olan.

49. Newly assessed linguistic evidence suggests that the proposed Eastern Ch'olan innovations supporting the Classic Ch'olti'an hypothesis **may (ModV; R/WO)** in fact **be shared** retentions from Proto-Ch'olan-Tzeltalan and Proto-Ch'olan.

50. This paper also reviews the proposals for the identification of Eastern Ch'olan and Western Ch'olan vernacular markers at a variety of ancient cities by Justeson and Fox (1989) and Lacadena and Wichmann (2002), among others, and **suggests (LexV; R)** that the late and geographically circumscribed appearance of these traits indicates that Proto-Ch'olan had not fully diversified—into distinct languages—by the end of the Classic period

51. This paper also reviews the proposals for the identification of Eastern Ch'olan and Western Ch'olan vernacular markers at a variety of ancient cities by Justeson and Fox (1989) and Lacadena and Wichmann (2002), among others, and suggests that the late and geographically circumscribed appearance of these traits **indicates (LexV; R)** that Proto-Ch'olan had not fully diversified—into distinct languages—by the end of the Classic period.

52. The noun to which the prefix attaches is usually unspecified, generic, or nonindividuated and **can (ModV; R/WO) be doubled** with a freestanding nominal of more specific meaning.

53. As in the case of denominal verbs in other languages, they **can be formed (ModV; R/WO)** quite freely, as long as the situation allows for an interpretation.

54. As in the case of denominal verbs in other languages, they can be formed **quite (Adv; A)** freely, as long as the situation allows for an interpretation.

55. In 1956, Bright presented a small amount of data that in a preliminary way **seemed (LexV; R)** to confirm that hypothesis, although these data and this presentation were not meant to be taken as the argumentation that was lacking.

56. Coahuilteco, a long-extinct language of South Texas known primarily from a confessor's manual (García 1760), had a basic SOV constituent order, with relative clauses occurring between the noun (NRel order) and a following demonstrative, a structure **apparently (Adv; R)** typologically unique in North America (Troike 2010).

57. Two levels of center-embedding are attested, as well as the use of extraposition **possibly (Adv; R)** to avoid deeper embedding, supporting Kuno's hypothesis that languages would utilize means to minimize the processing difficulties involved in comprehending multiply center-embedded structures.

58. Proto-Northern-Uto-Aztecan (PNUA) and Proto-Kiowa-Tanoan (PKT) **may (ModV; R/WO) have exchanged** loanwords.

59. It **is suggested (LexV; R/WO)** that this exchange of loan vocabulary is the linguistic aspect of an episode of contact identified archaeologically by Matson (1991) between

immigrant maize cultivators, the Western Basketmaker II, perhaps speakers of PNUA, and autochthonous hunter-gatherers, the Eastern Basketmaker II, perhaps speakers of PKT.

60. It is suggested that this exchange of loan vocabulary is the linguistic aspect of an episode of contact identified archaeologically by Matson (1991) between immigrant maize cultivators, the Western Basketmaker II, **perhaps (Adv; R)** speakers of PNUA, and autochthonous hunter-gatherers, the Eastern Basketmaker II, perhaps speakers of PKT.

61. It is suggested that this exchange of loan vocabulary is the linguistic aspect of an episode of contact identified archaeologically by Matson (1991) between immigrant maize cultivators, the Western Basketmaker II, perhaps speakers of PNUA, and autochthonous hunter-gatherers, the Eastern Basketmaker II, **perhaps (Adv; R)** speakers of PKT.

62. A second suite of ten resemblant vocabulary items, including words for economically important wild plants and game animals, **are suggested (LexV; R/WO)** as loans from PKT into PNUA.

63. The syllabic shapes in this suite of proposed loans **may (ModV; R)** give clues about the elusive shape of pre-PKT stems.

15.1.2 The Results section:

64. The results of the production experiments **suggest (LexV; R)** that prosodic prominence is realized by stressed syllable duration, f0 slope, and pitch accent type.

65. It finds, however, that speakers **may (ModV; R)** cast events within a single time frame in several different tenses based on immediacy.

66. This analysis **suggests (LexV; R/WO)** that while grammatical transitivity plays a role in the triggering of overt morphological marking of middles, verb meaning plays an even more important overall role, and thus supports the assumption of a semantically unified class of middle verbs.

67. This analysis suggests that while grammatical transitivity plays a role in the triggering of overt morphological marking of middles, verb meaning plays an even more important overall role, and thus supports the **assumption (N; R)** of a semantically unified class of middle verbs.

68. More specifically, we show that in Dena'ina iterative verbs, middle marking is more **likely (Adj; R)** to occur when the spatial starting and ending points of the action of the verb are undifferentiated.

69. These differences **suggest (LexV; R)** that diachronically the patterns arose independently from one another.

15.1.3 The Conclusion section:

70. This situation is rather similar to that reported for Nez Perce, but different from cases such as St'át'imcets or Washo, in which modals exhibit a context-dependent meaning, allowing for a small set to denote all logically **possible (Adj; R)** modal categories.

71. These constraints are not **usually (Adv; A)** found in causal clauses.

72. This paper thus contributes to the larger debate on stem structure in Algonquian languages and to the growing body of literature on noun incorporation, shedding light on the **possible (Adj; R)** relations between the incorporated noun and the rest of the stem.

