
8. I Think That Perhaps You Should: A Study of Hedges in Written Scientific Discourse Françoise Salager-Meyer.

Hedging is a linguistic resource which conveys the fundamental characteristics of science of doubt and skepticism. The first part of this paper considers three views of hedges: a. threat minimizing strategies used to signal distance and to avoid absolute statements, b. strategies to accurately reflect the certainty of knowledge and c. politeness strategies in the social interactions and negotiations between writers and editors. The second part of the paper examines the use and frequency of hedges according to genre and to the different (rhetorical) sections of scientific papers. The final part of the paper presents a taxonomy of hedges with a few practical exercises (sensitization, translation and rewriting exercises) which ESP practitioners could use to help their students become aware of these subtle and often neglected language forms.

Introduction: The Concept and Importance of Hedges

One of the most important aspects of scientific discourse is to weigh evidence and draw conclusions from data. Fundamental characteristics of science are uncertainty, doubt and skepticism. Stubbs (1986) argues that all sentences encode a point of view and that academic texts are no different in containing the author's presence: scientists inevitably indicate their attitude in their writings. Because science is not the coolly objective discipline as asserted in many textbooks and scientific style guides, academic writing cannot be considered as a series of impersonal statements of facts which add up to the truth. Moreover, research from a variety of disciplines (e.g., sociology of science) has revealed ways in which academic discourse is both socially situated and structured to accomplish rhetorical objectives.

Linguistically these objectives are realized as **hedges** - mostly verbal and adverbial expressions such as *can*, *perhaps*, *may*, *suggest*, which deal with degrees of probability. Hedges can be considered as the interactive elements which serve as a bridge between the propositional information in the text and

the writer's factual interpretation. As Skelton (forthcoming) remarks, hedges could be viewed as part of the larger phenomenon called **commentative potentials** of any language. Natural languages are reflective: not only saying things, but also reflecting on the status of what they say.

In one of the first explorations of this phenomenon, Lakoff defined hedges as words or phrases, "whose job is to make things fuzzy or less fuzzy" (1972: 175), implying that writers are less than fully committed to the certainty of the referential information they present in their writings. One could state a proposition as a fact (e.g., "This medicine will help you recover quickly"), or one could use a hedge to distance oneself from that statement, e.g., "I believe that this medicine could help you recover quickly".

Research on LSP (Languages for Specific Purposes) has repeatedly shown that hedges are crucial in academic discourse because they are a central rhetorical means of gaining communal adherence to knowledge claims. Indeed, scientific "truth" is as much the product of a social as that of an intellectual activity, and the need to convince one's fellow scientists of the facticity of experimental results (or of the correctness of a specific point of view) explains the widespread use of hedges in this type of discourse. Hyland (1994), for example, asserts that hedging exhibits a level of frequency much higher than many other linguistic features which have received considerably more attention. Skelton (1988) argues that epistemic comments are equally common in the arts and sciences, occurring overall in between one third and one half of all sentences. Along the same lines, Gosden (1990) reports that writers' perception of uncertainty realized through modality markers constitutes 7.6% of grammatical subjects in scientific research papers. More specifically, modals appear to be the typical means of marking epistemic comment in research papers: Adams Smith (1984) found that they make up 54% of all the forms used to denote epistemic modality; Butler (1990) states that they account for approximately 1 word in every 100 in scientific articles; Hanania and Akhtar (1984) report that they make up 8.1% of all finite verbs (*can* and *may* being the most frequent); finally, modals were also found to constitute 27% of all lexical hedging devices in Hyland's (1994) corpus of biology articles.

