CULTURAL TRACES ON THE RHETORICAL ORGANIZATION
OF RESEARCH ARTICLE ABSTRACTS

Dr. Hüseyin KAFES
Anadolu University
Eskişehir, TURKEY

ABSTRACT

The main purpose of this study is to investigate to what extent there is a rhetorical variation (if there is any) between research article abstracts written by American academic writers and those written by Taiwanese, and Turkish academic writers in the area of social sciences. This study presents a contrastive analysis of 138 article abstracts (46 by American academic writers, 46 by Taiwanese academic writers, and 46 by Turkish academic writers) published in a refereed online journal 'Social Behavior and Personality'. The purpose of the study was to ascertain whether these article abstracts, which focus on the same issue but written by authors from different cultural and linguistic backgrounds and addressing audiences from different cultural and linguistic backgrounds, employed the same rhetorical strategies to introduce their works. For this purpose, the generic structures of these texts were analyzed. The analysis follows the Swalesian approach. The article abstracts seem to share a number of important rhetorical strategies. It appears that these abstracts conform closely to the M2–M3–M4 arrangement. On the whole, the rhetorical strategies shared by the groups in this section of the research articles outweigh the rhetorical strategies not so commonly employed. However, the abstracts written by Turkish speaking academic and Taiwanese speaking academic writers tend to underline their contribution to the field of study much further. Discussions and implications related to the findings will be presented in detail.

Key Words: Academic writing, research article abstracts, academic writers, and rhetorical strategy.

INTRODUCTION

The recent years have witnessed an influx of journals worldwide, aiming to disseminate the massive industry of knowledge with 'several million of research papers published every year' (Swales and Feak, 2009:1) and 'the online database SCOPUS, listing 16,000 peer reviewed journals and supplementing 600 new publications each year (Tse and Hyland, 2010:1881). Partly motivated by this need, and partly running parallel with status of English as an international language, especially for science and technology (Grabe & Kaplan, 1996; Johns & Dudley-Evans, 1991), the academic research article in English has become one of the fundamental, influential, and celebrated mediums of distributing and advancing scientific knowledge among scholars world-wide. This significant point has extended the axiom that 'no finding, discovery, or insight, according to Tse and Hyland (2010:1880), has any validity until it has gained peer approval through publication in a journal.' Considering the undeniable dominancy of English in article publication, over 95 % of publications in the *Science Citation Index* in 1995 were in English (van Leeuwen et al., 2001), the necessity for academic writers, both native and non-native speakers of English, to publish in English to get recognition of and appreciation by their discourse communities could easily be seen. Without doubt, this entails a good command of the discourse conventions that characterize scientific writing, as underlined by Bhatia (1997:313).

Since English has undoubtedly acquired the status of a world language, it is more than necessary that linguists of all persuasion, whether interested in the issue of language acquisition, description, use or reform need to

207

adjust their vision, paradigms, frameworks or methodologies in order to be able to account for this global variation in the use of English in the intra and international contexts.

Like native English speaking academic writers, non-native English speaking academic writers pursuing international recognition through publication unavoidably have to adopt academic writing, greatly shaped by Anglo American writing conventions. This necessity has led to numerous studies on the genre of the research article, which has garnered huge interest in the last decade. While some studies have been devoted to the more theoretical side of the issue, such as its historical development and social construction, some others have focused on the overall rhetorical structure and lexico-grammatical features of the research article. Studies on the rhetorical structure of the research article have mainly analyzed the different sections. Salager-Meyer (1990, 1992), Melander, Swales, & Frederickson (1997) Hyland (2000, 2004), Samraj (2005), and Swales and Feak (2009) investigated the research article abstract. However, the research article introduction has witnessed the lion's share from the researchers following the groundbreaking application of Swales' (1990) CARS model on the move structure of RA introductions. Swales (1990) and Swales & Najjar (1987) analyzed the research article introduction, while Thompson (1993), Brett (1994), and Williams (1999) focused on the results section and Hopkins & Dudley-Evans (1988) and Holmes (1997) studied the discussion section. In addition to studies focusing on the rhetorical structure of the research article, some researchers have focused on the lexico-grammatical features, such as identity (Tang and John, 1999), tense choice and transitivity (Martinez, 2001), citation practices (Hyland, 1999b) and (Harwood, 2009), authorial identity (Hyland, 2001, 2002), voice (Matsuda and Tardy, 2007). Yet some others have investigated the research article focusing on disciplinary variation (Nwogu, 1997; Anthony, 1999; Posteguillo, 1999; Samraj, 2002, Ozturk, 2007; Vázquez and Giner, 2008) and from a cross-linguistic/cultural perspective (Taylor and Chen, 1991; Hyland, 1998, 1999a, 2000; Mauranen, 1993; Luuka, 1994;; Valero-Garcés, 1996; Burgess, 1997; Moreno, 1997, 1998; Mur-Dueñas, 2007; Marin-Martin, 2008; Sheldon, 2009; Hu and Coa, 2011).