73. Cross-linguistically, SR usually **indicates (LexV; R)** subject co-reference across clauses.
74. Cross-linguistically, SR **usually (Adv; A)** indicates subject co-reference across clauses.
75. Two levels of center-embedding are attested, as well as the use of extraposition **possibly (Adv; R)** to avoid deeper embedding, supporting Kuno's hypothesis that languages would utilize means to minimize the processing difficulties involved in comprehending multiply center-embedded structures.
76. Reconstructed words relating to maize agriculture and the fabrication of paper **indicate (LexV; R)** that prehistoric Chitimacha speakers migrated to the Lower Mississippi Valley from Mesoamerica.
77. We **propose (LexV; R/RO)** that phonological factors also played a role and that metathesis was perception optimizing, and we report the results of a speech perception experiment that supports this interpretation.
78. We propose that phonological factors also played a role and that metathesis was perception optimizing, and we **report (LexV; R/RO)** the results of a speech perception experiment that supports this interpretation.
79. We argue that variation in the spelling of roots and affixes that in other Yucatecan languages have schwa **can (ModV; R/WO) be used** for identifying schwa in Colonial Yucatec and that the same method can be used for revealing the presence of schwa in Colonial Chontal, a Cholan language, as well as in texts written in the logosyllabic script that recorded Mayan languages spoken in Classic and Postclassic times.
80. Verb use and negation **appear (LexV; R)** to be especially sensitive indicators of such change.
81. Combined with previous published claims on other Arawá languages, the data presented here **suggest (LexV; R)** that number terms existed in Jarawara and other Arawá languages prior to contact with non-indigenes.
82. Additional examples of diffusion between Otomangean and adjacent Mayan languages **are suggested (LexV; R/WO)**.
83. **Possible (Adj; R)** explanations for how these two registers of speech originated are then proposed.
84. Results are discussed in terms of their **possible (Adj; R)** causes and in terms of their implications for how sound structure is lexically encoded.
85. These processes are no longer operative in Cupeño but **appear (LexV; R)** to be mirrored by principles governing secondary stress assignment in Cahuilla, a closely related language.
86. A number of these reconstructions **appear (LexV; R)** to support prior claims of distant genetic relationship between the Cariban and Tupian families.
87. This proposal builds on the **suggestion (N; R)** in Larsen and Norman (1979) that the majority of splits in the Mayan family may be reduced to subordination.
88. This proposal builds on the suggestion in Larsen and Norman (1979) that the majority of splits in the Mayan family **may (ModV; R/WO) be reduced** to subordination.
89. We find only partial support for the claim that Paraguayan Guaraní has a basic subject-verb-object word order (e.g., Gregores and Suárez 1967), since there **does not seem (LexV; R)** to be a basic position for subjects.
90. The Creek data thus provide especially clear support for observations that temporal distance in language **may (ModV; R/WO) be extended** metaphorically to express subjective distance (Dahl 1984, Fleischman 1989, and Hintz 2007).
91. This study also touches on some current debates in Salishan studies about whether these morphemes are inflectional or derivational, and the extent to which verbal

radicals **can be treated (ModV; R/WO)** as uniformly unaccusative, a characterization of the family that has been used to motivate some significant claims about language universals.

92. This complex was then reinterpreted as adjectival verb morphology, and the resulting word **can (ModV; R/WO) be inflected** as an adjectival verb.

93. The distribution of these morphosyntactic characteristics across the Uto-Aztecan language family **indicates (LexV; R)** that they can probably be reconstructed for Proto-Uto-Aztecan.

94. The distribution of these morphosyntactic characteristics across the Uto-Aztecan language family indicates that they **can (ModV; R/WO)** probably **be reconstructed** for Proto-Uto-Aztecan.

95. The distribution of these morphosyntactic characteristics across the Uto-Aztecan language family indicates that they can **probably (Adv; R)** be reconstructed for Proto-Uto-Aztecan.

96. The denominal verb **may (ModV; R)** be morphologically and syntactically transitive or intransitive.

97. When it is transitive, a direct object **may (ModV; R)** appear in the clause which further specifies the identity of the noun which is in the verb.

98. A brief look at the comparative Salish evidence **suggests (LexV; R)** that denominal verb morphology originated as lexical verbs that were then subsequently reduced to bound forms.

99. It is **suggested (LexV; R/WO)**, in fact, that the hypothesis should be abandoned until proper evidence is presented.

100. It is suggested, in fact, that the hypothesis **should (ModV; R/WO) be abandoned** until proper evidence is presented.

15.2 Native corpus 2

1. *The Expression of Modality in Tlingit: A Paucity of Grammatical Devices* by Seth Cable

This paper provides an in-depth description of the expression of modal categories in Tlingit (Na-Dene; Alaska). Epistemic, deontic, and circumstantial modal statements are examined, and for each I examine statements with strong and weak modal force. A notable feature of the Tlingit system is that—relative to other languages of the Pacific Northwest—Tlingit exhibits a striking paucity of grammaticalized modal expressions, and only a limited subset of the aforementioned modal categories **can be expressed (I/C)** by the conventionalized, truth-conditional semantics of a statement. Nevertheless, speakers employ a variety of pragmatic strategies to communicate information about other modal categories. This situation is rather similar to that reported for Nez Perce, but different from cases such as St'át'imcets or Washo, in which modals exhibit a context-dependent meaning, allowing for a small set to denote all logically **possible (C)** modal categories.

2. *On Purpose and Causal Adverbial Clauses in Yaqui* by Lilián Guerrero

This paper examines the syntactic structures that express purpose and causal adverbial relations in the Yaqui language. Yaqui displays considerable structural variation when expressing purpose and cause, and each of the linked units exhibits different degrees of syntactic and semantic integration with the main unit. In use, purpose clauses express the

agent's intention to bring about another event, whereas causal clauses express several related meanings, from cause-effect to reason and explanation, and even consequence. Yaqui purpose clauses display two undescribed kinds of variation in typologically common patterns: they demand argument sharing and a special lexical coding on shared arguments. These constraints are not **usually (C)** found in causal clauses. The contrasts observed between these two semantically related adverbial clauses favor the analysis of Yaqui purpose clauses as a kind of referential control construction.

3. *Possessive Noun Incorporation in Oji-Cree* by Tanya Slavin

This paper deals with possessive noun incorporation (NI) in Oji-Cree. In this construction, formed with the verbal suffix -e, the possessed noun is incorporated into the verb stem and is obligatorily preceded by a modifier. The goal of this paper is to examine the syntax and semantics of this construction within the larger emerging debate on the internal structure of the verb stem in Algonquian languages. Specifically, after highlighting some previously undocumented morphosyntactic properties of this construction, I focus on the relationship between stem components, particularly on the status of the adjectival element at the left edge of the stem, and its structural and semantic relation to the rest of the stem. The central proposal is that the obligatory presence of the modifier on the left edge (i.e., the left-edge requirement) falls out naturally from the selectional restrictions on the suffix -e: I **propose (I)** that it selects for a small clause complement. This paper thus contributes to the larger debate on stem structure in Algonquian languages and to the growing body of literature on noun incorporation, shedding light on the **possible (C)** relations between the incorporated noun and the rest of the stem.

4. *A Survey of Switch-Reference in North America* by Andrew McKenzie

This paper introduces a new survey of switch-reference in the languages of North America. The survey's purposes are to provide a broad basis for future analysis of switch-reference (SR), spur further research on the languages included, and help revitalization efforts with a better understanding of what SR looks like and how it works.
The survey catalogs 33 facts about SR morphology, semantics, and syntax, organized around central questions in SR research. The paper discusses the major findings based on the survey, some of which have major implications for theories of switch-reference: SR is found in nearly 70 American language varieties, mostly in the western United States and Mexico, often spreading by areal diffusion. Cross-linguistically, SR **usually (C) indicates (C)** subject co-reference across clauses. It is associated with every type of clause juncture except disjunction and is found throughout the verbal morphology. Morphological homophony with case is not due to a common semantic core.

