

## A comparison of using hedges in different English academic articles written by Iranian scholars

Fahime Kharidar

Fahime kharidar, Department of English, University of Tehran, Kish International Campus  
[fahime.kharidar1983@yahoo.com](mailto:fahime.kharidar1983@yahoo.com)

**Abstract:** Writing is one of the significant language skills. It is totally different from other language skills like speaking, listening, and reading. Writing ability is not attained naturally as speaking and listening happen. In order to be able to write one needs to learn to write. In addition, it is different from reading in the sense that writing is a productive skill. Therefore, it needs to be produced carefully in order to do away with all possible misunderstandings. Hedging as linguistics element is one of the main components of academic writing which can be applied to reduce the possible misunderstandings. However, not Iranian students are aware of the functions of the hedging devices. The present study attempted to compare the use of hedging devices in three fields of MBA, Law, and Molecular biology. Totally 15 academic researcher papers were selected from each of the fields and examined in terms of the number and the types of hedging devices used in them. Later, the results of the counting phase were analyzed using chi-square test. The results of the chi-square test showed that first; students of Law used the highest amount of hedges in their writing. Interestingly, they used mostly auxiliary hedges (206 examples of auxiliary hedges were found). What seemed obvious was the fact that the Law students used extravagant use of auxiliary hedges. Second, we can conclude that the students of MBA made a logical use of hedges. Their use of different types of hedges was roughly the same. However, their writing objectives may be better fulfilled if their make more use of hedges than they usually do. Finally, the students of molecular biology used the least possible amount of hedging devices. The inferential results of the study showed that the students of molecular biology used only 17% of all hedges used. Technically, such limited amount of hedges cannot be expected in academic articles. That is, the results had implications for the students of molecular biology that they needed to improve their use of hedges in their writing. The project introduced some new avenues for further research concerning the hedging devices.

[Fahime Kharidar. **A comparison of using hedges in different English academic articles written by Iranian scholars.** *Life Sci J* 2014;11(6s):16-29]. (ISSN:1097-8135). <http://www.lifesciencesite.com>. 16

**Keywords:** auxiliary hedges, hedging devices, Law, MBA, molecular biology

### 1. Introduction

The main purpose of this chapter is to introduce the principal focus of the research. Therefore, it starts by providing a foundation for the linguistic concept of “hedging” and shows why it is a significant linguistic element. In the second section, the chapter moves forward to present the statement of the problem. The two sections following the statement of the problem introduces the research questions and research hypotheses. The last section of the chapter is devoted to defining some principal terminologies of the chapter.

In academic fields any awareness, finding, enlightenment, and discovery is made available to other researchers of the field through research report. Therefore, a research report, regardless of which field of study it belongs to, are the very ultimate product of the researcher who has conducted those reports. Moreover, research reports are necessarily realized in writing modality.

Because of the significance of such reports and all the misunderstanding they may cause, great care and attention have to be taken while preparing them. As it might be the case that sometimes the words fail to convey the phenomenon researcher attempts to

report. The degree of discrepancy between the phenomenon itself and the words used to introduce it can be suitably put on a continuum.

On one side of the continuum, the occasions can be considered on which the words convey exactly the opposite of the phenomenon itself. This is actually the worst occasion one can think of. Fortunately, such radical discrepancy between the phenomenon itself and the words are considerably rare in research reports. On the other side of the continuum, those cases can be considered in which the researcher’s words introduce the findings or events much more vigorously that they really are. In other words, although the results are embellished with some degree of doubt and uncertainty, the researcher might report them as being absolute claims. Such discrepancy between the phenomenon itself and the words is not as worse as the first case, but it needs to be totally avoided. Writing profession has resolved the issue of the degree of certainty between the real results and words. Hedges are linguistic elements which are introduced as the solution to issue of the degree of certainty. In academic contexts, the researchers usually make use of some words and phrases that illustrate uncertainty or even occasionally intentional

vagueness (Channell, 1994). Such linguistic devices are referred to as hedges.

Researchers use hedges for several purposes. Some researchers might use hedges to show that they are not fully determined in reporting their findings. Some other researchers might use hedges to signify their lack of commitment to the validity of their declarations. Even, some other researchers use hedges because of their intentional unwillingness to commit themselves to the claims. To talk about Hedges much more tangibly, it can be said that they are linguistic items such as 'perhaps', 'somewhat', 'might', 'to a certain degree', 'it is possible that', and many other similar examples.

Writers apply such cautious language because the acceptance of their research contributions depends largely on how these contributions are presented to the academic community. Using cautious language means alleviating the strength of a claim by increasing or decreasing its illocutionary force through hedging (Mojica, 2005). The growing interest on hedges is apparent in various research investigations in different language skills.

Scholars have expressed frequency and functions of hedging according to genre and different rhetorical sections of scientific papers (Mauranen, 1997; Myers, 1989) and according to Mojica, only in the introduction and conclusion sections of academic articles the writers usually use hedging.

Writing is one of the significant language skills. It is totally different from other language skills like speaking, listening, and reading. Writing ability is not attained naturally as it is usually the case in speaking and listening. In order to be able to write, one needs to learn to write. In addition, it is different from reading in the sense that writing is a productive skill. Therefore, it needs to be produced carefully in order to do away with all possible misunderstandings. Writing is internally a complicated mental activity and is externally contextualized within the cultural norms of the society and is embedded in institutional context in which it is produced (Kern, 2000; Hyland, 2002). Therefore, writing skill is greatly influenced by the cultural, political, institutional characteristics of the society.

Additionally, "writing is at once a profoundly complex ability, a highly conventionalized mode of communication, and a uniquely personal form of individual expression" (Cumming, 2005, p.373). That is to say, any individual writer in any specific culture and setting would have his/her own way of writing. Such differences of ways of writing between individuals can be because of different components of writing. Some components of writing are mechanics of writing, tense, structure, word choice, and the like.

Hedging as linguistics element is another example of these components which might be used differently by different writers.

Hedging in writing has gone under investigation for a couple of decades. Kaplan's contrastive rhetoric (1977) marks as the first significant research in the area of hedging.

Hyland's study (2005) has revealed that academically advanced students use more hedging devices while weaker students employ more boosting devices. Notably, the important factor to consider in the analysis of students' writing is the culture that may dictate how students express commitment and detachment to ideas they propose.