Although not as much as the other sections of the research article, the research article abstract has attracted interest and has become an important part of the research article, mostly motivated by the need to relieve researchers facing an information explosion. In stating the functions of the abstract, Huckin (2001) underlines its function serving as a mini-text, a screening-device, a preview, and as an index. Similarly, Bazerman (1984) underlines its representative function, while Swales (1990) foregrounds its distillation function, and Salager-Meyer (1990) underlines that it serves as crystallization for researchers and writers alike. As the abstract offers a clear guidance to readers in today's busy world flooded with information and indicates if the full article is worth reading, almost every journal requires an abstract preceding the main article (Martín-Martín, 2002). Even journals publishing articles in other languages require an abstract in English as well. Given this, it is a must for academic writers, let alone novice and non-native English speaking academic writers, to master the textual organization and linguistic realization of rhetorical moves of the abstract. Although a couple of studies by Salager-Meyer (1990, 1992), Kaplan et al. (1994), Santos (1996), Anderson and Maclean (1997), Hyland, 2004), Lorés (2004), Swales and Feak (2009) on the abstract have been conducted, no cross-cultural comparative study on the rhetorical structure of abstracts by native English speaking and non-native English speaking academic writers, especially including Turkish academic writers, have been conducted so far. Motivated by this need, this comparative study sets out to examine the rhetorical structure of research article abstracts written by American, Turkish and Taiwanese writers in English and published in an international scientific journal.

DATA AND METHODOLOGY

The construction of the corpus

To fill the above-mentioned gap, a total of 138 academic article abstracts published in the field of education in English were collected. The selection of the discipline was motivated by two considerations. Firstly, no study to date, with the same purpose and scope, of abstracts in English has been carried out, leaving an obvious lacuna to fill in. Secondly, it would be both necessary and feasible and practical to focus on a single discipline to tease

208

apart culturally motivated considerations away from disciplinary ones on the construction of the rhetorical organization of research article abstracts. Another important rationale behind focusing on only a single discipline lies in the findings of some earlier research. Previous studies on rhetorical organization have shown that disciplinary variations could have discernible influences on rhetorical structure and language use (Swales, 1990; Thompson, 1993; Nwogu, 1997; Posteguillo, 1999). Considering that the degree of uniformity of textual structures in scientific texts is highly dependent on the discipline to which they belong (Gnutzmann & Oldenburg, 1991), the researcher gathered the sample from texts belonging to only one discipline of experimental discipline of the experimental branch of social sciences: education.

The selection of the journal source was based on three criteria: indexed and abstracted in Social Sciences Citation Index, online availability, and occurring sufficient journals by writers from different languages and cultural backgrounds. Another rationale overshadowing the choice of one journal is related to the sometimes vague editorial directives which according to Hyland (2004:74) 'generally gives no guidance on creating a discursive context beyond the need to be 'informative' and 'succinct''. Selecting articles from different journals could complicate the already complex matter. As Social Behavior and Personality is a perfect match, this seemed an ideal ground to form the base of the research. Hence, the abstracts published in *Social Behavior and Personalit*y between 2000 and 2010 constituted the data of the study. The rationale behind choosing American academic writers is partly due to the fact that Anglo American rhetoric in academic writing has a huge impact worldwide, regardless of the language and cultural difference. It is also partly due to the availability of more articles by American academic writers compared to other native English speaking academic writers such as British, Canadian, Australian, or New Zealanders.

Considering that the rhetorical structure and linguistic features of empirical research articles can be very different from those of theoretical research articles, only abstracts of data-based research articles were included in the corpus. This study, which employs both qualitative and quantitative approaches, comprising frequency counts and text analysis of published research article abstracts, is based on three corpora of abstracts collected from one journal. The corpus in English by native speakers of American authors is made up of 46 research article abstracts selected at random among from 100 journal articles, the corpus in English by Turkish authors is made up of 46 research article abstracts selected at random among from 100 journal abstracts. Similarly, the corpus in English by Taiwanese writers consists of 46 research article abstracts selected randomly among from 100 research article abstracts from the same journal. The nationality of the native English speaking American authors, the native speaking Taiwanese academic writers, and the native Turkish speaking Turkish authors were based on information given in the bio-data sections of the authors accompanying the articles, their names, and affiliation.

Approach to the analysis of rhetorical structure/move structure

The structure of the research article abstracts was discussed in terms of the rhetorical moves or (communicative stages) of the research article; that is; introduction, purpose, methods, results, and discussion, resulting in four moves: purpose, methods, results, and conclusions, following Dudley-Evans (1986), Salager-Meyer (1990, 1991, 1992), Swales (1981, 1990), and Bhatia (1993). Santos (1996) proposes an additional move "situating the research", which typically appears at the beginning of abstracts and includes two moves: statement of current knowledge and statement of problem. Likewise, Hyland (2000) postulates an introduction move where the context of the study and its motivation are presented. In this study, the abstracts were analyzed the moves traditionally ascribed to abstracts as suggested by Hyland (2000) and Swales and Feak (2009) (Introduction, Purpose, Method, Results (product), Conclusion), which is quite similar to Hyland's (2000) classification. Other moves emerged from the data were also added to the classification. In the present study, the identification of moves is based solely on the function or content of the text (i.e. using a top-down approach). After the moves are identified, the typical linguistic features in each move are investigated. For inter-rater reliability, 20 randomly selected abstracts from the three corpora each were coded by two different people (the researcher and one university lecturer in linguistics and applied linguistics for the article abstracts

in English, high inter-rater reliability rates (over 90%) were obtained. In case of any discrepancies, which were rare, discussion sessions were held. Then the results were compared. Although the most common realization of moves was in a sentence, a move that was realized by structures ranging from several sentences to a phrase or a word was also accepted in this study.