Four Reasons for Hedging

1. The most widely accepted view is that hedging is the process whereby authors tone down their statements in order to reduce the risk of opposition

and minimize the “threat-to-face” that lurks behind every act of communication. This position associates hedges with scientific imprecision and defines them as linguistic cues of bias which avoid personal accountability for statements, i.e., as understatements used to convey evasiveness, tentativeness, fuzziness, mitigation of responsibility and/or mitigation of certainty to the truth value of a proposition. In this view, hedging is what Skelton (forthcoming) calls “the politician’s craft,” not only a willed mitigation, but an obfuscation for dubious purposes. Kubui (1988) and Fand (1989), for example, state that hedges are used to signal distance and to avoid absolute statements which might put scientists (and the institution they work at) in an embarrassing situation if subsequent conflicting evidence or contradictory findings arise. The following sentence, which ended a paper in a university conference illustrates this use of hedging:

Our results *seem to suggest* that in Third World countries the extensive use of land to grow exportation products *tends to* impoverish these countries’ populations even more.

The epistemic verb *seem* combined with the modal lexical verb *suggest* allows the speaker to avoid making a categorical statement and to negotiate some degree of flexibility for his claims.

2. Salager-Meyer (1993) and Banks (1994) claim that the exclusive association of hedges with evasiveness can obscure some important functions of hedging, and that expressing a lack of certainty does not necessarily show confusion or vagueness. Indeed, one could consider hedges as **ways of being more precise in reporting results**. Hedging may present the true state of the writers’ understanding and may be used to negotiate an accurate representation of the state of the knowledge under discussion. In fact, academic writers may well wish to reduce the strength of claims simply because stronger statements would not be justified by the experimental data presented. In such cases, researchers are not saying less than what they mean but are rather saying precisely what they mean by not overstating their experimental results. Being too certain can often be unwise. Academics want their readers to know that they do not claim to have the final word on the subject, choosing instead to remain vague in their statements. Hedges then are not a cover-up tactic, but rather a resource used to express

some fundamental characteristics of modern science (uncertainty, skepticism and doubt) which reveal the probabilistic nature science started acquiring during the second half of the 19th century. (During the 17th and the 18th centuries and the first half of the 19th century, science was more deterministic). Moreover, because of the close inter-connection between different scientific fields, no scientist can possibly claim to wholly master the field of knowledge of a given discipline. The *seem/suggest* combination of the example above could display the speaker's genuine uncertainty and thus allow him to offer a very precise statement about the extent of his confidence (or lack thereof) in the truth of the propositional information he presented.

3. Myers (1989) argues that hedges are better understood as **positive or negative politeness strategies**, i.e., as "sophisticated rational strategies" used to mitigate two central positions expressed in scientific writing: to present claims (or findings) pending acceptance by the international scientific community, and to deny claims presented by other researchers. Indeed, to express an opinion is to make a claim (particularly central claims in "establishing a niche" to use Swales' expression {1990a: 141}), and to make a claim is to try to impose one's opinion on others. For example, in the following double-hedged statement:¹

Our analyses *indicate* that higher doses of fish oil can benefit individuals with untreated hypertension.

the authors are presenting a claim to the scientific community while trying to convince their readers of the relevance of their findings. But, in doing so, they remain somewhat vague because they cannot claim to have the final word on the subject. In the social interaction involved in all scientific publishing, hedges permit academics to present their claims while simultaneously presenting themselves as the "humble servants of the scientific community" (Myers, 1989: 4). As soon as a claim becomes part of the literature, it is then possible to refer to it without any hedging, as the following example illustrates:

- Influenza is the most important viral infection of the respiratory tract.

Thus, because new results/conclusions have to be thoughtfully fit into the exist-

ing literature, hedging is not simply a prudent insurance against overstating an assertion, but also a rational interpersonal strategy which both supports the writer's position and builds writer-reader (speaker/listener) relationships. A hedged comment such as, "I *think* that *perhaps* you *should* have analyzed the benefits these exportation products *could* have on foreign currency increases," could reflect a polite and diplomatic disagreement, or it might also display genuine uncertainty on the speaker's part (definition 2).