Skelton and Allison (in Hyland 2005) observed that EFL writers are more inclined to using direct and unqualified writing. Furthermore, they tend to use more direct and authoritative tone, simple sentence constructions yet stronger modals that convey stronger commitments to statements. Peter Crompton (1997) evaluated some of the different ways in which the term hedge has been understood and offered the fullest functional account of hedging in academic writing. He suggested that "hedge is more usefully reserved for expressions of epistemic modality. Or markers of provisionality as attached to new knowledge claims." (p.47)

Analysis of written academic corpora have revealed some of the characteristics of hedging in textbooks (Camicciotoli, 2003; Holmes, 1995; Myers, 1992) but the most reasonably correct attempt to place hedges within a comprehensive functional structure was his earlier work in 1989. Myer (1989) argued that hedges are part of a wider system of politeness designed to redress the threat research claims contain to the face of other scientists.

However, hedging in scientific research writing represents a little-studied area of pragmatic competence and we still know little about how it functions or is typically realized in specific academic domains. As was mentioned earlier, writing is a considerably personal trait which signals a characteristic of a special person. Therefore, hedging which is a component of writing can differ from a person to another and from one context, culture, background, and field of study to another. That is to say, greater attention needs to be paid to the fact that hedging represents a writer's attitude within a particular context.

The originality of the present research lies in the fact that it tries to investigate the attitudes of Iranian writers, who write English articles, about the use of hedging. In particular, this study will investigate the existences of any significant difference between the frequency of hedges used in the conclusion part of

English academic articles in MBA, Law and Molecular Biology written by Iranian scholars.

In other words, the study attempts to determine how often and in what ways Iranians students of MBA, Law and Molecular Biology make use of items like 'perhaps', 'somewhat', 'might', 'may', 'to a certain degree', 'it is possible that' in the conclusion section of their academic articles written in English. The data will be collected at University of Tehran, Kish International Campus through ex post facto design to answer the research questions.

### Research Questions

- Is there any significant difference between the frequency of auxiliary hedges used in the Conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?
- Is there any significant difference between the frequency of adverb hedges used in the Conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?
- Is there any significant difference between the frequency of adjective hedges used in the Conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?
- Is there any significant difference between the frequency of full verb hedges used in the Conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?
- Is there any significant difference between the frequency of miscellaneous hedges used in the Conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?
- Is there any significant difference between the frequency of all hedges as a whole used in the Conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?
- 

## 2. Literature Review

The purpose of this chapter is to review the related literature on hedging in conjunction with the significance of hedging in writing. A brief overview of the history and definition of hedging will be provided. Later, how hedging entered the field of second language acquisition (SLA) will be discussed.

### History of Hedge

The most prominent feature of our world is its developing sense. Science, technology, business, connections and the like are day after day advancing more and more. As they are moving forward on track of development, they create new concepts and enlightenments. In order to be addressed far more easily, these novel concepts are required to be presented through language. Jargons are the best instruments of referring to such new concepts and entities. A most common source of jargons is the general lexis of the languages. Therefore, it is

common in our developing world that some everyday vocabulary items are likely turn into scientific jargons of a specific science or discipline in future. Not dismissing such general rule, hedges entered Linguistics through the same process.

Lakoff (1972, 1982, 1986) is believed to be the first linguist to borrow the terminology of hedge from general lexicon to its specific usage in linguistics. Although the term is in use within our field for over forty years, there is no clear-cut definition of the concept. Even sometimes it has been used by different scholars to refer to a very different linguistic phenomenon. Therefore, the definition of hedge from the very past to the present time to the examination of the function of the term will be reconsidered.

Hedge might have been used in English long time back. Though, there is not much vigorous evidence to trace its usage in old writings. In old times, hedge was used to mean "to reject commitment". The oldest written example of the usage of hedge is found in the 16th century in *Merry Wives of Windsor*, (1600) by *Shakespeare*: "I, I, I myself sometimes, leaving the fear of God on the left hand and hiding mine honor in my necessity, am fain to shuffle, to hedge and to lurch" In the beginning of the 17th century, hedge led its way to financial transactions to refer to warranting a loan by locating it within a bigger loan. An instance of such financial usage of hedge is *Letters to Sir Henry Goodyere*, circa (1620) by *John Donne*'s: "You think that you have Hedged in that Debt by a greater, by your Letter in Verse." Through the passage of time, the meaning and definition of hedge underwent frequent changes. Some definitions of hedge from different old dictionaries are presented here to help us achieve more clear understanding of hedge. Merriam-Webster Dictionary provides the following definitions to hedge:

1. a fence or boundary formed by a dense row of shrubs or low trees b: [barrier](#), [limit](#)
- 2: a means of protection or defense (as against financial loss)
- 3: a calculatedly noncommittal or evasive statement

The third definition of The American Heritage Dictionary presents the same conceptual load of the term which Lakoff (1972) borrowed and brought to Linguistics. After Lakoff (1972, p. 195) introduced hedging to linguistics, he defined it as a group of words or phrases "whose job is to make things fuzzier". One of the famous definitions of hedging is offered by Lyons (1977).

Any utterance in which the speaker explicitly qualifies his commitment to the truth of the proposition expressed by the sentence he utters is an epistemically modal or moralized sentence (p. 797).

Later Hyland (1996, p. 479) described hedges more technically in this way,

Hedges here (sic) tone down, not the claims that are made for the research, but the language used to express them, and it is typically realized by reducing the author's linguistic role through use of the passive, existential subjects or by attributing claims to the text or data.

### **Why Hedging Should Be Used in Academic Research**

Academic writing is not simply a mere report of research finding through a common language. It is rather a complex social and cultural activity. Like any other form of social setting, the audience of writing is specific community with its own set of norms, rule, beliefs, and features (Hyland, 2002 a). Academic writing has developed in a specific social setting and therefore, demands the researcher to have account of those structures while writing (Bruffee, 1986; Duszak, 1994; Gilbert & Mulkay 1984; Hylan, 1994; Kelly, & Bazerman, 2003; Latour & Woolgar 1979). That is to say, any novice researcher needs to fully abide by such pre-established set of norms. Furthermore, these norms vary with regard to language and culture. Árvay and Tanko (2004) believed that any language community has its specific norms and culture which lay down style, content, and rhetorical structure. The norms underlying an academic writing community can be of so many varying natures. Mostly, such norms are a part of pragmatic competence of people involved within the writing community. Incorporation of hedges in academic writing is one such norm which needs to be observed by researchers. Hedges help writers to rebuff the negative effects of their utterance. Varttala (2001) maintains that hedging is applied to diminish the potential threat of a claim or avoid embarrassing circumstances in case the researcher is proved to be wrong. However, some other reasons justify the application of hedges.