Swales and Feak (2009)
Table 1: A classification of rhetorical moves in article abstracts

Moves	Typical Labels	Implied questions
Move 1	Background/introduction/situation. Why is the topic important?	What do we know about the topic?
Move 2	Present research/purpose	What is the study about?
Move 3	Methods/materials/subjects/procedures	How was it done?
Move 4	Results/findings	What was discovered?
Move 5	Discussion/conclusion/Implication/recommendations	What do the findings mean?

Approach to the analysis of the linguistic realization of moves
Following Pho (2008:235), the researcher himself analyzed the linguistic features of research article abstracts to help identify the linguistic features that could help distinguish the moves. The researcher also considered the linguistic features that previous studies of research article abstracts identified (Hyland, 1996, 2005; Kanoksilapatham, 2003; Vassileva, 2000, 2001).

FINDINGS

The macrostructure of abstract/Move Frequency
The great majority of the abstracts by the three groups of academic writers projected three to four moves. A closer look at the occurrence frequency of the moves in the corpus revealed that most of the abstracts included moves 2, 3, and 4. Namely, they contained the *Presenting the research* move, the *Summarizing the findings move* and the *Describing the methodology move* (Table 2).

Table 2: Patterns and percentages of occurrence of moves in the abstracts by the three groups

Moves	Number of abstracts by American academic writers	Number of abstracts by Turkish academic writers	Number of abstracts by Taiwanese academic writers
	N0 46 (%)	*N0 46 (%)*	*N0 46 (%)*
Introduction	17 (37%)	9 (8%)	15 (33%)
Purpose	46 (100%)	46 (100%)	46 (100%)
Method	45 (98%)	46 (100%)	42 (91%)
Results	46 (100%)	46 (100%)	45 (98%)
Conclusion	32 (70%)	16 (35%)	25 (54%)

As has been underlined earlier, the four basic structural components, which typically constitute an RA (P-M-R-C), were all present to some degree in the article abstracts. However, some similarities and also differences in the frequency of occurrence and distribution of these units in the three groups of abstracts were seen. The results in Table 2 show that the Results unit emerges as the most frequent and is an obligatory element in the three groups of abstracts. Similarly, the Purpose and Methods units are also quite similar in the two groups analyzed. Another common feature of the RA abstracts is that they included the Introduction unit the least, followed by the Conclusion unit. Regarding the divergences, it was found that Turkish and Taiwanese academic writers had fewer Conclusions and especially Introduction units than their American counterparts. Among

these departure is the Turkish academic writers' scarce employment of the Conclusion and notably Introduction units. It was also observed that the linear sequence, which these structural elements follow in the three groups of abstracts, is quite similar: Methods, Results, Purpose, Conclusion, and Introduction. When it comes to the number and percentages of the basic structural units, some variation was seen as could be sustained from table 3. It could be deduced from the information presented in the same table that abstracts by American academic writers look more complete than the abstracts by the two other groups in the sense that they contain the four basic units more. Over 62 % of abstracts by American academic writers include four moves, whereas only 34 % of abstracts by Turkish academic writers and 30 % of abstracts by Taiwanese academic writers experience four units. These two groups favored 3 units more when compared to their American counterparts.

Table 3: Number and percentages of structural units in the abstracts

Moves	Number of abstracts by American academic writers	Number of abstracts by Turkish academic writers	Number of abstracts by Taiwanese academic writers
	N0 46 (%)	*N0 46 (%)*	*N0 46 (%)*
5 Units	5 (11%)	1 (2%)	7(15%)
4 Units	31(67%)	17(37%)	15(33%)
3 Units	12(26%)	32(70%)	20(43%)
2 Units	---	---	6(13%)
1 Units	---	---	---

It might be of interest to further examine whether this inclination to omit one of the basic units is commonly favored by Turkish and Taiwanese academia in social sciences. The impact of abstracts with three or fewer units on the reader might also be worth investigating.

Description of the rhetorical moves
Description of the Background/Introduction/Situation unit
As three rhetorical moves, purpose, methods, and results units are the most frequently employed ones; the order of the description of the moves will not be based on their frequency of employment. In fact, they will be presented in the order as given in table 2. In the corpus of 150 research article abstracts, the Introduction move was the least frequent rhetorical move, which introduces the topic by either giving some background information or describing the situation. In so doing, this move helps the writer create a research space, which is problematic due to its various rhetorical options as is underlined by Swales. Swales (1990) bases the complexity of this move on two impositions on the writer: s/he has to decide on the amount and type of information to give and stance s/he has to take up. Maybe partly because of this complexity, this rhetorical move is the least employed one by all the groups. This move was realized mainly in two steps: making topic generalizations, reviewing items of previous research and, claiming centrality. Making topic generalization is the most common strategy followed by reviewing items of previous research, and claiming centrality.

People often judge the probability of two events occurring together to be more probable than the less probable of each of these events occurring separately, thereby demonstrating the conjunction error… (From an Abstract by an American writer)

This short topic generalization serves to set the scene for the reader, provides some background information, and also underlines the importance of the topic, all of which aim to capture the readers' attention and persuade her/him to continue reading the whole abstract. Another way of attracting readers' attention is through basing the study on some previous research as seen in the excerpt below. By basing the study on some

211

previous research, the writer shows that s/he is familiar with the relevant literature and is aware of the topic. Incorporated together, the writer claims insider credibility by demonstrating her disciplinary competence (Hyland, 2004).

…Previous research suggests many of the qualities necessary for successful well-being are masculine in nature… (From an Abstract by an American writer)

The other relatively infrequently employed rhetorical strategy is claiming centrality, which was in all occasions realized with an explicit word showing the significance of the issue. In excerpt below, the writer underscores the importance of the topic with the word 'increasing'.

