Investigating Move Structure and Textual Features of native and non-native English Applied Linguistics Research Article Discussions Published in International Journals

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ABSTRACT

Within second language writing realm, the important role of genre has been emphasized for at least two decades. The main purpose of this analysis was to identify the move/step structure and textual features of Discussion part of Applied linguistics research articles. Two raters analysed 60 RA Discussions (30 from non-natives and 30 from natives) by incorporating Yang and Allison (2003) model for genre analysis and by adapted model from Hinkel (2003) for textual feature analysis. The findings demonstrated quantitative differences between moves 2 (reporting results) ,4(commenting results), 5(summary of the findings), and 6(evaluating the study) utilized in the two groups. These findings might be due to non-natives' preference for rhetorical concepts and values in their local writing community about genre structure of Discussions in Applied Linguistics RAs. The results also revealed that non-native writers use more numerative, resultative nouns, past tense, passive, modals, frequency adverbs, adverb and adjective clause, exemplar, and hedging. The results may promise some implications for syllabus design, ESP pedagogy, and materials preparation.

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1. Introduction

The expansion of international publishing to all corners of the planet is a positive development, both for academics and for developing nations seeking to become part of the ''knowledge economy.'' Globalization offers greater opportunities for increased scholarly dialogue by broadening the corpus of academic literature, providing new avenues for research and collaboration, and opening more channels for reporting location-specific research.

In spite of this fact, while acceptances in Institute for Scientific Information (ISI) ranked journals for the major players remained fairly stable at around 50% of submissions between 2005 and 2010, the massive increases in submission by China and Iran yielded no appreciable increase in accepted papers (Thomson Reuters, 2012).

Even recently, postgraduate students for graduation and academic members for promotion and international visibility need to publish research articles. Moreover, university learners encounter numerous difficulties for international publication and recognition. One of the great difficulties is to have their articles released, and in order to do so they should sophisticate their ideas such as experts. However, if writers want to establish the significance and attention worthy of their study and to compete for academic recognition, they should be informed of their discourse community's norms. Therefore, being familiar to norms and conventions makes a research report a challenging task. As Hyland (2000) draws our attention to readers' rebuttal in the case authors do not meet the expectations of their audience. Hence, in order to project their communicative intention more effectively, academic writers should have a brilliant command of conventions and regularities of various academic texts.

One effort to discern the discourse community's norms has been made by genre analysis. Kay and Dudley Evans (1998) state that genre can be considered as a "very powerful pedagogic tool" (p. 310) for familiarizing students with different types of discourse. It also describes "why a discourse is the way it is" (p. 310).Genre studies seek to analyze and ascertain the conventions of genres in terms of organizational patterns (move/ step structure) and/or discoursal features such as hedging, modality, verb tense, and use of passive voice. Genre analysis has also been regarded as the "best-realized link between discourse analysis and contemporary L2 pedagogy" (Poole, 2002, p.76). There is a large volume of published studies investigating genre analysis (Berkenkotter & Huckins, 1993; Freedman, 1993; Hyland, 2002); however, preliminary work on genre was undertaken by Swale. In fact, John Swales' work has immensely advanced genre-based scholarship, especially since the publication of Genre Analysis where he theorizes the concept of genre for research and teaching. The 'move' embodiment of communicative purpose, defines as a "rhetorical unit that performs a coherent communicative function" (Swales, 2004, p. 228-229), enables the interpretation of genres as reflective of "language use in a conventionalized communicative setting in order to give expression to a communicative set of goals of a disciplinary or social institution" (Bhatia, 2004, p. 23).

Equipped with a conceptual framework of rhetorical moves, which encompass specific functional 'steps,' researchers have investigated a range of academic and nonacademic genres. Among a large and growing body of literature investigating move analysis on research article (RA) John Swales, who pioneered the 'create a research space' (CARS) model for RA Introduction sections, is rightfully called the father of RA studies (Atkinson & Sohn, 2013).

