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**Explicit Author in Scientific Discourse: A Corpus-based Study
of the Author's Voice**

Wasima Shehzad

Yanbu University College, Kingdom of Saudi Arabia

Abstract

The relationship of the author with the discourse community and how the author views himself has no (Cooper,1985; Anthony,1999,2001; and Posteguillo,1995,1999) or limited place (Kuo's 1999 corpus included only three articles from one CS journal) in Computer Science Research Articles studies. This paper attempts an in-depth analysis of the Computer scientist's voice in research articles, analyzed through computer-based techniques using WordSmith Tools. The author's voice is studied with reference to the personal pronoun we and its inclusive and exclusive use. A comparison drawn with the Hyland Corpus (1999 a, b; 2000, 2001 b) of hard sciences and social sciences research articles clearly supports the results of the study.

Introduction

Choice of the voice, that is, the presence or absence of personal pronouns (I, we, our etc.) in scientific research articles, reveals not only the active or passive manner in which the authors present their materials but also throws light on their relationship with readers and with the discourse community, and perhaps on top of everything, with how they view themselves. Usage or avoidance of first person pronouns in academic writing has long puzzled native and non native students and teachers; and is a perennial topic of debate among scholars such as, Day (1988), Gilbert and Mulkay (1984), Tarone et al. (1981,1998), Hyland (2001,a,b) etc. However, this area has not been investigated in Computer Science research articles (CS RA) such as the major studies made by Cooper (1985), Anthony (1999, 2001) and Posteguillo (1995, 1999). Kuo's (1999) corpus included only three articles from one CS journal (for comparison of personal pronouns) with articles from electronic engineering and physics. Thus the present paper is a first attempt at in-depth analysis of the Computer Scientist's voice as found in a larger corpus of 56 research articles, from four different journals, analyzed through computer-based techniques. The paper deals with the following research questions:

- a. Which voice do Computer Scientists use in terms of activity and passivity?
- b. What role do personal pronouns, in particular, we play in Computer Science discourse with a focus on the Introduction section of research articles?
- c. Is there a distinction between the inclusive and exclusive use of *we*, as used by Computer Scientists?
- d. How is the Computer Scientist's voice different from that of authors of research articles in other disciplines such as those studied by Hyland (1999 a,b; 2000, 2001,a,b)

The research findings indicate that the Computer Scientist's voice is explicit, undisguised and clear. The use of exclusive *we* contributes to this explicitness. The rest of the paper has been organized as follows: After reviewing the relevant literature in the following pages, I describe the methodology used which is followed by the results and discussion section. The pedagogical guidelines are given after the conclusion.

Literature Review

An explosive growth of knowledge in the area of corpus linguistics has taken place in recent years, Barnbrook (1996), McEnery and Wilson (1996), Stubbs (1996), Biber (1986), Altenberg and Eeg-Olofsson (1990), Aijmer and Altenberg (1991), Biber and Finegan, (1994). ESP has also entered the realm of corpus linguistics, both in terms of rhetorical structure (Thetela, 1997; Bitten Court dos Santos, 1996); and lexicogrammatical perspective (Banks, 1994; Gledhill, 1996, 1997, 2000). The present work is a corpus-based study of the Computer Science research article with reference to author's voice. The Research Article as an example of the written discourse of one of the latest

disciplines, Compute Science, has hardly fifty years of tradition and development whereas many traditional disciplines such as medicine and physics have a long history of evolution. Atkinson (1993) for example, analyses the transformation of the research article from 1675 to 1975.

In simple grammatical terminology, 'in the active voice, the subject of a clause is most often the agent, or doer, of some action' (Celce-Maurcia and Larsen-Freeman, 1999:343). However, its rhetorical and discursal meanings go further than this definition as we shall explore during the course of this paper. Propositions such as 'Always use the active voice' (Ross, 1974: 210) and that 'A writer will almost, automatically improve his style when he shifts from passive to active constructions' (Menzel et al. 1961) sound far too extreme. On the other hand, there are scientific norms that expect research articles to be impersonal (Bazerman, 1988). We are all familiar with the feeling generally prevailing around us about the preference for the impersonal style (using the passive voice) for formal writing especially in dissertations and research papers. However, there is an increase in the projection of the author's self through the use of personal pronouns in the contemporary trend as Chang and Swales (1999) claim; manuals and guide books published after the 1980s tend to encourage the use of first person pronouns more overtly and rigorously. In their study of statistics, linguistics and philosophy, the editors of the journals of these disciplines expressed their acceptance of the use of personal pronouns. This view is strengthened by their stylistic analyses of the research articles from these disciplines included in their study. Statistics had the highest frequency (285 uses by 10 persons) of the occurrence of the main-text imperative (personal pronouns *I, we*).