The first reason for the utilization of hedging is that it is a common case in scientific researching that a researcher's finding may be proven untrue. Untrue results may arise in science because of defective measuring procedure or instruments, very limited number of participants, vague proof, hasty understandings based on results, misunderstanding previous research or even untrue claims of the previous research. Making untrue propositions would most definitely embarrass the researcher. Such scientific embarrassment within academic community and in presence of other colleagues can be felt as hard on the researcher's part. Hedges are the best possible approach to do away with such academic humiliation. Through the use of hedges researcher can predict potential awkward penalties of their untrue propositions. Hedges enable researchers to easily

make mention of their tentative positions concerning their findings and meanwhile to distance the possible consequences of being directly accountable (Clyne, 1991; Hyland, 1994; Nash, 1990; Powell, 1985; Rounds, 1982; Swales, 1990). Prince, Frader, and Meyers (1985) referred to such protecting function of hedges as 'Shields'. In this respect, Hyland (1994, p. 479) maintained that academics seek agreement for the strongest claims they can for their evidence, as this is how they gain their academic credibility, but they also need to cover themselves against the embarrassment of categorical commitment to statements that later may be shown to be wildly inaccurate.

The second reason is in fact the social and cultural nature of academic writing. Academic writing is prelude to entering into a gathering of colleague specialists. Writers would interpersonally connect with their readers through their written discourse. That is to say, scholars would judge the new-comer researchers based on the tones, structure, claims, and word choices of their writings. Hedges pave the way for writers to have account of the emotional demands of readers and make propositions in an admissible way and therefore to build up a superior relationship with the audience.

Strong claims or categorical assertions make claims unquestionably and make reader to avoid any argumentation, suggestion, negotiation or feedback (Hill, 1982; Stubbs, 1986). On the contrary, hedges support writers to declare their claims in a tentative tone and therefore gain a conditional admission from the prospective audience. In other words, hedged propositions consider readers as intellectual counterparts and leave space for them to make their own decisions concerning the accuracy of assertions.

The third reason of application of hedges is the vague nature of facts. On the one hand, it is totally understood that facts and realities of life cannot be easily uncovered. However, hedges provide a sensible solution for such challenges. In academic writing, hedges function as instruments which help writers to keep away from accurately measuring the world.

On the other hand, there is always a trade-off between facts and their interpretation. That is to say, not all uncovered aspects of a newly-discovered phenomenon can be described and any description may once be proved as imprecise. Therefore, researchers need to reach a balance between the phenomena they are writing about and their interpretations. Surprisingly, mere inclusion of hedges has easily resolved almost all such difficulties as well. Hedges enable writers to state their claims as precisely as possible and at the same time as cautiously as possible (Houghton, 2000; Prince et al., 1982;

Rounds, 1982; Skelton, 1988; Salager-Meyer, 1994; Thompson, 1993).

The next reason for the application of hedge is that the audience of academic writing is a group of honorable colleagues. Therefore, any set of new findings needs to be reported in a way that shows its respect and politeness the target community. In this respect, hedging acts as a politeness strategy which redresses claims or any other statement in a less threatening form. Thus, hedges help claims receive acceptance by the community. Such interpersonal feature of hedging has been frequently touched upon in the literature (e.g. Brown and Levinson, 1987; Coates, 1987; Fraser, 1980; Fraser and Nolan, 1981; Holmes, 1984; Myers 1989). By utilizing hedges, researchers signify their regard and reverence for their counterparts and simultaneously try to convincingly introduce their findings. Therefore, the target community is not willing to reject their propositions.

Another reason for the application of hedge is the coinage of new terms. Introducing a new terminology to a specific science or field might be a threat to other researchers' face. The reason is that the phenomena belong to all members of that specific community. That's why a researcher has to be cautious while appropriating phenomenon through his personal terminology. Therefore, coined terms might be resisted by other counterparts within the community. Myers (1989, p. 16) provides some good examples of resisted coinages by other researchers. For instance, some researchers still do not use the term *intron*, though it was introduced ten years ago and is now used in the textbooks: they prefer the alternative terminology of *intervening sequences*. So the introduction of a new term has to be marked with some sign that the writer suggests it only provisionally, subject to its adoption by the community. Walter Gilbert (1978) introduced the terms *intron* and *exon* twice, in articles in *PNAS* and *Nature*, using slightly different forms of statement. In *PNAS*, it is as if these forms were used at his laboratory and Tonegawa's as a matter of convenience.

"We call such an additional piece of DNA that arises within the gene an *intron* (for intragenic region or *intercistron*) and thus look upon the structure of this gene as"... (Tonegawa et al. 1978, p. 76).

In *Nature*, Gilbert makes an explicit bid to have these terms accepted generally, as a convenience for everyone, replacing terms he considers inadequate.

"The notion of a *cistron*... now must be replaced by that of a transcription unit containing regions that will be lost from the mature messenger-which I suggest we call *introns* (for intragenic regions)-alternating with regions which will be expressed *exons*". (Gilbert 1978, p. 413)'

Gilbert still hedges his proposal by saying he only suggests these terms. But he suggests them more directly in this less formal and frankly speculative 'News and views' article than in the *PNAS* report of experimental results.

The fact is that, such statements with personal subjects only claim that the researchers themselves use these coined terms, and they do not request other researchers to use them. Therefore, researcher can resort to hedge to preserve the negative face of an audience by impeding or interfering with his/her actions, beliefs, claims, and values as little as possible.

#### **Application of Hedging Devices in Research Articles (RAs)**

Hedges are significant elements of research articles. That is to say, competent or less competent can be easily recognized in terms of the degree of hedging devices used. There is a bulk of research which connects the difficulties of writing research papers to the application of hedging devices. A number of scholars (Hinkel, 1997; Hu et al., 1982; Bloor & Bloor, 1991; Skelton, 1997; Vande Kopple, 1997) claimed that unqualified and direct writing typically distinguishes non-native speakers from their native English speaking counterparts.

Wishnoff (2000) conducted an experimental study on hedging devices in academic writing. His results showed that the experimental group which received instruction on hedging significantly outperformed control group in the computer mediated discussion and on the application of hedges in research papers. Varttala's (2001) applied Hyland's model (1998) to study the use of hedges in academic writings in three different disciplines. His findings reported that the use of hedges differed widely in incidence between the topic areas considered and between two kinds of discourse genres, popular scientific articles and research articles.

Vassileva's (2001) conducted a research on the extent of commitment and detachment in Bulgarian and English. He concluded that the overall distribution of throughout introduction, discussion and conclusion of research articles differed considerably. Hyland (2002) analyzed some textbooks, published articles, student term papers and interview recordings to investigate the use of directives and hedges. The results showed that directives were applied for very different strategic objectives and also it showed considerable variations in the ways hedges were used across disciplines and genres.