4. Banks (1994) argues that a certain degree of hedging has become conventionalized, i.e., that the function of hedges is not necessarily to avoid face-threatening acts (definition No. 1), but simply to conform to an **established writing style**. This established style of writing arose as a consequence of the combination of the needs and stimuli mentioned in definitions 1, 2 and 3 above. A totally unhedged style would not be considered seriously by journal editors.

It should be made clear at this stage that it is difficult to be sure in any particular instance which of the four above-mentioned concepts is intended nor need we assume that the authors of hedged utterances always know why they hedge their statements in the first place. As we explained elsewhere (Salager-Meyer, 1994), hedges are first and foremost the product of a mental attitude, and decisions about the function of a span of language are bound to be subjective.

Taxonomy of Hedges

Although not totally comprehensive nor categorically watertight, the scheme below represents the most widely used hedging categories,² at least in scientific English. Typically, hedging is expressed through the use of the following "strategic stereotypes":

1. Modal auxiliary verbs (the most straightforward and widely used means of expressing modality in English academic writing), the most tentative ones being: *may, might, can, could, would, should*:
 - Such a measure *might* be more sensitive to changes in health after specialist treatment.
 - Concerns that naturally low cholesterol levels *could* lead to increased mortality from other causes *may* well be unfounded. (Observe the cumulative hedging effect: the main and the subordinate clauses are both hedged.)

2. **Modal lexical verbs** (or the so-called “speech act verbs” used to perform acts such as doubting and evaluating rather than merely describing) of varying degree of illocutionary force: *to seem*, *to appear* (epistemic verbs), *to believe*, *to assume*, *to suggest*, *to estimate*, *to tend*, *to think*, *to argue*, *to indicate*, *to propose*, *to speculate*. Although a wide range of verbs can be used in this way (Banks, 1994), there tends to be a heavy reliance on the above-mentioned examples especially in academic writing:

- Our analyses *suggest* that high doses of the drug can lead to relevant blood pressure reduction. (Here too we have a cumulative hedging effect)
- These results *indicate* that the presence of large vessel peripheral arterial disease *may* reflect a particular susceptibility to the development of atherosclerosis. (Same cumulative hedging effect as above)
- In spite of its limitations, our study *appears* to have a number of important strengths.
- Without specific training, medical students communication skills *seem* to decline during medical training.

3. **Adjectival, adverbial and nominal modal phrases:**

3.1. probability adjectives: e.g., *possible*, *probable*, *un/likely*

3.2. nouns: e.g., *assumption*, *claim*, *possibility*, *estimate*, *suggestion*

3.3. adverbs (which could be considered as non-verbal modals):
e.g., *perhaps*, *possibly*, *probably*, *practically*, *likely*, *presumably*,
virtually, *apparently*.

- Septicemia is *likely* to result, which might threaten his life.
- *Possibly* the setting of the neural mechanisms responsible for this sensation is altered in patients with chronic fatigue syndrome.
- This is *probably* due to the fact that Greenland Eskimos consume diets with a high content of fish.

4. **Approximators of degree, quantity, frequency and time:**

e.g., *approximately*, *roughly*, *about*, *often*, *occasionally*, *generally*,
usually, *somewhat*, *somehow*, *a lot of*.


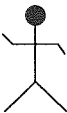
- Fever is present in *about* a third of cases and sometimes there is neutropenia.
 - Persistent subjective fatigue *generally* occurs in relative isolation.
5. **Introductory phrases** such as *I believe, to our knowledge, it is our view that, we feel that*, which express the author's personal doubt and direct involvement.
- We *believe* that the chronic fatigue syndrome reflects a complex interaction of several factors. There is no simple explanation.
6. **"If" clauses**, e.g., *if true, if anything*
- *If true*, then, our study contradicts the myth that fishing attracts the bravest and strongest men.
7. **Compound hedges**. These are phrases made up of several hedges, the commonest forms being: 1. a modal auxiliary combined with a lexical verb with a hedging content (e.g., *it would appear*), and 2. a lexical verb followed by a hedging adverb or adjective where the adverb (or adjective) reinforces the hedge already inherent in the lexical verb (e.g., *it seems reasonable/probable*). Such compound hedges can be double hedges (*it may suggest that; it seems likely that; it would indicate that; this probably indicates*); treble hedges (*it seems reasonable to assume that*); quadruple hedges (*it would seem somewhat unlikely that, it may appear somewhat speculative that*), and so on.