Chang and Swales (1999:145) emphasize the 'shift away from standard formal and impersonal styles of academic writing to ones that allow more personal comment, narration and stylistic variation'. They report that their doctoral respondents (non-native speakers) preferred statements like:

In this study, the same method of analysis has been adopted. [passive]

to:

1. In this study, I (single author) have adopted the same method of analysis. [active]
2. In this study, we (single author) have adopted the same method of analysis.
[active]
3. In this study, we (multiple authors) have adopted the same method of analysis.
[active]

Most of them agreed that *we* as in (3) above was an acceptable choice in multiple authorship contexts in contrast to the use of *we* for a single author, which they thought was illogical and inappropriate. The use of *I* was not appreciated as it was thought to be 'only usable for senior scholars' and the respondents preferred to use the passive in single-authored papers.

In practice, I think, that writers make a conscious choice as to what to bring into the foreground and when. The use of personal pronouns (*I/we/me*) is crucial in face-to-face interactions as they 'define or reveal interpersonal relationships between or among the individuals involved in interaction'. (Kuo, 1999:123). Similarly, interaction between the reader and the author in written discourse is pivotal. In early scientific papers, a large number of first-person pronouns help in understanding early scientific reporting as peer exchanges and prominence of the individual scientist (Kuo,1999).

Authors commonly switch from the impersonal to the personal by using *we*, or more rarely, *I* (Swales and Feak, 2004). *We* is used as a device to strengthen the writer's role and claims, thus getting credit (Hyland, 2001, b; Rodman, 1994; Tarone et.al., 1981, 1998). Hyland (2001, b:209) refutes the general assumption that writers act as the humble servants of the modest genre of the research article, as the 'success in gaining acceptance for innovation also involves demonstrating an individual contribution to that community and establishing a claim for recognition of academic priority'. Tarone et.al (1981) focused on a smaller corpus of two research articles from astrophysics. They studied the use of *we* plus an active verb, as opposed to the passive. According to Tarone et.al.'s (1981:123) generalizations based on two Astrophysics papers, '*we* indicates the author's unique procedural choice to describe the author's own work as a result of the discorsal function of focus., while the passive indicates an established or standard procedure' and that '*we* is used to describe the author's own work and the passive to describe the work of others, unless that work is not mentioned in contrast to the author's, in which case the active is used'.

In the interdisciplinary studies of author's voice interesting variations have been found. For example, the writers of hard sciences strengthen the objectivity of their interpretations and subordinate their own voice to that of unmediated nature. (Hyland, 2001,b:216). Hyland (ibid) attributes the prominent presence of the author's voice to soft RAs:

Establishing an appropriately authorial persona and maintaining an effective degree of personal engagement with one's audience are valuable strategies for probing relationships and connections between entities that are generally more particular, less precisely measurable, and less clear-cut than in hard sciences.

The use of personal pronouns is a self projection device which reflects the author's control and power over the discorsal message being conveyed to the target community. Discussing *we* with reference to scientific texts, Rodman (1994) describes its role as a device to provide maximum visibility and implied authority of the text. Okamura (2003) studied the relationship of type and tense of verbs with *we* in physics, chemistry and biology papers and found that physics papers tend to use *we* much more than chemistry and biology research papers and most of the papers analyzed used *we* in the last paragraph of the introduction. It can be argued that the use of personal pronouns is associated with unnecessary self projection. Nevertheless, some cases are meritorious, for

example Hyland's (2001, a: 2) quote from an interview with a physicist: "We aren't just blowing our own trumpets here. There just aren't that many people doing work in this particular field".