Two reasons make research articles (RAs) prominent in discourse studies. First, academic members publicize and convey information by means of research articles. Second, research article is an index of academic achievement (Azirah, 2005) and a gateway to join academic world. In other words, research articles help writers not only disseminate their knowledge and thought but also make personal academic status (Hyland, 1996). In the same vein, Peacock (2002) considers RAs as the crucial agency for claims' and disciplines' legitimacy. According to Swales (1990, p. 95), "publication is the major route to tenure, promotion, research grants and so on". Several studies thus far have investigated the generic features of RAs in various disciplines. They have studied either the whole article or one section of RAs within the IMRD (Introduction, Method, Results, and Discussion) framework. Genre analysis makes good contributions to nonnative writers to fully grasp academic and scientific genres such as research articles. Connor indicates that nonnative writers' unfamiliarity with research articles' structures result in

publication failure (1996, as cited in Martin, 2003).

Since the genesis of genre analysis, there has been a bulk of literature on genre studies conducted in different contexts: Non-Iranian (Amnuai & Wannaruk, 2013; Arsyad, 2013; Martin, 2003; Peacock, 2002; Yang & Allison, 2003) and Iranian ones (Fallahi & Erzi, 2003; Fallah, 2004; Jalilifar, Firuzmand, & Roshani, 2011; Khani & Tazik 2010; Sabet & Kazempouri, 2015; Tahririan & Jalilifar, 2004); however, much uncertainty still exists on analysis and comparison of Discussion section of natives' and nonnatives' research articles.

Much of the available literature on genre analysis deals with moves not steps and does not compare natives' and nonnatives' research articles. In 2012, Jalilifar, Hayati and Namdari selected and compared research articles from local and international journals. While this study makes a major contribution to research on genre analysis by comparing native and nonnative research articles only elected from international journals. Some studies such as Atai and Fallah (2004) have erroneously used move analysis frameworks that are not developed based on applied linguistics research articles. This study will intend to elucidate if comparing the moves and steps as used in native and nonnative Discussions can throw light on how differentially native and nonnative speakers of English compose Discussion section in academic writings.

2. Methodology

2.1. Corpus selection

The corpus of this study comprised 60 Discussion sections (i.e., 30 Natives' and 30 Iranian research articles) written in

international journals. Great care was taken to make the corpus as comparable as possible. To this end, some certain selection criteria were established. The primary aim was to select those research articles written in ISI ranked journals. Moreover, attempt was made to compile research articles written in TEFL discourse community.

2.1.1 The Procedure of Selecting the Journals

Initially, Journal Citation Reports helped the researcher to come up with the list of high impact journals, including 68, in the field of linguistics. However, Journals availability was the crucial step before any selection, so all were checked either for electronic version or hard copy hard in the university's library and a total of 20 journals were found to be available. Since the scope of this study was on Applied Linguistics, linguistics was excluded. To clarify these two terms, brief definitions are mentioned. Cook (2003) stated that linguistics is more concerned with the study of language and "is bound to represent an abstract idealization of language rather than the way it is experienced in the real world" (p. 10). On the other hand, in Grabe words, Applied Linguistics seeks to "addresses language-based problems in real-world contexts" (2005, p. 10). According to Cook (2003) Applied Linguistics includes areas such as Language Teaching and Learning, Discourse Analysis, Critical discourse Analysis, Genre

Analysis, Pragmatics,Phycholinguistics, Translation, Corpus Linguistic, Bilingualism and Multilingualism, Language Policy, and Language Assessment. As a result, linguistic journals such as *Journal of Linguistics*,

Lingua, and *Journal of Phonetics*, were omitted from the list. In the next stage, since this study aimed at empirical research, journals such as *Linguistics and Philosophy*, dealing with the philosophy of language and conceptual and theoretical issues were excluded. From the remaining seven journals (out of 68 journals), the five selected journals were: *Applied Linguistics* which according to its editorial policy "publishes research into language with relevance to real world problems"; *English for Specific Purposes* (ESP) which is devoted to "topics relevant to the teaching and learning of discourse for specific communities: academic, occupational, or otherwise specialized"; *Journal of Pragmatics* which "provides a forum for pragmatic studies in sociolinguistics, general linguistics, conversation analysis, discourse analysis, cognitive linguistics, computational linguistics, applied linguistics and other areas of linguistic research"; *Language Teaching Research* which "supports and develops investigation and research within the area of second or foreign language teaching"; and *TESOL Quarterly* which "represents a variety of cross-disciplinary interests, both theoretical and practical". All of these journals were available in electronic format and were selected in consultation with the respected supervisor and was tried to include different sub-disciplines within Applied Linguistics.