Hyland (1998) claimed that the major reason why second language students find hedging in their propositions notoriously problematic is the paucity of related materials. As a result, scholars have found the application of hedging in scholarly texts as an essential element to develop linear arguments, to

maintain claims and to evade being offensive for non-native speakers (Cherry, 1988; Myers, 1989; Swales & Feak, 1994). To increase the familiarity of Iranian researchers with the notion of hedging the current project is needed to be conducted.

#### **Classifications of Hedges and Research Articles**

Hyland's (1998) posed that hedging devices have both different semantic interpretations and transmit a wide array of meanings for specific people in specific settings. Hyland (1998) claims that hedging helps linguistic forms link to their meanings. He believes that particular linguistic forms can not automatically be associated with specific interpretation; but one and the same form may be seen to involve various functions. Consequently, a certain degree of indeterminacy of the functions of hedging is to be irresistible and it is viewed as a multifunctional phenomenon" (p. 77).

Hyland presented two main categories of hedges in the content of RAs. These categories are as below.

#### **Content-oriented hedges.**

These content-oriented hedges "mitigate the relationship between propositional content and a representation of reality; they hedge the correspondence between what the writer says about the world and what the world is thought to be like" (Hyland, 1996:439; see also 1998:162; Markkanen, & Schroder, 1997).

#### **Accuracy-oriented hedging**

In the context of RAs, accuracy-oriented hedging deal with authors' wish to be as precise as possible in cases the propositions put forth and the state of affairs in the world may not be in full correspondence (Hyland, 1998).

Example1: these sellers sold approximately between 43 and 54 % of their goods

#### **Attribute hedges**

As Hyland (1998, p.164) illustrates, attribute Hedges claim that "results vary from an assumed ideal of how nature behaves and allows a better match with familiar descriptive terms". Linguistic devices which express precision in terms of degree or frequency such as adverbs or adverbial devices are among this hedge type.

#### **Reliability hedges**

As Hyland (1998, p.167) illustrates reliability hedges such as full verbs, modal auxiliaries, modal, nouns, adjectives, and adverbs indicate "a conviction about propositional truth as warranted by deductions from available facts, relying on inference, deduction, or repeated experience. They refer to present states and are usually in the active voice without writer agentivity".

Example2: I postulate that in settings involving friends, relatives and ...

#### **Writer-oriented hedges**

Hyland (1998, pp. 170-172) maintains that writer-oriented hedges are considered as a strategy intended to "shield the writer from the possible consequences of negotiability by limiting personal commitment". From Hyland's (1998) perspective the fundamental characteristic of such hedges is the nonappearance of writer agentivity which involves impersonal passive voice, constructions, or other ways of evading direct reference to the writer.

#### **Reader-oriented hedges.**

Reader-oriented hedges principally account for the relationship between reader and writer. Hyland (1996, p. 446) believes that reader-oriented hedges "confirm the attention writers give to the interactional effects of their statements" and also "solicit collusion by addressing the reader as an intelligent colleague capable of participating in the discourse with an open mind". Examples of this category are hypothetical conditions, questions, and personal attribution.

The importance of hedges becomes more obvious in academic writing. Awareness of these strategies can help non-native researchers to prevail over the comprehensive norms of being acknowledged as the members of academic society because publishing a written scholarly genre require the researchers' demonstration of such awareness of social understanding and rhetorical constructions of the community.

#### **Realization of Hedging in Academic Writing**

Hedging devices can be realized in academic writing in many different forms. And many of these forms have been reported in research findings.

Skelton (1988) conducted a study to investigate the realization of "commentative language" in 20 humanities and 20 science research papers. Skelton (1988, p. 98) recognized five different realization categories of comment:

- (1) Copulas other than *be*,
- (2) Modal verbs,
- (3) Adjectival and adverbials which are clause initial, or
- (4) Introduced by *There is, It is, This is*, and
- (5) Lexical verbs. These examples are taken from a corpus of recent articles in molecular biology:

Another classification of hedges was presented by Varttala's (2001). Varttala's (2001) model had five categories. Varttala's (2001) model classified hedges into five major classes of full verbs, adverbs, modal auxiliaries, nouns, adjectives, and an additional category classified under rubric of "other hedges" or "miscellaneous hedges" which contain hedges like "if clauses" and references to "limitations". As far as the identification of verbs functioning as hedge is concerned, non-factive reporting verbs can be applied to report other researcher's results or to briefly

describe the writer's own study. A good example of this type of verb is suggested and argued. Varttala (2001) believed that

tentative cognition verbs such as hope and suspect is a reference to the mental status of the writer whose study is being reported and their tentative essence having them function as hedges is in line with the conviction that "the information they introduce in one way or another based on subjective cognitive activity rather than uncontroversial empirical evidence"(p.122).

In addition, seem and appear are two example of tentative linking verbs.

Some examples of the adverbs in the form of hedges are adverbs like apparently and probably. The major objective behind the application of probability adverbs is to demonstrate some degree of uncertainty toward the claim the author offers (Varttala, 2001).

Adverbs of indefinite frequency such as often and sometimes are applied when the writers are not willing to present the audience with precise details about the frequency of an event in a period of time (Varttala, 2001). Therefore, adverbs of indefinite frequency support writers to dodge providing precise numerical information. The major objective behind the application of adverbs of indefinite degree such as somewhat and significantly is to shield the danger of being proved wrong or totally rejected. This is more often probable when the exact numbers, degrees or quantities are not recognized to the writer or when the writer referring to precise information in the risk of being totally rejected or being wrong (Hyland, 1998). The major objective behind the application of approximative adverbs such as almost and about is to signify the uncertain confines and degrees as their label shows. approximative adverbs also signify that numerical data are imprecise in quantification and approximation (Hyland, 1994, 1996, 1998; Varttala, 1999, 2001).

Concerning the adjectives, the major objective behind the application of probability adjectives such as possible is to convey some degree of uncertainty concerning the claim the writer proposes. Adjectives of indefinite degree play the role of diminishing the absoluteness of what is said and rebuff commitment to precise facts (Hyland, 1998 Ventola, & Mauranen, 1990).

As far as the nouns are concerned, non-factive assertive nouns like prediction refers to the indefiniteness in reporting other scholar or the writer's own study. The major objective behind the application of nouns of tentative likelihood is to imply that what is being provided is not an absolute fact or proved wrong. Therefore, likelihood has such role in academic writings in English texts (Hyland, 1998; Varttala, 2001).