5. *Okanagan Determiner Phrases and Domain Restriction* by John Lyon

The semantics of determiners and determiner phrases (DPs) in Okanagan Salish is largely unknown, and apart from N. Mattina's (2006) study of Moses-Columbian determiners, there are no other systematic investigations into the semantics of determiners for Southern Interior Salish languages. This paper increases our knowledge of Southern Interior determiners and also helps to clarify how they compare with determiners in Northern Interior Salish (Matthewson 1998) and Central Salish (Gillon 2006). It also contributes to our understanding of cross-linguistic semantic variation in determiner systems. The determiner iʔ is the only determiner in Upper Nicola Okanagan and is best analyzed as involving a choice function

over a contextually restricted domain of individuals (Reinhart 1997 and Kratzer 1998). Referential strength is determined by the amount of contextual restriction and by whether the choice function selects a singular or plural individual. As such, iʔ **may (I) be analyzed** as a pragmatically conditioned overt determiner, filling in a gap in the determiner typology developed by Déchaine and Tremblay (2011). Okanagan case-marker t is not a determiner but a semantically vacuous morphological reflex of semantic incorporation (van Geenhoven 1998).

6. *Center-Embedding Relative Clauses in Coahuilteco* by Rudolph C. Troike

Coahuilteco, a long-extinct language of South Texas known primarily from a confessor's manual (García 1760), had a basic SOV constituent order, with relative clauses occurring between the noun (NRel order) and a following demonstrative, a structure apparently typologically unique in North America (Troike 2010). As Kuno (1974) observed, the combination of SOV and NRel orders creates the potential for center-embedding of relative clauses within relative clauses, a circumstance realized in García's text. Two levels of center-embedding are attested, as well as the use of extraposition **possibly (C)** to avoid deeper embedding, supporting Kuno's hypothesis that languages would utilize means to minimize the processing difficulties involved in comprehending multiply center-embedded structures.

7. *Chitimacha: A Mesoamerican Language in the Lower Mississippi Valley* by Cecil H. Brown, Søren Wichmann, and David Beck

The comparative method of historical linguistics is applied to the hypothesis that Chitimacha, a language of southern Louisiana now without fully fluent speakers, and languages of the Totozoquean family of Mesoamerica are genealogically related. Ninety-one lexical sets comparing Chitimacha words collected by Swadesh (1939; 1946a; 1950) to words reconstructed for Proto-Totozoquean (Brown et al. 2011) show regular sound correspondences. Along with certain structural similarities, this evidence attests to the descent of these languages from a common ancestor, Proto-Chitimacha-Totozoquean. By identifying regular sound correspondences, the phonological inventory and some of the vocabulary of the proto-language are reconstructed. Reconstructed words relating to maize agriculture and the fabrication of paper **indicate (C)** that prehistoric Chitimacha speakers migrated to the Lower Mississippi Valley from Mesoamerica. Some speculations on how and when Chitimacha speakers migrated are offered.

8. *Vowel-Rhotic Metathesis in Guarayu* by Megan Crowhurst and Sara Trechter

Guarayu (Tupí-Guaraní, Bolivia) has undergone a diachronic process of metathesis in which a word-final tap /ɾ/ exchanged positions with a preceding high nonfront vowel /ɨ/ or /u/. We **propose (I)** a scenario for how such an exchange could occur, using Guarayu as a case study. A tap/vowel metathesis is presented as a timing readjustment that led to an exchange of phonemic status between a phonemic vowel on one side of the tap and an automatic intrusive vowel on the other. We **suggest (I)** that, in Guarayu, this realignment **may (I)** have been facilitated by an insufficiency of phonetic cues that a listener **might (I)** routinely use to accurately perceive and locate the transition between the vowel and tap involved in the exchange. We **propose (C)** that phonological factors also played a role and that metathesis was perception optimizing, and we **report (C)** the results of a speech perception experiment that supports this interpretation. Connections are drawn between the Guarayu metathesis and

patterns of vowel epenthesis and deletion known to occur as alternatives to metathesis in other languages.

9. *Schwa in the Modern Yucatecan Languages and Orthographic Evidence of Its Presence in Colonial Yucatecan Maya, Colonial Chontal, and Precolumbian Maya Hieroglyphic Texts* by Victoria R. Bricker and Olanike O. Orie

This article describes patterns of schwa found in spoken Yucatecan languages (Itsaj, Lacandon, Mopan, and Modern Yucatec) and Colonial Yucatec. It shows that although the alphabet used for recording Colonial Yucatec does not include schwa, it is nevertheless **possible (I)** to demonstrate that Colonial Yucatec actually had schwa. We argue that variation in the spelling of roots and affixes that in other Yucatecan languages have schwa **can be used (C)** for identifying schwa in Colonial Yucatec and that the same method can be used for revealing the presence of schwa in Colonial Chontal, a Cholan language, as well as in texts written in the logosyllabic script that recorded Mayan languages spoken in Classic and Postclassic times.

10. *Origin of the Zapotec Causative Marker *k-: A Diachronic-Typological Perspective* by Natalie Operstein

This paper uses synchronic and diachronic typological data to trace the origin and development of the Zapotec causative marker *k-. It **is suggested (I)** that the causative marker *k- arose as a language-internal innovation after Zapotec split away from its sister branch, Chatino. The paper relies on Song's (1996) typology of causative marker formation to show that the causative prefix *k- has developed out of the marker of the potential mood following de-subordination of the subordinate clauses of purpose. This work contributes to the field of Zapotecan linguistics, by tracing the evolution of an important pan-Zapotec morpheme, and to that of diachronic typology (e.g., Bickel 2007), by validating a proposed developmental sequence in the area of valence-related morphology.

11. *Descent and Diffusion in Language Diversification: A Study of Western Numic Dialectology* by Molly Babel, Andrew Garrett, Michael J. Houser, and Maziar Toosarvandani

The two branches of Western Numic are the Mono and Northern Paiute languages. We argue that this taxonomic structure did not arise as assumed in historical linguistics, through increased differentiation brought about by changes internal to each branch, but rather that diffusion between Western and Central Numic played a crucial role in forming the Western Numic family tree. More generally, we **suggest (I)** that diffusion plays a greater role in language diversification than is usually recognized.