The fact remains that the 'conventions of personal projection, particularly the use of first person pronouns, are powerful means for self-representation (Ivanic 1998; Ivanic and Simpson 1992). Unfortunately, in this regard, little work has been done in the area of Computer Science research articles (CS RAs). The few studies of Computer Science articles involving linguistic analysis include Anthony (2001) who studied the structure of RA Titles in CS, and structural differences and linguistic variations in RA abstracts of CS; Posteguillo (1995) who looked at the overall structure of CS RA and Anthony (1999) who was rather concerned with rhetorical analysis of the research article through the application of the Create A Research Space (CARS) model (Swales, 1990). Kuo (1999) studied the discourse functions of *we*, *us* and *our*. In his corpus *we* was used most frequently (65.5%) and mostly the discourse function of *we* was 'explaining what was done' (59.7%). However, he included only three research articles from one journal, (IEEE Transactions on Pattern Analysis and Machine Intelligence) of Computer Science along with articles from electronic engineering and physics. The present study with a larger corpus as described below is intended to bridge the gap thus created.

Methodology

One of the foundation factors for a clear understanding of any research work is to know what type of corpus was used in the study. For the present study the corpus, called the Shehzad Computer Science Corpus (SCS Corpus) of 0.54 million words after the clean-up of the graphics, visuals, captions, footnotes, page numbers, running titles of the journals, bibliographical information and email contacts etc., comprising 56 Computer Science (CS) research articles (RAs) was created. The aim was to identify the writing trends of Computer Scientists with reference to the genre of the research article rather than to look at how computer science writing has evolved. These CS RAs were taken from five different journals; IEEE Transactions on Computers (ToC), IEEE Transactions on Pattern and Machine Intelligence (PAMI), IEEE Transactions on Software Engineering (SE), IEEE Transactions on Parallel and Distributed Systems (PADS) and IEEE Transactions on Knowledge and Data Engineering (KDE) published by the Institute of Electrical and Electronics Engineers (IEEE) Computer Society.

The research articles used in this research are available in electronic form and were downloaded from the University of Michigan (U of M) library website, <http://mirlynweb.lib.umich.edu>. These research articles at the U of M library site, however, were in Portable Document File (PDF) form. Since WordSmith Tools, (Scott, 2000), the software to be used, cannot read PDF files, they had to be turned into text files. So texts were selected page by page, copied and pasted into Microsoft word. The Save as feature of the browser was used to save the texts as plain text files. Concordance and keyword

(frequency lists) features of the corpus processing tool, WordSmith Tools, were used to analyze the corpus thus created. The results were also compared with the Hyland Corpus (2001 b) of 240 research articles.

Results and Discussion

The results are discussed here with reference to two major areas, the active voice and the use of inclusive and exclusive *we*.

Active Voice

As opposed to the respondents of Chang and Swales (1999:165) discussed in the previous section, Computer Science research articles (CS RAs) in the present study had a high usage of the personal pronoun *we* as will be discussed in the following pages. Before I do that I would like to comment on Chang and Swales' (1999:165) next point which concerns a greater equanimity about the use of personal pronouns expressed by two senior native- speaker professors. I quote one of them from statistics:

I think it's true when you make major steps in any field, the individual person is more involved, so then... you wanna emphasize that it's you that is asserting it... and you are asserting that it's you, you are doing it. (Hill, 1997, interview, cited by Chang and Swales, 1999)

Here, in contrast, we see that Computer Scientists, regardless of their seniority in the field, position held or scholarship commanded, (the authors included both, the senior position holders in the IEEE Society as well as junior researchers) used the personal pronoun *we* with a high frequency. Use of *we* in Computer Science research articles is not a mere description of 'our work'; rather, it is used as a marketing strategy to influence people that 'we' have done such a wonderful job and 'our' method/design/idea works best.