### 3. Methodology

The principal purpose of the current chapter is to present the methodology used for the implementation of the study. The present research mainly focused on the hedging devices used by Iranian writers. This methodology section is the way through which such study was realized. This chapter starts with a description of the data of the study. Later, the instruments of the study will be introduced. And in the last section, the researcher will deal with the data analysis procedure of this study to help reader find out about the statistical procedures behind the study.

#### Corpus

As was mentioned in chapter one, this study will investigate the existences of any significant difference between the frequency of hedges used in the conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians.

The data were collected at University of Tehran, Kish International Campus. To collect the data for the study, 20 academic research articles were collected from each of the fields of MBA, Law and Molecular Biology. Totally, 60 articles were collected. Later, the conclusion section of the articles were printed out and used as final data for the research.

#### Instruments

Hyland Polypragmatic Model

The Hyland Polypragmatic Model will be applied to categorize and quantify frequency of hedges used by students.

Table 3.1. *Hyland Polypragmatic Model (1998)*

Full verbs	Nonfactive reporting
	Tentative cognition
	Tentative linking
Nouns	Nonfactive assertive
	Tentative cognition
	Tentative likelihood
Adjectives	Probability
	Indefinite degree
	Indefinite frequency
Adverbs	Probability
	Indefinite degree
	Indefinite frequency
	Approximative

#### Full verbs

Those hedges categories which were realized through full verb will be elucidated below on the basis of their semantic content

#### Non factive reporting verbs

Non factive reporting verbs embrace all those performative verbs which seem to be tentatively

useful devices in preparing researchers' reports (Hyland, 1998).

Example: it can be argued that the two groups performed well in pre-test.

#### **Tentative cognition verbs**

Tentative cognition verbs entail the mental condition or psychological processes of those whose opinions are reported rather than to linguistic activity (Varttala, 2001).

Example: He postulates that in all those classes ...

#### **Tentative linking verbs**

Tentative linking verbs implies that views provided by the writer or those cited as references are tentative.

Example: It seems that experimental group outperformed control group in post-test.

#### **Nouns**

##### **Nonfactive assertive nouns**

Nonfactive assertive nouns include items like: Suggestion, argument, claim, frequency, prediction, and implication

Example: this claim has been tested using .....

##### **Tentative cognition nouns**

Tentative cognition nouns include items such as: Finding, assumptions

Example: These findings are in line with the model of ....

##### **Nouns of tentative likelihood**

Nouns of tentative likelihood include: tendency, potential, possibility, and probability.

Example: there is a possibility that these results were affected by ....

#### **Adjectives**

Probability adjectives

The Probability adjectives include: possible, probable and apparent.

Example: A probable reason of this event is that...

Adjectives of indefinite degree

Adjectives of indefinite degree include: considerable, and significant.

Example: there was a significant difference between the scores of the two groups.

Adjective of indefinite frequency

Adjective of indefinite frequency include: general, usual

Example: the scores of control group are lower than usual

Adverbs

Probability adverbs

Adverbs of probability include likely, few, potentially, presumably and probably

Example: probably, they had achieved different results if ...

Adverbs of indefinite degree

Adverbs of indefinite degree include; significantly, highly, relatively, and somewhat.

Example: their performance was significantly different from the control group.

Adverbs of indefinite frequency

Adverbs of indefinite frequency include items like: often, and usually.

Example: research conditions usually differ in terms of ....

Approximative adverbs

Approximative adverbs include items like: Some and approximately.

Example: their scores were approximately higher.

#### **Modal Auxiliaries**

Different types of modal auxiliaries are regarded as hedges. These modal auxiliaries include can, may, might, could.

#### **Data Analysis**

Only quantitative data was used in the present research. Therefore, only quantitative analyses were conducted for the results of the study. All the numerical data collected from the conclusion section of articles in MBA, Law and Molecular Biology were listed in specific sheets. The scholars' use of hedging devices was first quantified and later was coded and entered into SPSS software, and then analyzed using Chi-square test. In the analyses phase both descriptive and inferential statistics were used. Descriptive analyses were used to present a succinct illustration of the frequencies and percentages of the whole data. Similarly, inferential statistics was utilized to uncover the relationship between the whole quantitative data.

## **4. Results**

This chapter presents the findings of the present study conducted on 45 research papers in three fields MBA, Law, and Molecular Biology. The chapter will first reiterate the research hypotheses of the study and will subsequently move to present the results of the study for these research questions. The results will be presented here as a whole section.

### **Inferential Analysis of Data**

So far, the frequency counts of each of the identified categories and subcategories of hedges were separately organized for each of the three majors. Furthermore, to uncover the differences between the frequency of the occurrence of the hedging devices in the three fields of MBA, Law, and Molecular Biology chi-square tests were applied. The results of the Pearson chi-square will be presented in the following section.

#### **4.3.1. Test of the First Hypothesis**

Hypothesis 1:

There is no significant difference between the frequency of auxiliary hedges used in the conclusion

part of English academic articles in MBA, Law and Molecular Biology written by Iranians?

Table 4.8. Chi – square for the frequency of Auxiliary hedges in three fields of MBA, Law, and Molecular Biology

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Groups	313	1.93	.582	1	3

#### Chi-Square Test

Groups				
	Observed N	Expected N	Residual	
MBA Research papers	64	104.3	-40.3	
Law Research papers	206	104.3	101.7	
Molecular Biology research papers	43	104.3	-61.3	
Total	313			

Test Statistics	
	Groups
Chi-Square	150.716 <sup>a</sup>
Df	2
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 104.3.

The Chi-Square test results indicated that the differences between the frequency of uses of auxiliaries as hedging devices in three disciplines of MBA, Law and Molecular Biology were significant (Pearson Chi-Square value = 150.716; p. = 000). Therefore, the first hypothesis of the study (H0 underlying Pearson Chi-Square) is rejected meaning that three disciplines used auxiliary hedges to a significantly different degree.

#### 4.3.2. Test of the Second Hypothesis.

Hypothesis 2:

There is no significant difference between the frequency of adverb hedges used in the conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?

Table 4.9. Chi – square for the frequency of adverb hedges in three fields of MBA, Law, and Molecular Biology

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Groups	74	1.78	.832	1	3

#### Chi-Square Test

Groups			
	Observed N	Expected N	Residual
MBA Research papers	35	24.7	10.3
Law Research papers	20	24.7	-4.7
Molecular Biology research papers	19	24.7	-5.7
Total	74		

Test Statistics	
	Groups
Chi-Square	6.514 <sup>a</sup>
Df	2
Asymp. Sig.	.039

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 24.7.