…An increasing number of colleges and universities are focusing on general issues, thus presenting teachers with new challenges with regard to both pedagogy and expertise… (From an Abstract by a Taiwanese writer)

Description of the Present research/purpose rhetorical move

This rhetorical strategy, one the most common, was mostly realized through three steps: explicitly indicating the purpose of the study, explicitly stating what the study does, or describing the main features of the study. 47 % of the abstracts by American and Taiwanese writers, and 49 % of the abstracts by Turkish academic writers included this move. Turkish academic writers preferred to express their purpose using an explicit noun such as 'purpose', 'objective', and 'aim' (60 %), whereas American and Taiwanese academic writers showed a higher tendency to state what their studies did (60 % American academic writers and 52 % Taiwanese academic writers). Describing the main features of the study was found the least favored step.
The purpose of this study was to adapt the Self-Compassion Scale…into Turkish and test the validity and reliability of the measure… (From an Abstract by a Turkish writer)

In the realization of this step, the writers showed a preference for using deictics (the, this) to refer to the present text (paper, study, experiment), followed by a verb predominantly in the past tense, although instances of the present tense to a lesser degree were also found in all three groups of abstracts.
The aim of this study is to identify the body image and personality traits of male-to-female transsexual and homosexual persons in Turkey… (From an Abstract by a Turkish writer)

The other common way of this rhetorical move is describing what the study does/did as seen in the excerpt below. As is the case with the expression of purpose, the writers realized this move predominantly, using the past tense and chose verbs such as, 'investigate', 'discuss', 'describe' and 'analyze' to present their studies.
This study assessed the effects of behavior-setting changes, partners' behavior toward an interloper, and importance of interloper characteristics for romantic jealousy… (From an Abstract by an American writer)

In the great majority of the cases, all of the writers preferred their studies, research, or abstracts to speak for themselves. American academic writers foregrounded themselves in only 4 instances, while Taiwanese academic writers underlined their presence as writers in the abstracts in 6 instances. Regarding Turkish academic writers, they penned this only two times.

In this study we investigated whether the two motivational forces – social exchange and impression management – behind Organizational Citizenship Behavior (OCB) proposed by Bolino (1999) would be associated differently with an individual's OCB toward a coworker, supervisor, and organization… (From an Abstract by a Taiwanese writer)

Description of the methods/materials/subjects/procedures move

The frequency of occurrence of this move is quite similar in the abstracts of all the three groups. It occurred in 98 % of the abstracts by Turkish academic writers while it was seen in 90 % of abstracts by American writers

212

and 82 % of abstracts by Taiwanese academic writers. On the whole, the majority of this unit was very short, mostly consisting of one or two sentences aiming to describe briefly the most relevant details of this unit; subjects, materials, data sources, methods, and procedures. Abstracts by Turkish academic writers had relatively longer and more detailed rhetorical move than the other two groups, as seen in the excerpt below.

…The study sample includes 154 children (77 children with chronic illness, 77 children with acute illness). The data were collected via the General Information Form and the Piers-Harris Self-Concept Scale for Children (Piers & Harris, 1969). The data were analyzed via MANOVA, ANOVA and the Duncan Test… (From an Abstract by a Turkish writer)

As seen in this unit, the writer gives detailed information about the participants, data source and collection method, and how the data were analyzed. Another interesting point to note regarding this unit is that this rhetorical move occurred as a completely independent unit in most of the abstracts. Another point deserving mention here is that this move was characterized by the use of the past tense almost in all of the articles, and the passive voice to describe the methodology, indicating a preference for impersonal style, as seen below.

…The experimental children's group took part in project-based education for a total of 12 weeks while the control group followed the regular preschool curriculum. Data about the children's conceptual development were gathered using the Bracken Basic Concept Scale-Revised (Bracken, 1998), which was previously adapted for 6-year-old Turkish children by … (From an Abstract by a Turkish writer)

Description of the results/findings move
Similar to methods move, this rhetorical move is another most commonly employed one, present in all of the abstracts by American and Turkish academic writers and 90 % of the abstracts by Taiwanese academic writers. As writers could state their results or findings and make new knowledge claims by describing their main results and findings via this rhetorical move, it was seen that this move was an indispensable strategy for them. This move is characterized by the abundant use of sentence initial inanimate nouns such as 'the findings', 'the analyses', 'the results' etc. followed by verbs such as 'show', 'reveal', 'indicate', 'provide' demonstrate', etc. in the past tense, as seen in the below excerpt.

...Results showed that the factor structure of the Turkish version of the SELSA-S was largely similar to the original one. Finally, each subscale demonstrated high internal consistency, and as predicted was correlated with theoretically related loneliness measures and other relevant constructs, along with displaying temporal stability… (From an Abstract by a Turkish writer)

In this excerpt, the writer preferred an impersonal style. In some cases, writers' preference for an impersonal style was realized by a passive construction.

…For the former, it was found that: (i) antismoking advertising should intensively focus on escalating consumer risk perception and should be targeted toward males… (From an Abstract by a Taiwanese writer)

Contrary to predominant use of the past tense to report the results/findings of their studies, on some occasions, rare though they were, the writers preferred the present tense to realize the same goal. American writers used the present tense to describe their results on three occasions; Turkish academic writers preferred this tense on five occasions. On the other hand, Taiwanese academic writers used this tense for the same purpose 12 times.