As can be seen then, all the forms presented above imply that the statements in which they appear contain personal beliefs based on plausible reasoning (or empirical data). Without these "strategic stereotypes," readers would imply that the information conveyed pertains to universally established knowledge.

Hedges According to Genre and Rhetorical Function

The literature on hedging has also revealed the distributional variability in academic prose, the difference being attributable to variation in the communi-

cative purpose not only of different genres, but also of different sections within a text. Salager-Meyer (1993, 1994) showed that medical editorials and review articles are more heavily hedged than research papers and case reports per se. She argues that the stronger the generalization and claim to universality (review papers and editorials), the more hedged the discourse. On a scale from general to particular (or from universality to individuality), editorials and review articles, which evaluate, persuade or argue and appeal to a broad audience, will have many hedged statements. Research papers, which both inform and argue, will be in the middle; and case reports will be at the other end of the scale as illustrated in the figure below:

GENERAL/UNIVERSAL		PARTICULAR/INDIVIDUAL
		
Encyclopedia-like writing Pretension to generalization	Novel-like writing Some pretension to generalization	Short story No pretension to generalization
Editorial - Review Paper	Research Paper	Case Report
<i>Author:</i> Critical essay writer/evaluator <i>Content:</i> Judgment/value/instruction	<i>Author:</i> Observer/instructor/critical writer <i>Content:</i> Description/suggestion/advice	<i>Author:</i> Objective informant <i>Content:</i> Almost pure description

Because case reports are clinical observations of a single (or a few) generally rare and even unique entities, they are almost purely descriptive and, therefore, relatively unhedged. Typical of case reports are short-story and anecdote-like sentences such as the following:

A previously well 4-year-old boy fell about one meter from a wall and struck the back of his head on concrete. He was not knocked out and got up immediately and continued playing. He did not complain of headache and visual disturbance but shortly afterwards he vomited and his mother took him to the accident and emergency department.

By contrast, review articles collect, select, order and interpret the huge outpouring of scientific reports and present relevant (and often controversial) findings and generalizations in a form useful for researchers outside the immediate group working on a given problem. This is why in almost every one of the review paper statements, there is, as Bazerman and Paradis say (1990: 60), "some qualifying adverb or adjective that makes the statement more cautious":

- The panel *suggests* that all adults 20 years of age and over *should* have non-fasting serum cholesterol measured at least once every 5 years.
- This *seems* to support the possibility that depression *may* be an important clinical feature in monosymptomatic hypochondriacal psychosis. (Observe the cumulative effect of hedging: both the main and the subordinate clauses are hedged.)

The frequency of occurrence and types of hedges are not evenly distributed throughout different sections of academic papers (Banks 1994, Salager-Meyer 1994). The typical *introduction* section of academic papers (Swales 1990) includes, inter alia, a survey of the field. It is a hypothesis-making opening section where the unknown or poorly understood is delineated and where scientists mention (mostly with hedge-attributing verbs such as *to indicate*, *to seem*, *to suggest*) previous research which bears on the same issue as the one their article deals with.

- In most cases a psychiatric disorder is involved in the chronic fatigue syndrome and it has been *suggested* that depression may be a secondary phenomenon.
- Although earlier studies *indicated* that infants who received solids at an early age were heavier than those who were introduced to solids at the recommended time, more recent reports have been unable to confirm this association.