The Chi-Square test results indicated that the differences between the frequency of uses of Adverbs as hedging devices in the three disciplines were significant (Pearson Chi-Square value = 6.514; p. = 0.039). Therefore, the second hypothesis of the study (H0 underlying Pearson Chi-Square) is rejected meaning that the disciplines of MBA, Law and Molecular Biology used adverb hedges to a significantly different degree.

#### 4.3.3. Test of the Third Hypothesis.

Hypothesis 3:

There is no significant difference between the frequency of full verb hedges used in the conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?

The Chi-Square test results indicated that the differences between the frequency of uses of Full verbs as hedging devices in three disciplines of MBA, Law and Molecular Biology were significant (Pearson Chi-Square value = 14.265; p. = 0.001). Therefore, the third hypothesis of the study (H0 underlying Pearson Chi-Square) is rejected meaning that the disciplines of MBA, Law and Molecular Biology used full verb hedges to a significantly different degree.

Table 4.10. Chi – square for the frequency of full verb hedges in three fields of MBA, Law, and Molecular Biology

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Groups	83	1.66	.737	1	3

**Chi-Square Test**

<b>Groups</b>			
	Observed N	Expected N	Residual
MBA Research papers	41	27.7	13.3
Law Research papers	29	27.7	1.3
Molecular Biology research papers	13	27.7	-14.7
Total	83		

<b>Test Statistics</b>	
	Groups
Chi-Square	14.265 <sup>a</sup>
Df	2
Asymp. Sig.	.001

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 27.7.

**4.3.4. Test of the fourth hypothesis.**

Hypothesis 4:

There is no significant difference between the frequency of adjective hedges used in the conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?

Table 4.11. Chi – square for the frequency of adjective hedges in three fields of MBA, Law, and Molecular Biology

<b>Descriptive Statistics</b>					
	N	Mean	Std. Deviation	Minimum	Maximum
Groups	61	1.80	.833	1	3

**Chi-Square Test**

<b>Groups</b>			
	Observed N	Expected N	Residual
MBA Research papers	28	20.3	7.7
Law Research papers	17	20.3	-3.3
Molecular Biology research papers	16	20.3	-4.3
Total	61		

<b>Test Statistics</b>	
	Groups
Chi-Square	4.361 <sup>a</sup>
Df	2
Asymp. Sig.	.113

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 20.3.

The Chi-Square test results indicated that the differences between the frequency of uses of Full verbs as hedging devices in three disciplines of MBA, Law and Molecular Biology were significant (Pearson Chi-Square value = 4.361; p = .113). Therefore, the fourth hypothesis of the study (H0 underlying Pearson Chi-Square) is rejected meaning that the disciplines of MBA, Law and Molecular Biology used adjective hedges to a significantly different degree.

**4.3.5. Test of the fifth hypothesis.**

Hypothesis 5:

There is no significant difference between the frequency of miscellaneous hedges used in the conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?

Table 4.12. Chi – square for the frequency of miscellaneous hedges in three fields of MBA, Law, and Molecular Biology

<b>Descriptive Statistics</b>					
	N	Mean	Std. Deviation	Minimum	Maximum
Groups	8	1.75	.886	1	3

**Chi-Square Test**

<b>Groups</b>			
	Observed N	Expected N	Residual
MBA Research papers	4	2.7	1.3
Law Research papers	2	2.7	-.7
Molecular Biology research papers	2	2.7	-.7
Total	8		

<b>Test Statistics</b>	
	Groups
Chi-Square	1.000 <sup>a</sup>
Df	2
Asymp. Sig.	.607

a. 3 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 2.7.

The Chi-Square test results indicated that the differences between the frequency of uses of Miscellaneous hedges in three disciplines of MBA, Law and Molecular Biology were not significant (Pearson Chi-Square value = 1.00; p = .607). Therefore, the fifth hypothesis of the study (H0 underlying Pearson Chi-Square) is confirmed meaning that the disciplines of MBA, Law and Molecular Biology used miscellaneous hedges to a similar degree.

#### 4.3.6. Test of the sixth hypothesis.

Hypothesis 6:

There is no significant difference between the frequency of all hedging devices as whole used in the conclusion part of English academic articles in MBA, Law and Molecular Biology written by Iranians?

Table 4.8. Chi – square for the frequency of the whole hedges in three fields of MBA, Law, and Molecular Biology

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Groups	539	1.85	.686	1	3

#### Chi-Square Test

Groups				
		Observed N	Expected N	Residual
MBA	Research papers	172	179.7	-7.7
Law	Research papers	274	179.7	94.3
Molecular Biology	research papers	93	179.7	-86.7
Total		539		

Test Statistics	
	Groups
Chi-Square	91.662 <sup>a</sup>
Df	2
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 179.7.

Overall, the Chi-Square test results indicated that the differences between the frequency of uses of all the used hedging devices in three disciplines of MBA, Law and Molecular Biology were significant (Pearson Chi-Square value = 91.662;  $p = .000$ ). Therefore, the sixth hypothesis of the study ( $H_0$  underlying Pearson Chi-Square) is rejected meaning that the disciplines of MBA, Law and Molecular Biology used all hedging devices as whole to a significantly different degree.

#### Discussion

Writing is one of the significant language skills. It is totally different from other language skills like speaking, listening, and reading (Cumming, 2005). Writing ability is not attained naturally as speaking and listening happen (Cherry, 1988). In order to be able to write one needs to learn to write (Grabe, 2006). In addition, it is different from reading in the sense that writing is a productive skill. Therefore, it needs to be produced carefully in order to do away with all

possible misunderstandings (Thompson, 1993). Besides, viewing written text as interaction, we argue that the communicative purpose of scientists, i.e., to publish the findings and results of their research in the form of journal articles (Mojica, 2005). We also indicate the paradoxical nature of modern scientific journal articles; that is, writers–researchers must, on the one hand, emphasize the originality and importance of their research, while, on the other hand, they must humbly seek the acceptance and recognition of editors, readers, and the scientific–academic community (Bruffee, 1986; Duszak, 1994; Gilbert & Mulkay 1984; Hylan, 1994; Kelly, & Bazerman, 2003; Latour&Woolgar 1979). The issue of how writers–researchers position themselves in the paper and how they perceive their relationship with readers–peer researchers and with the discipline is explored in this study of hedging devices.