Hyland (2000) claims that humanities papers use more personal pronouns than those in scientific papers (69 % of all cases of self-mention occurred in the humanities and social science papers). He links the reasons for this difference to not only the different ways of conducting research but also to different ways of persuading readers to accept their research. Hyland opines (2000:215) that the writers in the hard sciences seek to establish 'empirical uniformities through research activities that involve precise measurement and systematic scrutiny of a limited number of controlled variables'. Thus in the presence of relatively clear criteria of acceptability, the writers can downplay their personal roles. On the other hand, with heterogeneous variables and tenuous causal connections, self-mention is needed to 'construct an intelligent, credible, and engaging colleague, by

presenting an authorial self firmly established in the norms of the discipline and reflecting an appropriate degree of confidence and authority' (ibid:216). Results of the present study, as shown in Table 1 seem to negate this view. The use of the personal pronouns, *we* and *our* are almost double in the SCS Corpus as compared to the Hyland Corpus. One reason for this high tendency could be the subject matter of the Computer Science papers. Mostly they were design-based and called upon practical work. But then this trend was also noticed in their descriptions and solutions of mathematical algorithms

Table 1: First Person Pronouns Compared With The Hyland Corpus

	Hyland Corpus	%	SCS Corpus	%	Introductions in SCS Corpus	%
Total Words	1335927		546560		54997	
<i>We</i>	4847	0.362	4176	0.764	430	0.78
<i>Our</i>	1637	0.122	1252	0.229	179	0.32
<i>I</i>	3500+	0.261	10*	0.0	0.0	0.0
<i>My</i>	561	0.041	10*	0.0	0.0	0.0

Out of the 4176 entries of *we* in the complete CS RAs, Introductions had 430 entries. This means the Introduction sections had 10.29% of the total entries of *we* in the Computer Science articles. As compared to the Hyland Corpus (0.362 %), the SCS Corpus had 0.78 % entries of the total number of tokens in the Introduction sections of the research papers for the person pronoun *we*.

On the other hand, all of the 10 instances of *I* and *my* in the SCS Corpus were examples quoted by the authors from their survey results rather than their own voices. Two examples are given here:

Example One:

- People find it much more difficult to identify distant colleagues with needed expertise and to communicate effectively with them. We asked about the difficulty of identifying and finding people at local and distant sites:

(S1) I lose time trying to figure out who to contact regarding my work. ...

(S2) People I need to communicate with are difficult to find. ...

Example Two:

- We asked them to think about their most important current project as they answered the following questions:

(S1) I feel like I'm part of the same team as my coworkers....

(S2) I feel accepted by my coworkers as a team member....

(S2) My coworkers and I share the same team spirit....

Although these examples are similar to many occurrences of *I* and *my* in the Hyland Corpus, especially in social sciences, the number of *I* and *my* in the Hyland Corpus is still large enough not to be ignored.

The next step was to look at the frequency of the personal pronouns per paper. These frequencies were then compared with Hyland's (2000) frequent occurrences of first person pronouns per paper, in the different disciplines used in his corpus.

Table 2: Comparative Frequencies Of Personal Pronouns Per Paper

Discipline	me, us, our, I	my, we, we	We	Our	Us	Total (we, our)
Hyland Corpus						
Physics	17.7	12.7	4.7	0.2	17.6	
Biology	15.5	11.5	3.4	0.5	15.4	
Electronic	11.6	8.4	3.1	0.1	11.6	
Engineering						
Mechanical	2.6	2.1	0.5	0.0	2.6	
Engineering.						
Average hard fields	11.9	8.7	2.9	0.9	12.5	
Marketing	38.2	22.2	13.5	0.8	36.5	
Philosophy	34.5	0.9	0.4	0.2	1.5	
Applied	32.3	8.9	5.1	1.0	15	
Linguistics						
Sociology	29.4	11.5	5.7	0.5	17.7	
Average Soft fields	33.6	10.9	6.2	0.6	17.7	
Overall	22.7	9.8	4.6	0.4	14.8	
SCS Corpus						
Computer Science (RAs)		74.57	22.35	2.9	99.82	
Computer Science (RAs Introductions)		7.67	3.19	0.23	11.09	

Table 2 presents interesting data. On one hand, it shows the absence of the use of singular person pronouns, *I*, *me*, *my* in the SCS Corpus; on the other hand, it documents a high usage of the plural personal pronouns *we* and *our*, per paper by Computer Scientists. This number is greater than in all the hard and soft fields included in the Hyland Corpus. Even just the Introductions of CS RAs have a higher frequency (7.67) of the occurrence of *we* and *our*, per introduction, than per complete article of Mechanical Engineering (2.6) and Philosophy (1.5). It is close to the per article number of Electronic Engineering (11.6).