The writers use hedging to convince the reader that work remains to be done in their area of inquiry (what Swales refers to as "establishing a niche" 1990a: 145), i.e., to suggest that the "niche" they wish to establish does indeed exist. The questions raised in the *Introduction* section will be answered in the

rest of the paper, as what was up to now uncertain is about to be made certain. In the *Introduction* sections of academic papers, then, hedges serve the purpose of building arguments to support the researchers' own work. As described in Skelton (1988), the *Introduction* of a scientific article is almost as tentative as an Arts paper.

Hedges appear least in the almost purely factual (i.e., unhedged) *Methods* section, the least discursive and commentative section of academic papers where confirmatory statements are the rule, e.g.,

- We used data from 31.561 computer files and a computer model was designed to test our risk program.
- We recruited 671 infants born after 38-45 weeks' gestation.

The *Results* section is also characterized by a relative absence of hedging devices. When they do appear, however, they tend to foreshadow the discussion which will follow:

- This finding strongly *suggests* that these CNS sites contain neurons and fibers.
- One explanation *could* be that basal glycemia was 151 vs. 127 mg/dl for NA.

The abrupt change from objective recounting (*Methods* and *Results* sections) to subjective discussion (*Discussion/Conclusion* sections) is reflected in the much higher incidence of hedging in the *Discussion/Conclusion* sections of academic papers. It is in these last two discursive and speculative sections that authors put forward controversial ideas or interpretations and hence most feel the need of protecting themselves from counter argument or other forms of attack:

- Repressed homosexuality *may* have played a role in generating symptoms in some patients.
- Our six psychotic patients had *possibly* quite different aetiologies.
- The *probability* of multiple sclerosis is likely to be much less in clinically atypical cases.
- Although it is attractive to *suggest* that the increased frequency

of cervical neoplasia in smokers may be related to another factor, this is by no means proven.

Pedagogical Justification

In spite of the widespread use of hedges in academic writing, this phenomenon is largely ignored in pedagogical materials geared to non-native speakers of English (NNSE). In an excellent review and critical analysis of ESP/EAP textbooks, Hyland (1994) concludes that in most ESP course books explanations on epistemic strategies are inadequate, the practice material is limited, alternatives for modal verbs are omitted, and empirically-based information concerning the socio-linguistic rules of English scientific discourse communities is absent. In other words, the important pragmatic area represented by hedging devices is under-represented (not to say neglected) in most ESP course books and style manuals. As Hyland (1994: 244) states, "the overall picture indicates a need for greater and more systematic attention to be given to this important interpersonal strategy."

There are two clear pedagogical justifications for explicitly addressing hedging as an important linguistic function and for assisting learners (even those in the earliest stages) to develop an awareness of the principles and mechanics of its use.

1. It has been stated that foreign language readers frequently tend to give the same weight to hedged (provisional or hypothetical) statements or interpretation than to accredited facts. Since comprehending a text entails both decoding information and understanding the writer's intention, it is of prime importance that students be able to recognize hedging in written texts.
2. The appropriate use of hedging strategies is a significant communicative resource for student writers at any proficiency level, and it plays an important part in demonstrating competence in a specialist register. Crismore and Farnsworth (1990: 135) go as far as saying that hedging is the mark of a professional scientist, "one who acknowledges the caution with which s/he does and writes on science." The problem is that proficiency in that pragmatic area appears to be notoriously difficult to achieve in a foreign language (Cohen and Tarone, 1994). Hyland (1994) remarks that the use of modality presents considerable

problems for linguistically unsophisticated writers of academic texts, while Bazerman (1988) has noted that a pragmatic failure to modulate successfully represents a feature of the work of L2 students at Western universities. Skelton (1988) further remarks that even those students who have a good control over the grammar and lexis of English write in a direct/unhedged fashion. Student writers (especially NNSE) should then be made aware of the fact that unhedged conclusions are open to criticism and could even be considered as intellectually dishonest.