Hedging as linguistics element is one of the main components of academic writing which can be applied to reduce the possible misunderstandings (Lakoff, 1972, 1982, 1986). However, not Iranian students are aware of the functions of the hedging devices (Clyne, 1991; Hyland, 1994; Nash, 1990; Powell, 1985; Rounds, 1982; Swales, 1990). The present study attempted to compare the use of hedging devices in three fields of MBA, Law, and Molecular biology. Totally 15 academic researcher papers were selected from each of the fields and examined in terms of the number and the types of hedging devices used in them. Later, the results of the counting phase were analyzed using chi-square test. The results of the chi-square test showed that first; students of Law used the highest amount of hedges in their writing. Interestingly, they used mostly auxiliary hedges (206 examples of auxiliary hedges were found). What seemed obvious was the fact that the Law students used extravagant use of auxiliary hedges. Second, we can conclude that the students of MBA made a logical use of hedges. Their use of different types of hedges was roughly the same. However, their writing objectives may be better fulfilled if their make more use of hedges than they usually do. Finally, the students of molecular biology used the least possible amount of hedging devices. The inferential results of the study showed that the students of molecular biology used only 17% of all hedges used. Technically, such limited amount of hedges cannot be expected in academic articles. That is, the results demanded the students of molecular biology that they needed to improve their use of hedges in their writing. The project introduced some new avenues for further research concerning the hedging devices.

## 5. Conclusion

The present study attempted to compare the use of hedging devices in three fields of MBA, Law, and Molecular Biology. Totally 15 academic researcher papers were selected from each of the fields and examined in terms of the number and the types of hedging devices used in them. Later, the results of the counting phase were analyzed using chi-square test. The results of the chi-square test showed that firstly the students of Law used the highest amount of hedges in their writing. Interestingly, they used mostly auxiliary hedges (206 examples of auxiliary hedges were found). What seemed obvious was the fact that the Law students used extravagant use of auxiliary hedges. Second, we can conclude that the students of MBA made a logical use of hedges. Their use of different types of hedges was roughly the same. However, their writing objectives may be better fulfilled if they make more use of hedges than they usually do. Finally, the students of molecular Biology used the least possible amount of hedging devices. The inferential results of the study showed that the students of molecular Biology used only 17% of all hedges used. Technically, such limited amount of hedges cannot be expected in academic articles. Therefore, the students of molecular Biology need to improve their use of hedges in their writing. Based on the results of the study, one may conclude that the fields of study have considerable impact on the beliefs, characteristics, and the conduct of the scholars. Such differences are then reflected in the scholars' speech and writing let it be in terms of using hedges or words choice or whatever. What is important is that the educational background has indeed impact on scholars' academic performance.

### Acknowledgements:

I wish to express my profound gratitude to my supervisor, Dr Nematy whose continual inspiration, enlightening instructions, and thoughtful guidance rendered the completion of this thesis possible. Special thanks go to My Advisor, Dr. Rezaie who his wholehearted supports. I also thank all of the instructors who taught me during the two years of my study in Kish University.

### Corresponding Author:

Fahime kharidar  
Department of English  
University of Tehran, Kish International Campus  
E-mail: [fahime.kharidar1983@yahoo.com](mailto:fahime.kharidar1983@yahoo.com)

### References

1. Árvay, A. & Tanko, G. (2004). A contrastive analysis of English and Hungarian theoretical research article introductions, *IRAL*, 42, 71-100.

2. Bloor, M. & Bloor, T. (1991). Cultural expectations and socio-pragmatic failure in academic writing. In P. Adams, B. Heaton, & P. Howarth (Eds.), *Socio-cultural issues in English for academic purposes* (pp.1-12).
3. Brown, P. And Levinson, S. (1987). *Politeness: Some universals in language usage*. Cambridge: Cambridge University Press
4. Brufee, K. (1986). Social construction Language and the authority of knowledge: A bibliographical essay, *College English* 48, 772-9
5. Bussmann, H. (2006). *Routledge Dictionary of language and Linguistics*. The Taylor & Francis e-Library
6. Camiciottoli, C. B. (2003). Metadiscourse and ESP reading comprehension: An exploratory study. *Reading in a Foreign Language*, 15 (1).
7. Channell, J. (1994). *Vague Language*. Oxford: Oxford University Press.
8. Cherry, R.(1988). Politeness in written persuasion. *Journal of Pragmatics*, 12, 63-81.
9. Clyne, M. (1991). The sociocultural dimension: The dilemma of the German-speaking scholar. In Hartmut Schroder (Ed.), *Subject- oriented texts: Languages for special purposes and text theory* (pp.49-68). Berlin & New York: Walter de Gruyter.
10. Coates, J. (1987). Epistemic modality and spoken discourse. *Transactions of the Philological Society*. 85, 10-131
- 11.
12. Crompton, P. (1997). Hedging in academic writing: some theoretical aspects. *English for Specific Purposes*, 16(4), 271-289.
13. Cumming, A. (2005). Teaching writing: Orienting activities to students' goals. In *Current trends in the development and teaching of the four language skills*, Esther U., & Alicia M. (Eds.) Berlin: Mouton de Gruyter.
14. Donnes, J. (1620). *Letters to Sir Henry Goodyere*. James company, circa. London.
15. Duszak, A. (1994). Academic discourse and intellectual styles. *Journal of Pragmatics*, 21(8), 291-313.
16. Fraser, B. (1980). Conversational mitigation. *Journal of Pragmatics* 4, 341-350.
17. Fraser, B. And Nolan, W. (1981). The association of deference with linguistic form. *International Journal of the Sociology of Language* 27, 93-109.
18. Fran & Salager-Meyer, F. (1993). *Social approaches, I think perhaps you should: A study of hedges in written scientific discourse*.
19. *Etymology Dictionary*. [2http://www.etymonline.com/h2etym.htm](http://www.etymonline.com/h2etym.htm)