The frequent use of *we* has more rhetorical attributes here than linguistic ones. The Computer Scientists seem to prefer 'writer visibility' (cf. Kaplan et al.1994). Rodman (1994) found that 5 of 9 active voice structures in her corpus were in the paragraph/part having the purpose and the main research question as this rhetorical device emphasizes writers' achievement and ownership of the findings presented in the papers. The personal pronoun *we* was searched through WordSmith Tools in terms of its physical placement in the CS RAs' Introduction sections which were divided into four quarters. The results are illustrated below.

Table 3: Physical Placement Of We In CS RAs Introductions

Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
430	37	76	120	197
Percentage (%)	8.60	17.67	27.90	45.81

In contrast to Rodman's (1994) findings, the physical placement of the personal pronoun in CS RAs' Introductions (Table 3) demonstrates the heavy use of *we* towards the third and the fourth quarters of the Introductions. The third quarter was generally used for the description and explanation of the research and the fourth quarter was used for the announcement of the principal findings and outlining the structure of the rest of the article.

Person markers are used to 'present propositional, affective and interpersonal information' (Hyland, 1999a:104). 'Person markers', as defined by Hyland (2000:113) refer 'to the degree of explicit author presence in the text measured by the frequency of first person pronouns and possessive adjectives'. In his text-book corpus of eight disciplines including Electrical Engineering, the writers' use of personal markers (inclusive of second person pronouns) per thousand word was three times more than in the research papers' corpus of the same size (Hyland, 1999, b.). On the contrary, as can be seen from the following Table 4, the Computer Scientists' use of the personal pronoun

we is much higher than the other disciplines, even higher than Marketing which is supposedly a claim-oriented field.

Table 4: Comparison Of Person Markers Per 1000 Words In Research Articles

Markers	Studies	Disciplines	
We	Hyland (1999)	EE	2.6
Our		ME	1.3
I		Bio	3.3
My		Philosophy	5.0
		Marketing	6.2
We	SCS Corpus (complete articles)	Computer Science	9.9
Our			2.29
We	SCS Corpus (Introductions)	Computer Science	7.8
Our			3.25

It can be argued that Computer Scientists not only enjoy claiming the ownership and value of their findings but also bring forward their personal self in the explanation of the nature of research they carried out and of how they present their research to their intended audience.

Exclusive and Inclusive we

At this stage it would be relevant to differentiate between the inclusive and exclusive use of *we*. The inclusive *we* includes the writer and the reader [and/or the world in general] whereas the exclusive use of *we* includes the writer only (Quirk, et al. 1985). The inclusive and exclusive use of *we* in CS RAs Introductions is discussed below under separate headings.

Exclusive we in CS RAs Introductions

Quite opposite to Hyland's (1999a) text-book corpus, in the present corpus the use of exclusive *we* is dominant. In contrast to inclusive second person pronouns through which the writers seek to negotiate role relationships through relational markers in these texts (Hyland, 2000), the exclusive *we*, in Computer Science research articles is used as a significant means to establish the writers' role in the research and to strengthen the claims made.

An increase in the use of exclusive *we* has been noted in the present study. The concordance list of 430 hits for the personal pronoun *we* in the Introduction sections within the SCS Corpus, showed 91.63 % use of exclusive *we* as compared to 8.37 % use of inclusive *we* whereas, Kuo's (1999) figure gives 65.5 % use of exclusive *we* in the whole of Computer Science papers

Some examples of the exclusive use of *we* in the SCS corpus are given here:

- We call our Security-Policy Description Language SPDL...
- In this paper, we argue that logic offers the desired power and ...
- ... we develop an online palmprint identification system...
- We explore a variety of probabilistic models...
- ... we have developed a methodology based on the ...
- The set of protocols that we have designed includes Semantically ...
- At an even higher level, we introduce the concept of colloidal computing as ...
- We perform a thorough set of experiments with both ...
- We show our framework's efficiency and effectiveness ...
- Second, we validate the association between a subset of ...