Reading and Writing Classroom Exercises

In order to empower NNSE academics to express (and recognize) doubt where there is no certainty, to know how and when to mediate their claims and to use these techniques successfully, I propose the following reading and writing classroom exercises (presented here below in increasing order of difficulty). The hope is that these exercises will enable learners to use their limited linguistic resources to achieve greater delicacy of meaning. To enhance students' motivation to perform the tasks, I recommend using authentic and challenging materials from their own field of study, which is one of the best ways of developing our students' academic "meaning potential."

The approach followed in the exercises below is interdisciplinary in nature, combining reading comprehension, writing and sociolinguistic awareness.

Reading exercises

- 1.1. Ask students to circle tentative verbs and modal auxiliaries in a passage:

We conclude that seamen *seem* to be a special group with a high risk of fatal accidents. This *might* be because the men who choose to be seamen are accident prone. The occupation is more *likely* to be having an effect because the mortality from several kinds of accidents appeared to be related to length of employment. We *believe* that to prevent accidents at work as well as during leisure time, attention *should* be focused not only on technical devices but also on seamen's lifestyle in general.

1.2. Ask the students to underline all the hedges they can find in a passage and to justify their use. This exercise generally leads to class discussion on the manner in which scientists mitigate and modulate their discourse. Moreover, it gives students a chance to articulate the fact that hedging is a human enterprise whose purpose is to limit the degree of certainty about a fact. Students can also state how a given hedging tactic in English would be rendered in their native language.

1.3. Give the students a reading sample with several reporting verbs and have them identify the different speech acts involved (e.g., making a claim, disagreeing with a colleague's opinion, suggesting further research). Then ask the students to explain which verbs express neutrality, opinion, uncertainty, tentativeness or fact. This exercise will help the students to identify subtle language forms, e.g., to distinguish between weak and strong reporting verbs or to identify mitigation (e.g., *a somewhat interesting finding*). The following sample (drawn from the *Discussion* section of an article on smoking and cervical cancer) illustrates the point:

- Our results *show* a relation between smoking habit and the proportion of DNA modification in cervical epithelium. The presence of modification in cervical epithelium and the correlation with smoking habit strongly *suggests* that the modifications are a consequence of exposure to tobacco compounds... Women with high proportions of DNA modifications *may* have an increased susceptibility to cervical cancer. Our study then contradicts the results of the International Agency for Research on Cancer (1986) which *claimed* that there was not enough evidence to conclude that smoking is a cause of cervical cancer. Prospective studies of women with a high proportion of modified cervical DNA *should* be carried out to establish the risk.

Writing exercises

In preparing a written statement, ESP students have to choose speech acts that are socioculturally appropriate (e.g., knowing how to disagree with the results of

previous research) and they need to know which strategies or semantic formulae are generally used for a speech act such as "disagreement." The main purpose of the following exercises is to help the students to gain some control (in their written assignments) over the language forms that are considered socio-culturally appropriate at a given level of formality.

2.1. Present students with utterances containing facts and ask them to rewrite the sentences with tentative verbs of interpretation/opinion (or vice versa, to present students with opinion or comment utterances and ask them to rewrite the sentences with assertive verbs). The following passage could serve as an example:

- Middle insomnia is (*may be*) associated with exacerbations of illness in patients with rheumatoid arthritis. Patients with fragmented sleep experienced (*seemed to experience*) increased fatigue and joint pain. This is (*appears to be*) consistent with findings in animals and humans that sleep deprivation reduces (*tends to reduce*) the pain threshold. These findings show (*indicate*) that it is (*may be*) possible to treat pain and insomnia concurrently.

2.2. Explain to the students that when they report their own study, they should not sound too sure of the benefits (either practical or theoretical) of their work, without undermining the importance of their research. Students should know, for example, that tentative verbs such as to *appear*, to *seem*, to *suggest* can be used instead of the modals *may*, *can*, *could* to generalize from results when presenting their findings and to emphasize the speculative nature of their statements.