12. *Defining Nominal Compounding as a Productive Word-Formation Process in Chuxnabán Mixe* by Carmen Jany

Proposed criteria for defining nominal compounds cross-linguistically are not universally accepted. Moreover, in some languages, nominal compounds share properties with phrases and possessive constructions and are not easily identified in all instances (Aikhenvald 2007, Bauer 2006; 2009, Lieber and Štekauer 2009, and Scalise and Vogel 2010). This paper examines the phonological, morphosyntactic, and semantic properties of nominal compounds in Chuxnabán Mixe and argues that defining criteria for compound-hood are best viewed

language-specifically. In Chuxnabán Mixe, nominal compounds are best discerned phonologically. In addition, they are distinct morphosyntactically by being treated as a whole for infection and by showing a fixed order with respect to their parts.

This work further establishes that nominal compounding is a productive word-formation process in Chuxnabán Mixe. While nominal compounding **has been noted (I)** in Mesoamerican (Campbell, Kaufman, and Smith-Stark 1986) and other Mixean languages (Romero-Méndez 2008, Ruiz de Bravo Ahuja 1980, Schoenhals and Schoenhals 1982, and Van Haitsma and Van Haitsma 1976), there are no studies examining its formal properties or its productivity, **possibly (I)** due to the fact that nominal compounding is a lesser-studied topic in polysynthetic languages where most information is encoded in verbs.

13. *A Tale of Two Mam Children: Contact-Induced Language Change in Mayan Child Language* by Clifton L. Pye

Mayan languages have been in contact with Spanish for nearly 500 years and yet maintain much of their structural integrity. The arrival of bilingual schools and television has now altered the circumstance of language use within many Mayan households. This article compares children's and mothers' production of verb, existential, and negation constructions in Spanish and five Mayan languages, with a special focus on Mam. Mayan children may have vocabularies with up to 20% Spanish-derived lexemes and still not exhibit significant structural changes in their grammars. A two-year-old Mam child growing up with intense pressure to use Spanish exhibited changes to verb, existential, and negation constructions that were not evident in the language of other Mayan-speaking children. Verb use and negation **appear (C)** to be especially sensitive indicators of such change. Contact-induced structural change shows how children's emerging grammars accommodate new structural elements.

14. *The Woman Who Was a Fox: The Structure of a Natchez Oral Narrative* by Geoffrey Kimball

The structure of literary narrative in Natchez has **rarely (I)** been discussed. Although both John R Swanton in 1908 and Mary R. Haas in 1934–36 together collected over 70 Natchez literary narratives, only one has been published with the Natchez text, as an introduction to a grammatical sketch of the language (Kimball 2005). Following the lead of Dell Hymes (1981; 2003), Natchez literary narratives are better understood in a verse format than as prose. This paper is such an analysis of a literary narrative, "The Woman Who Was a Fox," told to Haas by Nancy Raven in 1934.

15. *The Prosody of Focus in Paraguayan Guaraní* by Cynthia G. Clopper and Judith Tonhauser

In many languages, prosodic prominence **indicates (I)** which expressions of an utterance are focused. This study explores the prosody of focus in Paraguayan Guaraní (Tupí-Guaraní) through two production and two perception experiments conducted with native speakers of Guaraní in Paraguay. The results of the production experiments **suggest (R)** that prosodic prominence is realized by stressed syllable duration, f0 slope, and pitch accent type. While the perception experiments provide evidence that Paraguayan Guaraní listeners attend to these properties in prosodic prominence perception, they also show that listeners are not at ceiling in identifying the prosodically most prominent expression from the acoustic signal alone. These results are consistent with recent findings about prosodic prominence perception in other languages and provide empirical support from an American indigenous language for the

hypothesis that non-acoustic factors, such as word frequency and information status, also play a role in prominence perception.

16. *The Marking of Nonsingular Verbal Obects in Natchez* by Geoffrey Kimball

The Natchez dependent verb has four principal parts or root shapes, which encode the number of that verb's subjects and objects. This system of root shapes is created by an abstract system of suffixation, the rules for which are complicated but completely regular. However, the occurrence of these principal parts in natural texts **suggests (I)** that the semantics of the system are far more complex than previously understood, and that in addition to marking objects as singular and plural, the system also marks objects for dual number.

17. *Phonological and Syntactic Evidence for Stem Structure in Oji-Cree* by Tanya Slavin

Following work by Bloomfield (1946; 1958), the primary verb stem in Algonquian is traditionally described in terms of a template of three elements: initial, medial, and final. However, both Bloomfield himself and the subsequent scholarship (e.g., Rhodes 1976, Goddard 1988; 1990, and O'Meara 1990) have also recognized that the structure of the stem is more complex than the simple template **might (I) suggest (I)**. In this paper, I build on these insights, taking them one step further. Drawing on Oji-Cree, I **propose (I)** a distinction between two types of stems, based on the complexity of their internal structure. A simple stem is formed by combining a root and a verbal head, while a Complex Stem involves an intermediate constituent that is salient at the phonological and syntactic level. I adduce phonological and syntactic evidence for the distinction between the two stem types and then focus on the properties of complex stems, arguing that they are subject to predictable syntactic restrictions. The analysis developed in this paper helps situate the Algonquian stem within a broader syntactic theory as well as accounts for a number of puzzling facts about the verb stem. The analysis also provides support for the view (Brittain 2003, Hirose 2003, Piggott and Newell 2006, and Mathieu 2008) that a significant portion of word formation in Algonquian takes place in syntax.

18. *Two Eights Make Sixteen Beads: Historical and Contemporary Ethnography in Language Revitalization* by Jocelyn C. Ahlers

While analyses of numerals typically focus on presenting morphological and phonological data as well as on comparative historical analyses of the numeral systems of related languages, numerals are **rarely (I)** analyzed as indices of the kinds of cultural information seen in such semantic fields as, e.g., kinship terminology. On the contrary, an examination of the two counting systems of Elem Pomo reveals a network of sociocultural connections. This paper presents an analysis of these two systems and **suggests (I)** that locating the data gained through an in-depth linguistic analysis within their proper sociocultural context can both clarify an understanding of these two counting systems and inform language planning.

19. *A Closer Look at A Supposedly Anumeric Language* by Caleb Everett

Languages without cardinal numbers are exceedingly rare, with only a few clearly documented cases. One such case is putatively Jarawara, an Arawá language that has been claimed to lack native number terms. Recently collected evidence demonstrating the existence of such native terms is described here. The terms in question were corroborated independently by seven Jarawara speakers. Additional evidence for these native numbers is provided via the

description of an associated tally mark system traditionally employed by the Jarawara. Combined with previous published claims on other Arawá languages, the data presented here **suggest (R/C)** that number terms existed in Jarawara and other Arawá languages prior to contact with non-indigenes.