…Our findings indicate that different dimensions of QWL result in distinctive effects on organizational and career commitments and turnover intentions… (From an Abstract by a Taiwanese writer)

Another rarely employed rhetorical strategy is the use of first person plural nouns to report the results. Taiwanese writers employed this strategy on five occasions while their Turkish counterparts used it just once. However, none of the American academic writers opted out for this strategy.

 …We found that the more consistent the perception of HR practices between hairdressers and shop owners, the greater the employee affective commitment to the organization, emphasizing the value of HR practices in communicating clear and direct signals to employees regarding norms and expectations…(From an Abstract by a Taiwanese writer)

Description of the Discussion/conclusion move
In this rhetorical move of the data analyzed, the writers aimed to perform a couple of things from extending or interpreting the main results to drawing inferences, from pointing to applications to underlying wider implications. In so doing, it could ferry the reader from the text into the world by commenting on the implications of the research or its applications. Despite its crucial role in emphasizing 'the value of the paper either to the discipline or to the wider discourse community (Hyland (2004:74), this unit was employed as an optional extra, which is line with Hyland's (2004) study on the disciplinary differences in abstract structures.

This move is characterized by predominant use of the present tense. Almost all of the writers chose this tense to express their conclusions, initiating this unit by using an explicit noun. The two most commonly preferred words are 'findings' and 'results'. Typical verbs used are 'suggest', 'imply', 'indicate', and 'reveal'.

American academic writers used this move the most with 64 %, while their Taiwanese counterparts employed it by a lesser extent with 50 %. Contrary to these two groups, Turkish academic writers held it the least with 32 %. The most common purpose for employing this rhetorical move is extending and/or interpreting the results. American academic writers extended their results on nine occasions, while their Turkish counterparts engaged in it on ten occasions and Taiwanese academic writers did it on eight occasions. One of the most common purposes of employing this move is extending or interpreting the results as seen in the excerpt.

 …Overall, the ratings of the different aged models were significantly correlated, all rs > .54, ps < .001, with high internal consistency, a = .89, demonstrating uniformity between attractiveness ratings at different ages. Also females rated the newborns as more attractive compared to the ratings by males, t(125) = 3.75, p < .001, d = .67. These results suggest that the perception of physical attractiveness is relatively stable in ratings of infants through to young adults, and females perceive infants to be more attractive than do male… (From an Abstract by a Taiwanese writer)

In this excerpt, the writer first reports the results and then interprets for the readers in the italicized part partly to underline the value of the study. Another goal this move serves is in expressing implications for the wider discourse community. American and Turkish academic writers underlined implications of their studies on seven and six occasions respectively, whereas their Taiwanese counterparts underscored their implications on ten occasions.

…Important findings were the differences in the statements by midwives and teachers about the roles of mothers, despite their similar definitions of motherhood. Mothers should support their motherhood needs in a number of ways as suggested in the discussion… (From an Abstract by a Taiwanese writer)

In the italicized part above, the writer underlines the implications of the study, which is generally characterized by the use of an epistemic modal verb and/or noun. Yet another motivation for employing this move is explicitly announcing the upcoming implication in the rest of the article. American academic writers announced their upcoming implications on ten occasions while their Taiwanese counterparts fulfilled it on four occasions. On the other hand, Turkish academic writers rendered it only once.

…Managerial implications for both researchers and practitioners are discussed. (From an Abstract by a Taiwanese writer)

The final reason for employing this rhetorical strategy is in making suggestions for future research, which was seen only in the abstracts by American and Taiwanese academic writers.

…Implications of these results for future research on group racial dynamics are considered. (From an Abstract by an American writer)

CONCLUSION

It is important to point out that the purpose of this exploratory study was to analyze whether article abstracts by authors from different cultural and linguistic backgrounds and addressing audiences from different cultural and linguistic backgrounds employed the same rhetorical strategies to introduce the works presented. To be more precise, it sought to investigate to what extent academic writers from different cultural and linguistic backgrounds adhere to rhetorical conventions of abstract writing. It is of course virtually impossible to make broad generalizations because of the relatively limited quantity of the data. Needless to say, much more data and research is needed to fully grasp this issue. Indeed, a full understanding of this matter is not easy because of the numerous factors influencing the issue. Although this study offers no finite explanation for the divergences from the native speaker academic conventions, the findings could hopefully give some insight into the issue.

Overall, this study has shown that the rhetorical structures of the abstracts by American, Turkish, and Taiwanese academic writers from culturally and linguistically diverse backgrounds generally reflect the Anglo American conventions of academic discourse community. A comprehensive analysis of these moves has revealed a certain degree of homogeneity among the groups. This conclusion is based on the fact that abstracts by these three groups employed the four basic rhetorical moves of the abstract. That is to say, they showed a clear preference for the use of Move 2 (Purpose), Move 3 (Method), and Move 4 (Results), which could be regarded as obligatory. Despite their diverse linguistic and cultural backgrounds, American academic writers, with an Anglo-American rhetorical background rooted in Socratic and Aristotelian philosophical traditions, with Taiwanese rhetorical norms with a pedigree in Confucian and Taoist traditions, and with Turkish rhetorical forms, have displayed the rhetorical conventions of abstract writing in their abstracts. This conclusion gains more significance given the very general instruction of the journal on the abstracts it requires.