2.3. Instruct students to use tentative verbs when necessary (e.g., *suggest*, *argue*, *indicate*, *tend to*) when citing the work of others, i.e., when they write the review of literature of their papers:

- The questionnaire called Nottingham Health profile has been criticized because it *tends to* overlook some very important factors.

Indeed, the task of performing a critical review of the work of others (while offering one's own views) is culturally difficult for non-native speakers of English. Cohen and Tarone (1994) report that when confronted with such a task, NNSE simply present views without interpretation, i.e., without taking a stand on the matter. They simply opt out of performing that task. Students need to have at least some control over the linguistic forms or structural conventions that are considered sociolinguistically appropriate when performing speech acts in an academic context.

2.4. This exercise—which could first be done in the students' native language and then in English—is more appropriate with intermediate/advanced students. It consists of presenting two (or more) articles (approximately 1,500 words in length) with conflicting views on a challenging academic theme and in asking students to express their opinion about each article. I believe that this exercise could also help develop the students' critical facilities, especially in contexts where the learners—because they come from a culture where the infallibility of the written word is deeply ingrained—consider it heretical to criticize and question what is written.

Conclusion

Hedging is a human enterprise, a resource which is inherent in common language. In our daily interactions with our peers, we, human beings—as social beings, *par excellence*—feel the need to modulate our speech acts in order to guarantee a certain level of acceptability and the possibility of coexistence. The same remark applies to scientific language which is a product of human relations.

The “strategic stereotypes” called hedges permit language users to say something and to comment on what they are saying. From the repertoire of linguistic forms at their disposal, scientists—as any other language user—resort to those forms which better fit their communicative purposes and which they think will allow them to gain communal adherence and warrant the highest degree of acceptability for the claims they present to the world's store of knowledge, i.e., to the scientific community at large.

It would be somewhat erroneous to consider hedges as linguistic devices merely used to convey fuzziness or vagueness. Indeed, because 18th and 19th century deterministic science evolved (in the 20th century) into a probabilistic science, hedges should also be viewed as devices (or discourse strategies) used to reflect not only fundamental characteristics of modern science (skepticism, uncertainty and doubt), but also the true state of the writers' understanding and state of knowledge. Last but not least, the mild speech conveyed by hedges allows researchers to present themselves as cautious, coy, humble and modest servants of their discipline, and to diplomatically negotiate their claims when referring to the work of colleagues and competitors. In other words, hedges enable academics to anticipate peers' criticism and to take oratory precautions, i.e., to participate in the complex game of social interaction and negotiations involved in all scientific publishing where bold and presumptuous statements are frowned upon.

The appropriate use of hedging strategies for academic argumentation is a significant resource for student writers and plays an important part in demonstrating competence in a specialist register. Materials writers and LSP practitioners therefore have the responsibility to help students acquire an awareness of why, how and when hedges are used. NNSE scientists should not only be made aware of the need to mediate their claims, but they also need to be taught when to mediate and what semantic formulae are used in English to successfully achieve that goal. A full understanding of hedging devices is critical to academic success and eventual membership in a professional discourse community.

Françoise Salager-Meyer holds an M.A. in Russian language and literature from the University of Lyon (France) and a Ph.D. in Foreign Language Education from the University of Texas at Austin. She has taught Russian for Specific Purposes and French at the University of Texas at Austin and has been teaching ESP at the Graduate School of Medicine of the University of the Andes Merida, (Venezuela) since 1980. Her research interests include discourse analysis and contrastive rhetoric.

Notes:

1. The examples presented throughout this paper are authentic statements drawn from the *British Medical Journal* (1993, Vol 306)

2. One difficulty in assigning a given hedging category to discrete linguistic items is that grammatical forms are capable of fulfilling more than one function. Indeed, many indications of tentativeness are not easily quantifiable and cannot be readily isolated as classes of formal items. Moreover, not all the items listed here correspond to hedging devices. For example, the *may* in, "We *may* not turn to the following aspect of the problem," or the *could* in, "We *could* not detect any statistically significant difference," are obviously not hedges.