Inclusive we in CS RAs Introductions

Although the dominant form of the personal markers in the Computer Science articles is exclusive *we*, the inclusive *we*, though limited, has also been used in an interesting manner and needs a comment. It is closely associated with modal verbs. Modality, as defined by Quirk et al. (1985) is the 'manner in which the meaning of a clause is qualified so as to reflect the speaker's judgment of the likelihood of the proposition it expresses being true'. *Can* and *may* are the two options adopted by the Computer Scientists. *Can* is used in its meaning of 'possibility' and 'ability' both but the possibility meaning, 'often used in a quasi-imperative manner to suggest the course of action to the addressee' (ibid) remains dominant.

'can'

(a) Possibility usage:

- From a probabilistic viewpoint, we can pose the problem as that of ...
- We can also use query checking to gather diagnostic ...

Here, I would like to quote Kuo (1999) who found occurrences of *we* which did not refer to either writers themselves or readers. In his example:

- Similarity clusters help realize the further objective of what we call knowledge refinement ... (Constant et. al, 1990: 296 quoted by Kuo, 1999).

We means people in the discipline as a whole. Thus our definition of inclusive *we*, as presented earlier, adds [and/or world in general]. This is probably also true for the first example of *can*, given above.

(b) Ability usage:

- We can see that the web page at <http://www.panace>
- Nevertheless, we can extract principal lines and wrinkles from ...

'may'

May was another modal used frequently with inclusive *we*.

Examples of *may* in the SCS Corpus:

- For instance, in the example above, we may not receive data sorted on the destination...
- We may also want to produce a complete set of test ...

The inclusive *we* is also related to the conditionals as the authors used it along with the words such as: *if* and *suppose*.

'if'

Example:

- For example, if we consider a data stream created by network flows ...

'suppose'

Example:

- For example, suppose we are interested in exploring the transition relation ...

Thus, when Computer Scientists use inclusive *we*, they do not just rely on the personal pronoun; they also call upon some other strategies such as the use of:

- For example, we...
- Suppose, we...
- We can...
- We may...

- If we...
- How do we...
- As we shall see...

The last example, 'As we shall see...' is somewhat similar to the limited use of inclusive *we* (Okamura, 2003) where 6 of 288 uses of *we* for inclusive use in British papers, and 5 of 282 uses of *we* for inclusive *we* in Japanese papers, appeared with the word see. For example 'we can see...' and 'we have seen ...' So it can be concluded that Computer Scientists use exclusive *we* when they make strong claims and want to be acknowledged and credited for their work. On the other hand by using inclusive *we*, occasionally, they involve the reader in order to hedge their claims, to give examples and to show that they are exploring common ground in commonly accepted ways.

Conclusion

As discussed in the previous section, the present research contradicts the notion of impersonality in academic discourse in which, impersonality emphasizes 'objectivity, open-mindedness and the established nature of a given activity' (Lachowicz, 1981:111) and brings forward the author's strong presence. In Computer Science discourse, 'objectivity', 'open-mindedness' and the 'factual nature of a given activity', nevertheless, are there, but without being impersonal. Secondly, the reason for the Computer Scientists' not sharing their results as the collective achievement and responsibility of academic endeavor, could be due to the discipline's newness and at the same time the bombardment of new designs, techniques and methods in this arena. Hence, the need to establish an 'authorial persona' is enhanced.

Another claim of scholars such as Hyland (1999, a, 2000, 2001, a) that research in hard sciences is more measurable, clear cut and replicable, signifying the importance of the impersonal and passive voice of the author, is also refuted. Research articles in Computer Science do present clear cut, calculated, measurable and testable items but by foregrounding the author's voice which is explicit, firm and assertive. A Computer Scientist's presence is prominent in the research article as he asserts his personal involvement with the heavy usage of the personal pronoun *we*, and is inclined towards its exclusive use.

Pedagogical Relevance

Students who intend to write research articles need to know not only 'how to emphasize their personal contributions'(Kuo, 1999) to their field of research but also to learn how much of self-projection is appropriate in order to maintain solidarity with the expected readers. It is essential for teachers of EAP/ESP to understand how far their students are aware and conscious of the use of personal pronouns. Then pedagogical activities can be

designed for the construction of persuasive scientific argument. In this process, I think teachers of EAP/ESP writing might give way to 'potential breaches of strict formality in academic writing', (Chang & Swales, 1999:167)

Viewing written text as a communicative activity, use of the first person plural pronoun *we* plays an important role in articulating the authors voice in CS RAs. Unlike textbooks, where inclusive *we* is used to develop a relationship with the prospective reader; in research articles of Computer Science, exclusive *we*, foregrounds the authors themselves. First person singular pronouns, *I*, *me*, *my* and third person, *you*, are rarely used. The heavy use of the personal pronoun *we*, makes it an important element to be included in the teaching of the research article. At the same time, it assumes a pedagogically sensitive issue with the consideration of how much of it is good and what makes it excessive.