20. *The Prosody of Dena'ina Narrative Discourse* by Olga Lovick and Siri G. Tuttle

We investigate the prosodic realization of discourse structure in Dena'ina based on two narratives. We **assume (I)** that a Dena'ina text consists of informational and prosodic "building blocks" of different sizes that we call paragraphs, story units, intonation units, and prosodic words. After outlining semantic and syntactic criteria for each of these, we demonstrate that story units and intonation unit boundaries are cued by prosodic markers including pitch, rhyme length, and following pause. This enables us to formulate a model of Dena'ina narrative discourse.

21. *Body-Part Prefixation in Kashibo-Kakataibo: Synchronic or Diachronic Derivation?* by Roberto Zariquiey Biondi and David W. Fleck

Most Panoan languages have closed sets of about 30 monosyllabic forms that attach phonologically to the front of nouns, adjectives, and verbs. These forms, mainly designating body-part notions and semantic extensions of these, **appear (I)** at first glance to be synchronically derived from polysyllabic body-part noun roots. This paper offers the first detailed study of the phonological, morphological, syntactic, and semantic properties of prefixation in Kashibo-Kakataibo. In contrast to other authors' analyses of Panoan prefixes, we present evidence to show that prefixes in Kashibo-Kakataibo are synchronically independent morphemes, rather than allomorphs of body-part nouns. Subsequently, we can present the diachronic scenarios that account for the perplexing formal and semantic similarities between body-part prefixes and body-part nouns in Kashibo-Kakataibo

22. *The Noun Classifiers of Cuchumatán Mayan Languages: A Case of Diffusion From Otomanguean* by Nicholas A. Hopkins

Several Mayan languages spoken in the Cuchumatán Mountains of northwestern Guatemala (Department of Huehuetenango) manifest systems of noun classifiers that specify the essential nature of the substance of things and beings named or referred to, e.g., 'stone', 'earth', 'animal', 'male person'. These noun classifiers are not found in other Mayan languages, although they are widely attested in languages of the nearby Otomangean (Otomanguean) family. This paper describes the Mayan systems and comments on the historical attestation of the semantic categories in Classic-period Maya iconography and epigraphy; it argues that the grammaticalization of these categories in the Cuchumatán languages is a result of contact with Otomangean speakers who were culturally dominant in the region for several centuries before the Colonial period. Additional examples of diffusion between Otomangean and adjacent Mayan languages **are suggested (C)**.

23. *Passives in Innu* by Lynn Drapeau

This paper offers the first full description of three morphologically derived passive constructions in Innu, a language related to Cree and formerly known as Montagnais. Passives of transitive verbs have been described by a number of Algonquianist scholars (Wolfart 1991 and Dahlstrom 1991 for Plains Cree and Rhodes 1991 for Ojibwa). This paper adds to those

accounts by encompassing passives of transitive and passives of intransitive verbs, both of which are shown to participate in a single process which leaves the highest-ranking argument unspecified. The paper also **reports (I)** on a medio-passive heretofore undocumented in the language. The semantic properties of each passive are discussed with special attention to the role of an implicit Agent argument. The three passives discussed in the paper are productive and contrast with stative lexical passives that have restricted distribution and more irregular form and semantics.

24. *Proto-Zapotec *tty/*ty and *ttz/*tz* by Natalie Operstein

This study is the first comprehensive historical and comparative treatment of *tty, *ty, *ttz, and *tz in all known subgroups of Zapotec. The study identifies the main changes affecting these consonants and **proposes (I)** a subgrouping of the Zapotec language family on the basis of the findings. Among the major results of the study are the proposal that Northern, Central, and Southern Zapotec share a node in the Zapotec family tree, labeled Core Zapotec here, and that the Coatec and Quiegolani varieties fall outside Core and Southern Zapotec, respectively. This paper also **proposes (I)** refinements to several Proto-Zapotec reconstructions and **suggests (I)** that *tty/*ty and *ttz/*tz **may (I) be identified**, respectively, with palatal stops and affricates. The study also makes available to researchers painstakingly collected data, most of which have not been available in printed form.

25. *Information Structure, Discourse Structure, and Noun Phrase Position in Kiowa* by Daniel Harbour, Laurel J. Watkins, and David Adger

The Kiowa clause **may (I) be divided**, on the basis of syntactic theory, into three distinct domains. Although Kiowa is a canonical "free word order" language, we demonstrate that use of these domains is strongly constrained by information-structural and, in some cases, discourse-structural and discourse-pragmatic properties. We analyze these factors, discuss different methodological options for such research, and examine the word order properties of a short glossed text.

26. *Argument Encoding in Movima: The Local Domain* by Katharina Haude

Argument encoding in Movima transitive clauses is based on a referential hierarchy (1 > 2 > 3 topic > 3 nontopic). Verbal direct and inverse marking **indicates (I)** the roles (actor/undergoer) of the event participants. The argument with the higher-ranking referent is obligatorily represented by a constituent directly attached to the predicate, while the argument with the lower-ranking referent is represented by a constituent less closely connected to the predicate, aligning with the single argument of the intransitive clause. First and second person **can (I) only be encoded** in the first way and therefore do not show any alignment effect with the argument of the intransitive clause. However, pragmatic factors can override the person hierarchy: when, for pragmatic reasons, first and second person are expressed by a free pronoun in clause-initial topic position, they **can (I) be treated** like lower-ranking persons.

27. *On Comanche's Central Mid Vowel* by Dylan Herrick

Comanche has six vowel qualities /i, e, a, o, u, ɨ/ (plus a length distinction), and while the literature agrees almost completely on /i, e, a, o, u/, the last vowel /ɨ/ has been problematic— described as central in some papers, back in others, and compared to both round and spread vowels of English. This paper provides an acoustic description of the Comanche vowel

system based on recordings of six native speakers which **suggests (I)** that Comanche /ɨ/ is actually a central mid vowel—not a high vowel. The discrepancy with the literature is attributed to three factors: a lack of prior acoustic research on Comanche, perceptual interference from the English language, and the prevalence of /ɨ/ in the literature on Numic languages. If other related languages turn out to require the reclassification of /ɨ/ as a mid vowel, this could have implications for the reconstruction of the Uto-Aztecan vowel system.

28. *Plurality Agreement in Some Eastern Mayan Languages* by Nora C. England

A preliminary analysis of texts shows that third-person plural agreement marking in K'ichee' is obligatory for animate nouns and optional but strongly dispreferred for inanimate nouns. In Mam, however, plural agreement marking is strongly preferred but still optional for animate nouns and, while it is not preferred for inanimate nouns, it is used with much greater frequency than in K'ichee'. It is **likely (I)** that in K'ichee' an innovative syntactic rule for agreement marking has been introduced that requires it for animates and not for inanimates, thus converting a pragmatic strategy, still used in Mam, to a syntactic strategy that pays attention to animacy features.