However, some degree of divergence was discovered in the frequency of Move 1 (Introduction) and Move 5 (Conclusion). These two rhetorical moves were employed the least, which could be motivated by the fact that they are optional moves. In addition to being the least favored units, Turkish academic writers included them less than the other two groups, while American academic writers included them in their abstracts the most. This discrepancy could be due to a couple of factors ranging from different intellectual background and styles to cultural patterns, from the expectations of their discourse community to academic background to the influence of academic writing instruction. More contrastive analysis on this genre across different languages are needed to fully understand the influence of these factors on the writing practices of academic writers from different cultural and linguistic backgrounds.

Given the inadequacy of textbooks for novice writers as underlined by Ventola (1994) and the rather vague theoretical knowledge provided in the pages, it is a reality that such textbooks should base their advice on corpus-based research findings. With this gap at hand, we can easily say that the findings of this descriptive study have some pedagogical implications for academic writing materials developers and policy makers. In order to fully prepare graduate and postgraduate students for publication in their respective field worldwide,

215

rhetorical and linguistic conventions of research article writing could be incorporated into academic writing courses.

BIODATA AND CONTACT ADDRESS OF THE AUTHOR

Hüseyin KAFES holds an MA and a PhD in English Language Teaching from Anadolu University and is currently teaching at the School of Foreign Languages at the same university. His research interests include discourse analysis, genre analysis, text analysis, academic writing, rhetoric, argumentation, and writer stance in academic writing.

Dr. Hüseyin KAFES
Anadolu University
School of Foreign Languages
Eskişehir, TURKEY
Tel: +90 (222) 335 05 80/6187
E. Mail: hkafes@gmail.com
hkafes@anadolu.edu.tr

REFERENCES

Anderson, K., & Maclean, J. (1997). A genre analysis study of 80 medical abstracts. *Edinburgh Working Papers in Applied Linguistics*, 8, 1–23.

Anthony, L. (1999). 'Writing research article introductions in software engineering: how accurate is a standard model?' *IEEE Transactions on Professional Communicatio*n, 42, 38–46. http://dx.doi.org/10.1109/47.749366

Bazerman, C. (1984). The writing of scientific non-fiction. *Pre/Tex*t 5 (1), 39–74.

Bhatia, V. (1993). *Analyzing genre: language use in professional settings.* London: Longman.

Bhatia, V. K. (1997). 'Genre-mixing in academic introductions'. *English for Specific Purposes*, 16, 181–195. http://dx.doi.org/10.1016/S0889-4906(96)00039-7

Brett, P. (1994). 'A genre analysis of the results section of sociology articles'. *English for Specific Purposes*, 13, 47–59.http://dx.doi.org/10.1016/0889-4906(94)90024-8

Burgess, S. (1997). Discourse variation across cultures: a genre analytic study of writing in linguistics. PhD thesis, University of Reading.

Dudley-Evans, T. (1986). '*Genre analysis: an investigation of the introduction and discussion sections of MSc dissertations'*. LSU: University of Aston. *ESP Collection*, 3.5H/16.

Gnutzmann, C., & Oldenburg, H. (1991). C*ontrastive text linguistics in LSP-research: theoretical considerations and some preliminary findings.* In H. Schro¨der (Ed.), Subject-oriented texts (pp. 103–137). Berlin: Walter de Gruyter. http://dx.doi.org/10.1515/9783110858747.103

Grabe, W., & Kaplan, R. (1996). Theory and practice of writing. New York: Longman. Johns, A., & Dudley-Evans, T. (1991). 'English for specific purposes: international in scope, specific in purpose'. *TESOL Quarterly, 20, 247–265.*

Harwood, N. (2009). 'An interview-based study of the functions of citations in academic writing across two disciplines'. J*ournal of Pragmatics* 41, 497–518. http://dx.doi.org/10.1016/j.pragma.2008.06.001

Hemais, B. (2001) 'The Discourse of Research and Practice in Marketing Journals', *English for Specific Purposes* 20(1): 39–59. http://dx.doi.org/10.1016/S0889-4906(99)00021-6

Holmes, R. (1997). 'Genre analysis and the social sciences: an investigation of the structure of research article discussion sections in three discipline's. E*nglish for Specific Purposes,* 16(4), 321–337. http://dx.doi.org/10.1016/S0889-4906(96)00038-5

Hopkins, A., & Dudley-Evans, T. (1988). 'A genre-based investigation of the discussion sections in articles and dissertations'. *English for Specific Purposes*, 7, 113–121.http://dx.doi.org/10.1016/0889-4906(88)90029-4

Hu, G., and Coa, F. (2011). 'Hedging and boosting in abstracts of applied linguistics articles: A comparative study of English- and Chinese-medium journals'. *Journal of Pragmatics* 43, 2795–2809. http://dx.doi.org/10.1016/j.pragma.2011.04.007

Huckin, T. (2001) 'Abstracting from Abstracts', in M. Hewings (ed.) *Academic Writing in Context*, pp. 93–103. Birmingham: University of Birmingham Press.

Hyland, K. (1996) 'Talking to the Academy: Forms of Hedging in Science Research Articles', *Written Communication* 13(2): 251–81. http://dx.doi.org/10.1177/0741088396013002004

Hyland, K., (1998). 'Boosting, hedging and the negotiation of academic knowledge'. *Text,* 18,349–382.http://dx.doi.org/10.1515/text.1.1998.18.3.349

Hyland, K. (1999a). 'Disciplinary discourses: Writer stance in research articles'. In C. Candlin & K. Hyland (Eds.), *Writing: Texts, processes and practices*, 99–121. London: Longman.