For general awareness, teachers may lead a discussion about the circumstances in which students would prefer the use or avoidance of personal pronouns *I*, *me*, *my*, *we* and *our*. Then they can be given sentences starting with phrases (picked up from SCS Corpus) such as: In this paper ..., In this paper we ..., In this paper I ..., This paper ... , to discuss, choose and justify their preferences.

Collocation is another area that can be included in the teaching materials of EAP/ESP. The students can be asked to identify verbs that collocate with the personal pronouns used in the research papers, and to discuss what role they play in order to foreground or downplay the author's voice.

References

- Aijmer, K. and Altenberg, B. (1991). *English Corpus Linguistics*. London, Longman.
- Altenberg, B. and Eeg-Olofsson, M. (1990). Phraseology In Spoken English: Presentation Of A Project. In: J. Aarts and W. Meijis, *Theory And Practice In Corpus Linguistics*. Amsterdam, Rodopi.
- Anthony, L. (1999). Writing Research Article Introductions In Software Engineering. How accurate is a standard model? *IEEE Transactions On Professional Communication*, 42 (1), pp. 38-46.
- Anthony, I. (2001). Characteristic Features Of Research Article Titles In Computer Science. *IEEE Transactions On Professional Communication*. 44 (3), pp.187-194.
- Atkinson, D. (1993). A Historical Discourse Analysis Of Scientific Research Writing From 1675-1975: The Case Of The 'Philosophical Transactions Of The Royal Society Of London'. Unpublished PhD dissertation, California: University of Southern California.
- Banks, D. (1994). *Writ In Water: Aspects Of The Scientific Journal Article*. E.R.L.A: Iniversite de Bretagne.
- Barnbrook, G. (1996). *Language And Computers*. Edinburgh: Edinburgh University Press.
- Bazerman, C. (1988). *Shaping Written Knowledge*. Madison: University of Wisconsin Press.
- Biber, D. (1986). *Variation Across Speech and Writing*. Cambridge: Cambridge University Press.
- Biber, D. and Finegan, E. (1994). *Sociolinguistic Perspective On Register*. Oxford: Oxford University Press.
- Bitten Court dos Santos, M. (1996). The Textual Organization Of Research Article Abstracts In Applied Linguistics. *Text*, 16 (4), 481-500.
- Celce-Murcia, M. and Larsen-Freeman, D. (1999). *The Grammar Book* (2nd ed.). Boston: Heinle and Heinle.
- Chang, Y. and Swales, J. (1999). Informal Elements In English Academic Writing: Threats Or Opportunities For Advanced Non-Native Speakers? In C. Candlin and
- Wasima, S. . (2007). *Malaysian Journal Of ELT Research*, Vol. 2, pp. 56-73. www.melta.org.my