29. *Switch-Reference in Hidatsa: The Evolution of a Grammatical System* by John P. Boyle

Switch-Reference (SR) is a system that tracks subject continuity between clauses. In this paper, I examine the morphology of the SR system found in the Traditional Hidatsa texts of Lowie (1939) and show that there were two different SR systems in Hidatsa that varied with registerial selection. I then detail how this SR system interacted with other clause-final markers within two distinct registers of speech. This older system is compared to that found in the set of Hidatsa texts published in 1978 by Parks, Jones, and Hollow. This comparative examination shows that in these more recent texts, the two distinct registers of speech are in the process of collapsing together. This is evident from the inconsistent use of the different SR systems. Data from recent fieldwork is then presented to show that in modern Hidatsa the different registers are only a relic of the older system and that the SR system has been reanalyzed as a less elaborate style of clause connectors. **Possible (C)** explanations for how these two registers of speech originated are then proposed.

30. *The Nature of Laryngealization in St'át'imcets Laryngealized Resonants* by Sonya Bird

Phonetic variability—the variability with which we speak—has recently received much attention because of its implications for how sounds are represented lexically. This paper considers phonetic variability in laryngealized resonants, which are rare cross-linguistically but common in the Pacific Northwest languages (Salish and Wakashan). Previous literature on these sounds has focused primarily on variability in timing between the oral and laryngeal gestures. This paper explores instead variability in the realization of the laryngeal gesture, focusing on St'át'imcets (Lillooet Salish). Pitch, amplitude, and duration measurements are taken to characterize the laryngeal gesture of intervocalic laryngealized resonants. Results exhibit a high degree of variability but show that, overall, realization depends primarily on the location of the laryngealized resonant with respect to word stress: the correlates of laryngealization are acoustically stronger in post-stress than in pre-stress position. Results are discussed in terms of their **possible (C)** causes and in terms of their implications for how sound structure is lexically encoded.

31. *Cupeño Stress Shift: Diachronic Perspectives* by Ingo Mamet

Of all Uto-Aztecan languages, Cupeño has the most remarkable metrical system. It is particularly well known for its stress shift phenomena in constructions with "unaccented roots." This study highlights the diachronic development of this system. It is demonstrated that Cupeño unaccented roots predominantly derive from Proto-Uto-Aztecan etyma with second-syllable stress and were also stressed on the peninitial syllable in Cupeño's immediate predecessor, Proto-Cupan. It is argued that the behavior of unaccented roots is an archaism that can be accounted for by common cross-linguistic strategies of metrification prevalent in Proto-Cupan. These processes are no longer operative in Cupeño but **appear (C)** to be mirrored by principles governing secondary stress assignment in Cahuilla, a closely related language.

32. *Variable Velic Movement in Karitiâna* by Caleb Everett

In Tupí-Karitiâna, there is a remarkable variety of nasal phones. Specifically, nasal consonants **may (I)** take the form of simple nasals, pre-stopped nasals, post-stopped nasals, pre- and post-stopped nasals, as well as simple voiced stops. The greatest variety of nasal phones occurs when nasal consonants occur between two oral vowels. The analysis here focuses on the phones occurring in this environment. Acoustic data are presented, based on the spectral analysis of Karitiâna words with inter-oral nasals. The duration of velic movement in such words is shown to be wide-ranging and generally unpredictable, for all eight speakers examined. The remarkable extent of variability of velic movement observed contravenes expectations based on the literature on nasality.

33. *A Reconstruction of Nasal Harmony in Proto-Mundurukú (Tupi)* by Gessiane Picanço

This paper **attempts (I)** to trace the historical sequence of events that led to the synchronic pattern of nasal harmony in Mundurukú (Tupi), motivated by the idea that historical information can play a central role in explaining synchronic properties of grammars. The diachrony of this phenomenon explains two unusual features of the modern stage of Mundurukú: (i) a specific constraint where /d/ (from * L), but not other oral stops, is only followed by oral vowels, even in nasal harmony domains; and (ii) a dialect split where reflexes of * L in the context just referred to are /d/ in one dialect but /n/ in another. These two unusual features of Mundurukú are not shared by Kuruaya, which has a harmony system similar to that reconstructed for Proto-Mundurukú. The success of this study in illuminating language-specific aspects of Mundurukú nasal harmony supports more general approaches in which natural and unnatural sound patterns are explained in historical terms.

34. *On the origin of ablaut in the cariban family* by Sérgio Meira, Spike Gildea, and B. J. Hoff

In this paper, we undertake the first systematic exploration of pan-Cariban ablaut, a pattern of stem-initial vowel alternation in the paradigm of possessed nouns, inflected verbs, and inflected postpositions. We identify several related, but distinct, ablaut patterns and reconstruct them to sources in two Proto-Carib morphemes, *i- '3' and *j- 'Relational Prefix'. This then leads us to ervise prior reconstructions of certain personmarking prefixes in Proto-Carib, as well as many vowel-initial lexical items, a few *j- initial lexical items, and two

Proto-Carib derivational morphemes. A number of these reconstructions **appear (C)** to support prior claims of distant genetic relationship between the Cariban and Tupian families.

35. *Linking Valence Change And Modality: Diachronic Evidence From Hup (Amazonia)* by Patience Epps

This paper examines the historical development of modal constructions in Hup, a Nadahup (Makú) language of northwest Amazonia. Most notably, the Hup Jussive (thirdperson imperative/optative) has arguably arisen from an applicative, a typologically unusual source for a construction of this kind. In its turn, the Hup Jussive has produced an epistemic modal. These developments hinge on the remarkably polyfunctional etymon ?ūh, which has two further, **apparently (I)** related functions in the language, as a nominal kin term and an Interactional (reciprocal) prefix. While the Hup case **appears (I/R)** to be the first documented example of an applicative source for a modal, a broader typological perspective **suggests (I/R)** that valence-changing operations are in fact a **relatively (I/R)** natural step in the grammaticalization of obligation modals, which often involves the introduction and subsequent backgrounding of a participant. The Hup case contributes to our understanding of the diachronic origins of modals and of the functional links between modality and other grammatical systems.