Hyland, K. (1999b). 'Academic attribution: Citation and the construction of disciplinary knowledge'. *Applied Linguistics*, 20 (3), 341–367. http://dx.doi.org/10.1093/applin/20.3.341

Hyland, K. (2000). *Disciplinary discourses: Social interactions in academic writing.* London: Pearson.

Hyland, K. (2002). 'Authority and invisibility: authorial identity in academic writing'. *Journal of Pragmatics* 34, 1091–1112. http://dx.doi.org/10.1016/S0378-2166(02)00035-8

Hyland, K. (2001). 'Humble servants of the discipline? Self-mention in research articles'. *English for Specific Purpose*s 20 (3), 207–226. http://dx.doi.org/10.1016/S0889-4906(00)00012-0

Hyland, K. (2002). 'Authority and invisibility: authorial identity in academic writing'. *Journal of Pragmatics* 34, 1091–1112. http://dx.doi.org/10.1016/S0378-2166(02)00035-8

Hyland, K. (2004) *Disciplinary Discourses: Social Interactions in Academic Writing*. Ann Arbor: University of Michigan Press.

Hyland, K. (2005) 'Stance and Engagement: A Model of Interaction in Academic Discourse', *Discourse Studies* 7(2): 173–92. http://dx.doi.org/10.1177/1461445605050365

Johns, A. Dudley-Evans, T. (1991). 'English for Specific Purposes: International in scope, specific in purpose'. *TESOL Quarterly,* 25, 297-314. http://dx.doi.org/10.2307/3587465

Kanoksilapatham, B. (2003) 'A Corpus-based Investigation of Scientific Research Articles: Linking Move Analysis with Multidimensional Analysis', PhD thesis, Georgetown University, Washington, DC.

Kaplan, R. B., Cantor, S., Hagstrom, C., Kamhi-Stein, L., Shiotani, Y., & Zimmerman, C. (1994). On abstract writing. *Text*, 14(3), 401–426. http://dx.doi.org/10.1515/text.1.1994.14.3.401

Lorés, R. (2004) 'On RA Abstracts: From Rhetorical Structure to Thematic Organization', *English for Specific Purposes* 23(3): 280–302. http://dx.doi.org/10.1016/j.esp.2003.06.001

Luuka, M. R. (1994). 'Metadiscourse in academic texts'. In B. L. Gunnarsson, P. Linell, & B. Nordberg (Eds.), *Text and talk in professional context*, 77–88. Uppsala, Sweden: ASLA.

MacDonald, S.P. (1992) 'A Method for Analyzing Sentence-level Differences in Disciplinary Knowledge Making', *Written Communication* 9(4): 533–69.

MacDonald, S., P., (1994). '*Professional Academic Writing in the Humanities and Social Sciences'*. Carbondale and Edwardsville: Southern Illinois University Press.http://dx.doi.org/10.1177/0741088392009004004

MacDonald, S.P. (1994). *Professional Academic Writing in the Humanities and Social Sciences*. Carbondale and Edwardsville: Southern Illinois University Press.

Martín-Martín, P. (2002) 'A Genre Analysis of English and Spanish Research Paper Abstracts in Experimental Social Sciences', *English for Specific Purposes* 22(1): 25–43.

Martín-Martín, P. (2008). 'The mitigation of scientific claims in research papers: a comparative study'. *International Journal of English Studies* 8, 133-152.

Martinez, I., A. (2001). 'Impersonality in the research article as revealed by analysis of the transivity structure'. *English for Specific Purposes*, 20, 227-247. http://dx.doi.org/10.1016/S0889-4906(00)00013-2

Martínez, I.A. (2003) 'Aspects of Theme in the Method and Discussion Sections of Biology Journal Articles in English', *Journal of English for Academic Purposes* 2(2): 17–37.

Matsuda, P., K and Tardy, C., M (2007). 'Voice in academic writing: The rhetorical construction of author identity in blind manuscript review'. *English for Specific Purposes* 26, 235–249. http://dx.doi.org/10.1016/j.esp.2006.10.001

Mauranen, A. (1993). 'Contrastive ESP rhetoric: metatext in Finnish-English economics texts'. *English for Specific Purposes*, 12(1), 3–22. http://dx.doi.org/10.1016/0889-4906(93)90024-I

Melander, B., Swales, J.M., & Fredrickson, K.M. (1997). 'Journal abstracts from three academic fields in the United States and Sweden: National or disciplinary proclivities?' In A. Duszak (Ed.), *Intellectual styles and cross-cultural communication* (pp. 251-272). Berlin: Mouton De Gruyter.

218

Moreno, A. (1997). 'Genre constraints across languages: Causal metatext in Spanish and English RAs. English for Specific Purposes, 16(3), 161–179. http://dx.doi.org/10.1016/S0889-4906(96)00023-3

Moreno, A. (1998). 'The explicit signaling of premise-conclusion sequences in research articles: A contrastive framework'. *Text*, 18(4), 545–585. http://dx.doi.org/10.1515/text.1.1998.18.4.545

Mur-Duen˜as, P.(2007).'I/we focus on. . ': Across-cultural analysis of self-mentions in business management research articles. *Journal of English for Academic Purposes*, 6(2), 143–162.