- K. Hyland (eds). *Writing: Texts, Processes And Practices*. Longman. pp. 145 – 167.
- Cooper, C. (1985). Aspects of Article Introductions in IEEE Publications. MSc. Dissertation. The University of Aston in Birmingham. Birmingham.
- Day, R. A. (1988). *How To Write And Publish A Scientific Paper* (3rd ed). Phoenix: AZ: Orxy Press.
- Gilbert, G. and Mulkay, M. (1984). *Opening Pandora's Box: A Sociological Analysis Of Scientific Discourse*. Cambridge: Cambridge University Press.
- Gledhill, C. (1996). Science As Collocation: Phraseology In Cancer Research Articles. In: S. Botley, J. Glass, T. McEnery and A. Wilson (Eds). *Proceedings Of The Teaching And Language Corpora 1996 UCREL Technical Papers*. 9, 108-126.
- Gledhill, C. (1997). Les Collocations Et La Construction Du Savoir Scientifique. Collocations And The Building Of Scientific Knowledge: Corpus Based Research On LSP. *A.Sp.Anglais De Specialite*, 18 (15), 115-135.
- Gledhill, C. (2000). The Discourse Function Of Collocation In Research Article Introductions. *English For Specific Purposes*, 19 (2), 115-135.
- Hyland, K. (1999.a). *Writing: Texts, Processes And Practices*. Longman.
- Hyland, K. (1999, b). Disciplinary discourses: Writer Stance In Research Articles. In: C. Candlin and K. Hyland (eds). *Writing: Texts, Processes And Practices*. London: Longman, pp. 99- 121.
- Hyland, K. (2000). *Disciplinary Discourses: Social Interactions In Academic Writing*. Essex: Longman.
- Hyland, K. (2001, a). 'As I Demonstrated In A Previous Paper': Self-Mention In Academic Articles. Presentation at AAAL
- Hyland, K. (2001,b). *Humble Servants Of The Discipline? Self Mention In Research Articles*. *English For Specific Purposes*, 20 (3), pp. 207-226.
- Ivanic, R. (1998). *Writing And Identity. The Discoursal Construction Of Identity In Academic Writing*. Amsterdam: John Benjamins.
- Ivanic, R. and J. Simpson (1992). Who Is Who In Academic Writing? In: N. Fairclough (ed). *Critical Language Awareness*. New York: Longman.
- Wasima, S. . (2007). *Malaysian Journal Of ELT Research*, Vol. 2, pp. 56-73. www.melta.org.my

- Kaplan, R., Cantor, S., Hagstrom, C., Kammi-Stein, L.D., Shiotani, Y. and Zimmerman, C. B. (1994). On Abstract Writing, *Text*, 14 (3), pp. 401-426.
- Kuo, C-H. (1999). The Use Of Personal Pronouns: Role Relationships In Scientific Journal Articles. *English For Specific Purposes*, 18 (2), 121- 138.
- Lachowicz, D. (1981). On The Use Of The Passive Voice For Objectivity, Author Responsibility And Hedging In EST. *Science Of Science*, 2 (6), pp. 105- 115.
- McEnery, T. and Wilson, A. (1996). *Corpus Linguistics*. Edinburgh: Edinburgh University Press.
- Menzel, H. D., Jones, M. H. and Boyd, G. L. (1961). *Writing A Technical Paper*. New York: McGraw Hill.
- Okamura, A. (2003). *The Economic Journal Of Takasaki City University Of Economics*. 46 (1), pp. 49-62.
- Posteguillo, S. (1995). Genre Analysis In English For Computer Science. PhD Dissertation. Universitat De Valencia: Spain.
- Posteguillo, S. (1999). The Schematic Structure Of Computer Science Research Articles. *ESPJ*, 18 (2), 139-160.
- Quirk, R., Greenbaum, S., Leech, G. and Svartvik, J. (1985). *A Comprehensive Grammar Of The English Language*. London: Longman.
- Rodman, L. (1994). The Active Voice In Scientific Articles: Frequency And Discourse Functions. *Journal Of Technical Writing And Communication*, 24 (3), pp. 309-331.
- Ross, B. P. (1974). *Basic Technical Writing*. New York: Thomas Y. Crowell.
- Scott, M. (2000). *WordSmith Manual*. Oxford: Oxford University Press.
- Stubbs, M. (1996). *Text And Corpus Analysis*. London: Routledge.
- Swales, J. M. (1990). *Genre Analysis: English In Academic And Research Settings*. Cambridge: Cambridge University Press.
- Swales, J. M. and Feak, C. (2004). *Academic Writing For Graduate Students*. Ann Arbor: University of Michigan Press.

Tarone, E. Dwyer, S. Gillette, S. and Icke, V. (1981). On The Use Of Passive In Two Astrophysics Journal Papers. *English For Specific Purposes*, 1 (2), 123-139.

Tarone, E. Dwyer, S. Gillette, S. and Icke, V. (1998). On The Use Of The Passive And Active Voice In Astrophysics Journal Papers: With Extensions To Other Languages And Other Fields. *English For Specific Purposes*, 17 (1), 113-132.

Thetela, P. (1997). Evaluated Entities And Parameters Of Value In Academic Research Articles. *English For Specific Purposes*, 16 (2), 101-118.