36. *Rethinking Split Ergativity In Chol* by Jessica Coon

All Mayan languages exhibit ergative–absolutive systems of agreement. However, Chol and some other members of the family display aspectually based splits: while perfective clauses show the expected ergative–absolutive alignment, imperfective and progressive (hereafter "nonperfective") clauses show a nominative–accusative alignment (Larsen and Norman 1979, Bricker 1981, and Quizar and Knowles-Berry 1988). In addition to this difference in agreement, there are also important differences in stem morphology between perfective and nonperfective stems. I argue in this paper that nonperfective forms in Chol are formally possessed nominals. The main syntactic predicate is in fact the aspect marker, which shows absolutive agreement with its sole argument, the nominalized clause. Under this analysis, all predicates in Chol show an ergative–absolutive pattern of agreement. The illusion of split ergativity results from the nominalization of the notional predicate, along with the fact that ergative and genitive morphemes are identical in Mayan languages. This proposal builds on the **suggestion (C)** in Larsen and Norman (1979) that the majority of splits in the Mayan family **may (C) be reduced** to subordination.

37. *Word Order In Paraguayan Guaraní* by Judith Tonhauser and Erika Colijn

This paper explores constraints on clausal word order in Paraguayan Guaraní on the basis of a corpus of naturally occurring data. We find that grammatical function is a strong predictor of word order for direct objects, since they are almost exclusively realized postverbally, as well as for indirect objects, which all occur postverbally. The placement of subjects, however, depends on a variety of factors, in particular discourse status and the transitivity of the verb. We find only partial support for the claim that Paraguayan Guaraní has a basic subject-verb-object word order (e.g., Gregores and Suárez 1967), since there **does not seem (C)** to be a basic position for subjects. We conclude by comparing constraints on word order in Paraguayan Guaraní to constraints reported for other Tupí-Guaraní languages.

38. *Nasality and Nasal Prosody in Chimila* by Terry Malone

In Chimila, nasal consonants contrast with voiced stops at the same point of articulation and no surface phonetic contrast occurs between nasalized and oral vowels in core lexemes. Nevertheless, several lines of evidence **indicate (I)** that the Chimila lexicon includes nasal morphemes in contrast with oral morphemes. Evidence for this contrast includes morphophonemic alternations of stem-forming verb suffixes, appearance of a glottal glide following intransitive verb roots that have been transitivized, allomorphs of the intransitive imperative, and a restricted alternation between word-initial voiced stops and nasal consonants in roots and some suffixes. A constraint requiring lexical nasality to attach to consonants in core lexemes and the interaction of this constraint with the prosodic system, lexical tone, syllable structure, and the morphology account for the varied manifestations of lexical nasality.

39. *How to Tell a Creek Story in Five Past Tenses* by Jack B. Martin

Creek (or Muskogee) is among a small number of languages around the world that distinguish multiple tenses based on degrees of remoteness from the time of speaking. Those working on Creek have **rarely (I)** agreed on the number of tenses or on their meanings, however, and have **rarely (I)** examined the seemingly intricate ways that speakers use tenses in texts. This paper argues that Creek has one future tense and five past tenses. It finds, however, that speakers **may (R)** cast events within a single time frame in several different tenses based on immediacy. That is, just as English speakers will sometimes use present tense in describing past events, Creek speakers will sometimes allow tenses to creep forward from past 5 (remote past) to past 4 or even past 3 as events become more vivid. The Creek data thus provide especially clear support for observations that temporal distance in language **may (C) be extended** metaphorically to express subjective distance (Dahl 1984, Fleischman 1989, and Hintz 2007).

40. *Correlates to Middle Marking in Dena'ina Iterative Verbs* by Andrea L. Berez and Stefan Th. Gries

While recent studies have attempted to find a unified motivation for the Athabaskan middle voice, middle marking in iterative verbs, which are sometimes middles, is generally less well understood than in other middle constructions. Scholars have cited syntactic intransitivity, semantics, or some combination thereof as motivation for when iteratives are marked as middles. In this paper, we present a quantitative analysis of iteratives from traditional Dena'ina (Athabaskan, Alaska) narratives. This analysis **suggests (R)** that while grammatical transitivity plays a role in the triggering of overt morphological marking of middles, verb meaning plays an even more important overall role, and thus supports the **assumption (R)** of a semantically unified class of middle verbs. More specifically, we show that in Dena'ina iterative verbs, middle marking is more **likely (R/C)** to occur when the spatial starting and ending points of the action of the verb are undifferentiated.

41. *A Taxonomy and Typology of Lushootseed Valency- Increasing Suffixes* by David Beck

A great deal has been written about causatives and applicatives, yet efforts to relate these two types of valency- increaser are still in their early stages. This paper is an **attempt (I)** to develop a unified treatment using data from the Salishan language Lushootseed, which derives its transitive verb stems from intransitive radicals using a variety of valency-

increasing suffixes. This paper **proposes (I)** a taxonomy of these suffixes based on two parameters—the distinction between a causative, which adds a subject, and an applicative, which adds an object, and the distinction between directand nondirect—that is, whether the causee or the applied object is a direct object or is more oblique. This study also touches on some current debates in Salishan studies about whether these morphemes are inflectional or derivational, and the extent to which verbal radicals **can be treated (C)** as uniformly unaccusative, a characterization of the family that has been used to motivate some significant claims about language universals.

42. *The Focus Function(s) of =pura in Kokama- Kokamilla Discourse* by Rosa Vallejos Yopán

Focus subtypes can be characterized according to scope and pragmatic (e.g., [non]-contrastive) information. While the existence of strategies dedicated to code scope **seems (I)** clear, the existence of grammar dedicated to pragmatic contrast is in dispute (Lambrecht 1994 and Myhill and Xing 1996). Some models **propose (I)** that contrast is expressed in sentence grammar (Dik et al. 1981 and Watters 1979); others argue that contrast belongs to conversational implicature (Lambrecht 1994). Kokama- Kokamilla, an Amazonian language, has constructions that clearly distinguish focus subtypes according to both parameters. More specifically, this study examines the distribution of the clitic =pura. This morpheme is an important cue to identifying pragmatically marked sentences, by itself it **can (I) be associated** with specific subtypes of focus. It is the interaction of =pura with constituent order and prosody that produces formal distinctions for coding narrow vs. broad and contrastive vs. noncontrastive focus.