Nwogu, K., N. (1997). 'The medical research paper: Structure and functions'. *English for Specific Purposes* 16 (2): 119–138. http://dx.doi.org/10.1016/S0889-4906(97)85388-4

Ozturk, I. (2007). 'The textual organization of research article introductions in applied linguistics: Variability within a single discipline'. *English for Specific Purposes* 26, 25–38.http://dx.doi.org/10.1016/j.esp.2005.12.003

Pho, P., D. (2008). 'Research article abstracts in applied linguistics and educational technology: a study of linguistic realizations of rhetorical structure and authorial stance'. *Discourse Studies*, vol. 10(2): 231–250.

Posteguillo, S. (1999). 'The schematic structure of Computer Science research articles'. *English for Specific Purposes*, 18, 139–160. http://dx.doi.org/10.1016/S0889-4906(98)00001-5

Salager-Meyer, F. (1990). 'Discoursal flaws in medical English abstracts: a genre analysis per research- and text-type'. *Text*, 10(4), 365–384. http://dx.doi.org/10.1515/text.1.1990.10.4.365

Salager-Meyer, F. (1991). 'Reading expository prose at the post-secondary level: the influence of textual variables on L2 reading comprehension (a genre-based approach'. *Reading in a Foreign language,* 8(1), 645–662.

Salager-Meyer, F. (1992) 'A Text-type and Move Analysis Study of Verb Tense and Modality Distribution in Medical English Abstracts', *English for Specific Purposes* 11(2): 93–113. http://dx.doi.org/10.1016/S0889-4906(05)80002-X

Samraj, B. (2002). 'Introductions in research articles: variation across disciplines'. *English for Specific Purposes* 21, 1-7. http://dx.doi.org/10.1016/S0889-4906(00)00023-5

Samraj, B. (2005). 'An exploration of a genre set: Research article abstracts and introductions in two disciplines'. *English for Specific Purposes* 24, 141–156. http://dx.doi.org/10.1016/j.esp.2002.10.001

Santos, M. B. (1996). 'The textual organization of research paper abstracts in applied linguistics'. *Text*, 16(4), 481–499. http://dx.doi.org/10.1515/text.1.1996.16.4.481

Sheldon, E. (2009). 'From one I to another: Discursive construction of self-representation in English and Castilian Spanish research articles'. *English for Specific Purposes* 28, 251–265. http://dx.doi.org/10.1016/j.esp.2009.05.001

Swales, J. M. (1981). *Aspects of article introductions*. Birmingham, UK: The University of Aston, Language Studies Unit.

Swales, J. M. (1990). *Genre analysis: English in academic and research setting*. Cambridge: Cambridge University Press.

Swales, J. M., and Feak, C., B.(2009). *Abstracts and the writing of abstracts*. The University of Michigan Press, Ann Arbor.

Swales, J. M., & Najjar, H. (1987). The writing of research article introductions. *Written Communication*, 4, 175–191. http://dx.doi.org/10.1177/0741088387004002004

Tang, R., and John, S. (1999). 'The `I' in identity: Exploring writer identity in student academic writing through the first person pronoun'. *English for Specific Purposes* 18, 23-39.

Taylor, G., Chen, T. (1991). 'Linguistic, cultural, and sub-cultural issues in contrastive discourse analysis: Anglo-American and Chinese scientific texts'. *Applied Linguistics* 12, 319–336. http://dx.doi.org/10.1016/S0889-4906(99)00009-5

Thompson, D. (1993). 'Arguing for experimental "facts" in science. A study of research article results section in biochemistry'. *Written Communication*, 19 (1), 106-128. http://dx.doi.org/10.1177/0741088393010001004

Tse and Hyland. (2010). 'Claiming a territory: Relative clauses in journal descriptions'. *Journal of Pragmatic*s 42, 1880–1889. http://dx.doi.org/10.1016/j.pragma.2009.12.025

Valero-Garce´s, C. (1996). 'Contrastive ESP rhetoric: Metatext in Spanish–English economics texts'. *English for Specific Purposes*, 15,279–294.

van Leeuwen, T.N., Moed, H. F., Tussen, R.J.W., Visser, M.S., and van Raan, A.F.J. (2001). 'Language biases in the coverage of the science citation index and its consequences for international comparisons of national research performance'. *Scientometrics*, 51, 335-346.

Vassileva, I. (2000). *Who is the Author? A Contrastive Analysis of Authorial Presence in English, German, French, Russian and Bulgarian Academic Discourse*. Sankt Augustin: Asgard.

Vassileva, I. (2001) 'Commitment and Detachment in English and Bulgarian Academic Writing', *English for Specific Purposes* 20(1): 83–102. http://dx.doi.org/10.1016/S0889-4906(99)00029-0

Vázquez, I. and Giner, D. (2008**). '**Beyond Mood and Modality: Epistemic Modality markers as Hedges in Research Articles. A Cross-Disciplinary Study'. *Revista Alicantina de Estudios Ingleses 2, 171-190.*

Ventola, E. (1994) 'Abstracts as an Object of Linguistic Study', in S. Cmejrkova, F. Danes and E. Havlova (eds) *Writing vs Speaking: Language, Text, Discourse, Communication. Proceedings of the Conference held at the Czech Language Institute of the Academy of Sciences of the Czech Republic, Prague, 14–16 October 1992*, 333–52. Tubingen: G. Narr.

Williams, I., A. (1999). 'Results Sections of Medical Research Articles: Analysis of Rhetorical Categories for Pedagogical Purposes'. *English for Specific Purposes*, 18, 4, 347–366. http://dx.doi.org/10.1016/S0889-4906(98)00003-9