20. Gilbert, W. 1978. 'Why genes in pieces?' *Nature* 271:501.
21. Gilbert, G. N., & Mulkay, M. (1984). *Opening Pandora's Box: A sociological analysis of scientific discourse*. Cambridge, UK: Cambridge University Press.
22. Grabe, W. (2006) Areas of research that influence L2 writing instruction. In *Current trends in the development and teaching of the four language skills*, Esther U., & Alicia M. (Eds.) Berlin: Mouton de Gruyter.
23. Hill, S.S. et al. (1982). Teaching ESL students to read and write experimental research papers. *TESOL Quarterly*, 16, 33-47.
24. Hinkel, E. (1997). Indirectness in L1 and L2 academic writing. *Journal of Pragmatics*, 27, 361-386).
25. Holmes, J. (1984) Modifying illocutionary force. *Journal of Pragmatics* 8, 345-365.
26. Holmes, J. (1995). *Women, Men and Politeness*. London: Longman.
27. Houghton, M. (2000). *The American Heritage Dictionary of the English Language*, (4 ed) [Houghton Mifflin Company](http://www.houghtonmifflin.com)
28. Hu, Z., Brown, D., & Brown, L. (1982). Some linguistic differences in the written English of Chinese and Australian students. *Language Learning and Communication*, 1, 39-49
29. Hyland, K. (1994). Hedging in academic writing and EAP textbooks. *English for Specific Purposes*, 13, 239-256.
30. Hyland, K. (1996). Nurturing hedges in the ESP curriculum. *System*, 24(4), 477-490.
31. Hyland, K. (1998). *Hedging in scientific research articles*. Amsterdam/Philadelphia: John Benjamins.
32. Hyland, K. (1999a). Talking to students: Metadiscourse in introductory coursebooks. *English for Specific Purposes*, 18(1), 3-26.
33. Hyland, K. (1999b). Disciplinary discourses: writer stance in research articles. In C. Candlin and K. Hyland (Eds.), *Writing: texts, processes and practices* (pp.99-121). Harlow: Addison Wesley Longman
34. Hyland, K. (2002a). Directives: argument and engagement in academic writing. *Applied Linguistics*, 23(2), 215-239.
35. Hyland, K. (2002b). Genre: language, context, and literacy. *Annual Review of Applied Linguistics* 22, 113-135.
36. Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. NY: Continuum Discourse Series.
37. Kaplan, R. (1977). Contrastive Rhetoric. In T. Miller (Ed.), *Functional approaches to written text: classroom applications* (pp. 18 – 32). USA: English Language Programs.
38. Kelly, J.G., and Bazerman, C. (2003). How students argue scientific claims: a rhetorical-semantic analysis. *Applied Linguistics*, 24(1), 28-55.
39. Kern, R. (2000). *Literacy and language teaching*. Oxford: Oxford University Press.
40. Lakoff, G. (1972) *Hedges: A study in meaning criteria and the logic of fuzzy concepts*. Chicago Linguistic Society Papers 8, 183-228.
41. Lackoff, G. (1982). Categories and Cognitive Models (Series A. Paper No. 96). Trier: L.A.U.T.
42. Lackoff, G. (1986). Frame Semantic Control of the Coordinate Structure Constraint, *CLS* 22, part 2, 152-167.
43. Latour, B., & Woolgar, S. (1979). *Laboratory life: The social construction of scientific facts*. Beverly Hills, CA: Sage.
44. Markkanen, R., & Schroder, H. (1997). *Hedging and discourse: Approaches to the analysis of a pragmatic phenomenon in academic texts*. Berlin: de Gruyter.
45. Mauranen, A. (1997). Hedging in Language Revisers' Hands. In *Hedging and discourse: approaches to the analysis of a pragmatic phenomenon in academic texts*, ed. Markkanen and Schroder, H. 115-133. Berlin and New York: Walter de Gruyter.
46. Mojica, L. (2005). Filipino authors' ways of showing detachment / commitment in their English academic papers. In D Dayag & J.S. Quakenbush (Eds), *Linguistics and Language Education in the Philippines and beyond* (pp. 511-572).
47. Myers, G. (1985). Texts as knowledge claims: The social construction of two biology articles, *Social studies in Science* 15(4), 593-630.
48. Myers, G. (1989). The pragmatics of politeness in scientific articles. *Applies Linguistics*, 10, 1-35.
49. Myers, G. (1992). Textbooks and the sociology of scientific knowledge. *English for Specific Purposes*, 11, 3-17.
50. Nash, W. (1990) Introduction: The stuff these people write. In Nash, W. (ed), *The Writing Scholar: Studies in Academic Discourse*, p. 10. Newbury Park, CA: Sage.
51. Powell, M. (1985) Purposive vagueness: An evaluation dimension of vague quantifying expressions. *Journal of Linguistics* 21, 31-50.
52. Prince, E., Frader, J. & Bosk, C. (1982). On hedging in physician-physician discourse. In Pietro. R. D. (eds) *Linguistics and the Professions*, pp. 83-97. Hillsdale, NJ: Ablex.

53. Rounds, P. (1982). *Hedging in written academic discourse: Precision and flexibility*. v. Mimeo, Michigan: The University of Michigan.
54. Salager-Meyer, F. (1994). Hedges and textual communicative function in medical English written discourse., *English for Specific Purposes*, 13(2),149-170.
55. Sionis,C.(1995). Communication strategies in the writing of scientific research articles by non-native users of English. *English for Specific Purposes*, 14(2), 99-113.
56. Shakespear, W. (1600). *The Merry Wives of Windsor*. T.C. Arthur. London
57. Skelton, J. (1988) Comments in academic articles. In Grunwell, P. (ed.), *Applied Linguistics in Society*. London: CILTIBAAL.
58. Skelton, J. (1997). How to tell the truth in 'The British Medical Journal': patterns of judgments in the 19th and 20th centuries. In R. Markkanen, & H. Schroder, *Hedging and discourse. Approaches to the analysis of a pragmatic phenomenon in academic texts*. Berlin: de Gruyter
59. Stubbs, M. (1986). A matter of prolonged field work: notes towards a modal grammar of English. *Applied Linguistics*, 7(1).1-25
60. Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
61. Swales, J., & Feak, C. (1994). *Academic writing for graduate students*. Ann Arbor, MI: The University of Michigan.
62. Thompson, D. (1993) Arguing for experimental "facts" in science: a study of research article results sections in biochemistry. *Written Communication* 8(1), 106-128.
63. Tonegawa, S., A. M. Maxam, R. Tizard, O. Bernard, & W. Gilbert. 1978. 'Sequence of a mouse germ-line gene for a variable region of an immunoglobulin light chain.' *Proceedings of the National Academy of Sciences* 75/3
64. Vande Kopple, W. J. (1997). Refining and applying views of metadiscourse. Paper presented at the 48th annual meeting of the conference on college of *composition and communication*, phoenix, AZ. (ERIC Document Republication, service No.ED411529).
65. Varttala, T. (1999). Remarks on the communicative functions of hedging in popular scientific and specialist research articles on medicine, *English for Specific Purposes*, 18(20), 177-200.
66. Varttala, T. (2001). *Hedging in scientifically oriented discourse exploring variation according to discipline and intended audience*. a Ph.D. Thesis. Finland: University of Tampere.
67. Vassileval,I.(2001). Commitment and detachment in English and Bulgarian academic writing. *English for Specific Purposes*, 20(1), 83-102.
68. Ventola, E. & Mauranen, A. (1990). *Tutkijat ja englanniksi kirjoittaminen*. Helsinki: Helsinki University Press.
69. Wishnoff, R. J.(2000). Hedging you bets: L2 learners' acquisition of pragmatic devices in academic written and computer-mediated discourse. *Second Language Studies*, 19(1), 119-148.

3/30/2014