43. *A Test and Falsification of the "Classic Ch'olti'an" Hypothesis: A Study of Three Proto- Ch'olan Markers* by David Mora- Marín

This paper constitutes a test of the Classic Ch'olti'an (Pre- Eastern Ch'olan) hypothesis for the linguistic affiliation of the standard language of Classic Lowland Mayan hieroglyphic texts from ca. a.d. 200–900 proposed by Houston et al. (2000). Newly assessed linguistic evidence **suggests (I)** that the proposed Eastern Ch'olan innovations supporting the Classic Ch'olti'an hypothesis **may (I)** in fact **be shared** retentions from Proto- Ch'olan- Tzeltalan and Proto- Ch'olan. This paper also reviews the proposals for the identification of Eastern Ch'olan and Western Ch'olan vernacular markers at a variety of ancient cities by Justeson and Fox (1989) and Lacadena and Wichmann (2002), among others, and **suggests (I)** that the late and geographically circumscribed appearance of these traits **indicates (I)** that Proto- Ch'olan had not fully diversified—into distinct languages—by the end of the Classic period. It is concluded that it was a form of Pre- Ch'olan or Proto- Ch'olan that served as the basis for the standardization of Classic Lowland Mayan writing during the Late Preclassic period, by a.d. 200, and that the diversification of Proto- Ch'olan was more **likely (C)** a Postclassic (a.d. 900–1521) phenomenon, one exacerbated by the political and demographic collapse at the end of the Classic period.

44. *Denominal Verbs in Apachean Languages* by Willem de Reuse

Denominal verb derivation in three closely related Apachean languages (Navajo, Chiricahua Apache, and Western Apache) is not elaborate. The nouns involved are limited to body parts in Navajo, to kinship terms in Chiricahua Apache, and to skin ailments or substances typically clinging to the body in Western Apache. These differences **suggest (R/C)** that diachronically

the patterns arose independently from one another. The most interesting pattern is that of Western Apache (it also might exist in embryonic fashion in Navajo and Chiricahua Apache) and is due to the grammaticalization of a proclitic and enclitic complex around a noun. This complex was then reinterpreted as adjectival verb morphology, and the resulting word **can (C) be inflected** as an adjectival verb.

45. *Denominal Verbs in Uto-Aztecan* by Jason D. Haugen

Denominal verbs across Uto-Aztecan are used for several functions, including the indication of such semantic notions as make, use, have, get, become, marry, put on, and remove, as well as some others with a more limited distribution. Denominal verb constructions in these languages display characteristics that are typically attributed to noun incorporation, including the "stranding" of modifiers and the appearance of hyponymous objects (comparable to classificatory noun incorporation, e.g., I pet-have horses). The distribution of these morphosyntactic characteristics across the Uto-Aztecan language family **indicates (C)** that they **can (C) probably (C) be reconstructed** for Proto-Uto-Aztecan.

46. *Denominal Verbs in Seri* by Stephen A. Marlett

Denominal verbs in Seri are productively formed by affixing the prefix i- to a bound noun base (such as body-part nouns) and typically mean 'have X' or something related pragmatically to that meaning. The denominal verb **may (I)** be morphologically and syntactically transitive or intransitive. When it is transitive, a direct object **may (C)** appear in the clause which further specifies the identity of the noun which is in the verb. The noun base is typically nonreferential, although some examples in which it is referential **appear (C)** to be quite acceptable.

47. *Halkomelem Denominal Verb Constructions* by Donna B. Gerdts and Thomas E. Hukari

Halkomelem has four denominal verb prefixes: c- 'have, get, make, do', ł- 'ingest, partake', txw- 'buy', λ- 'go to'. These prefixes attach to nominal bases to form intransitive verbs. The noun to which the prefix attaches is usually unspecified, generic, or nonindividuated and **can (I) be doubled** with a freestanding nominal of more specific meaning. Syntactically, this nominal is an oblique object, parallel to patients of antipassive or applicative constructions. Denominal verb constructions are widely used, especially for denoting possession. As in the case of denominal verbs in other languages, they **can be formed (I) quite (I)** freely, as long as the situation allows for an interpretation. A brief look at the comparative Salish evidence **suggests (R/C)** that denominal verb morphology originated as lexical verbs that were then subsequently reduced to bound forms.

48. *The Seri–Salinan Connection Revisited* by Stephen A. Marlett

In 1925, Sapir proposed that Seri (Sonora, Mexico) and Salinan (central California) formed, with Chumash, a branch of the Hokan stock but did not provide any supporting argumentation. In 1956, Bright presented a small amount of data that in a preliminary way **seemed (I)** to confirm that hypothesis, although these data and this presentation were not meant to be taken as the argumentation that was lacking. No further documentation has ever been produced, although the Seri–Salinan family reappeared in Greenberg's 1987 volume on languages of the Americas (without discussion), which was cited in the 1992 International

Encyclopedia of Linguistics, which was the basis for the classification in the Ethnologue. In this paper, the Seri data are refined, the data from Bright (1956) are re- evaluated, and the proposal of a genetic relationship is put into doubt. It is **suggested (C)**, in fact, that the hypothesis **should (C) be abandoned** until proper evidence is presented.

49. *Center-Embedding Relative Clauses in Coahuilteco* by Rudolph C. Troike

Coahuilteco, a long-extinct language of South Texas known primarily from a confessor's manual (García 1760), had a basic SOV constituent order, with relative clauses occurring between the noun (NRel order) and a following demonstrative, a structure **apparently (I)** typologically unique in North America (Troike 2010). As Kuno (1974) observed, the combination of SOV and NRel orders creates the potential for center-embedding of relative clauses within relative clauses, a circumstance realized in García's text. Two levels of center-embedding are attested, as well as the use of extraposition **possibly (I)** to avoid deeper embedding, supporting Kuno's hypothesis that languages would utilize means to minimize the processing difficulties involved in comprehending multiply center-embedded structures.

50. *Northern Uto- Aztecan and Kiowa- Tanoan: Evidence of Contact between the Proto- Languages?* by Jane H. Hill

Proto- Northern- Uto- Aztecan (PNUA) and Proto- Kiowa- Tanoan (PKT) **may have exchanged (I)** loanwords. It **is suggested (I)** that this exchange of loan vocabulary is the linguistic aspect of an episode of contact identified archaeologically by Matson (1991) between immigrant maize cultivators, the Western Basketmaker II, **perhaps (I)** speakers of PNUA, and autochthonous hunter- gatherers, the Eastern Basketmaker II, **perhaps (I)** speakers of PKT. A case is made for seven items of vocabulary, including vocabulary for maize, as loans from PNUA into PKT. Resemblant words for maize cannot date to "Azteco-Tanoan," since maize dates only to about 4,000 years ago in the U.S. Southwest. A second suite of ten resemblant vocabulary items, including words for economically important wild plants and game animals, **are suggested (I)** as loans from PKT into PNUA. The syllabic shapes in this suite of proposed loans **may (I)** give clues about the elusive shape of pre- PKT stems.