2.1.2 The Procedure of Selecting the Articles

After selecting five high impact journals, every article was checked to select the corpus. Since the focus of this study was on

empirical and first hand results, conceptual and theoretical studies were excluded.

Careful consideration was taken into account to select research articles which dedicated a separate section for Discussion subgenre. In other words, *Results and Discussion* or *Discussion and Conclusions* subheadings were excluded. Time was also limited by considering publication date from 2000 till 2017.To access the information regarding nativeness of writers, mostly native writers were mailed and the researcher directly received their confirmation. Moreover, one native scholar in TEFL was asked to judge the research articles.

2.1.3 Analysis of corpus using Yang and Allison's (2003) model

This model is derived from move analysis of research articles in applied linguistics. According to this analytic framework, the structure of Discussion sections consists of 7 moves and 10 steps.

Among all frameworks, this model is chosen for a number of reasons. This is suitable for Applied linguistics disciplines, while other frameworks were analyzed other disciplines. Moreover, According to Nodoushan and Khabaz (2011) since this model is the extended and revised form of other frameworks, it is the most comprehensive one in comparison with frameworks designed by other developers (Hopkins & Dudley-Evans,1988; Peng, 1987; and Kanoksilapatham, 2005).

Later, Chen and Kuo (2012) modified Yang and Allison's (2003) framework for the move-step analysis of 10 separate Discussion chapters in Applied Linguistics MA theses. They made some modification like giving Move 1 a new name and mentioning some details for moves1, 2 and 3. Their analysis showed that only *Reporting major findings* was obligatory and the first four moves; summarizing, evaluating, and deducing from the reported study of the MA thesis Discussion chapter; occurred more frequently.

2.3. Reliability of move identification

Due to descriptive nature of this model and the reader's subjective judgment, inter-coder reliability procedures were implemented in this study to corroborate that a move can be identified with a high degree of accuracy by trained coders.

For developing a consistent approach, move identification was practiced by the coders before study. The level of agreement was measured through kappa value, using Cohen's k (Cohen, as cited in Orwin, 1994).

Although the kappa value and percentage agreement varied slightly in the two groups, all exceeded 80% in inter-coder reliability. Any remaining discrepancies were resolved through discussion, clarification and criteria checking.

3. Results

This study aims at investigating differences between natives' and nonnatives' research articles based on the Discussion move and step structure framework proposed by Yang and Allison (2003). The results are presented below separately. Moreover, obligatory, conventional, and optional moves were also recognized. If a specific move exists in every research articles, it is considered as 'obligatory', if the existence of a move occurs less, it is regarded as 'optional' (Li, 2011)**.**

3.1 Analysis based on Yang and Allison (2003) moves

A chi square analysis was run to find out the differences between the frequency of move use in Discussion sections of applied linguistics RAs written by NS and NNS. It can be seen from the data represented in Table 1, the most frequently used moves for non-native group were M4, M2, and M7 with 223, 148, and 39 times frequency and M2, M4, and M1with 188, 187, and 36 times frequency for native group.

The next most dominant move was M1 with 28 times frequency and included 100% in nonnative group and M7 with 34 times frequency and included 100% in native group, too. The last most frequent moves for non-natives were M5 and M3 with 20 and 16 times frequency and M3 and M5 with 18 and 10 and times frequency in native group. The least frequent move for both groups was M6 with 4 and 5 times frequency for non-native and native group, respectively. In other words, As Table 1 shows, the observed $\chi 2$ for the, M2, M4, M5, M6, are 20.00, 12.00, 6.66, and 9.93,respectively and their significant values are less than 0.05 for df = 1. Therefore, it means that the two groups have significant differences with regard to the frequencies of these moves based on Yang and Allison (2003) model. However, the result of qui-square analysis failed to show any differences for M1, M3, and M7 (4.00, 0.48, and 2.96) between non-native and native groups (p= 0.13, 0.48, 0.08> .05).

Except M1, M2, M4, and M7 were obligatory for both groups.

Table 1

Frequency (Percentage) and Chi-Square Results for the Significant Differences between Native and Nonnative Groups

	M1	M2	M3	M4	M5	M6	M7
Non-native	28	148	4	223	20	16	39
	93%	100%	13%	100%	67%	53%	100%
Native	36	188	5	187	10	18	34
	100%	100%	17%	100%	33%	60%	100%
$\chi 2$	4.00	20.00	0.48	12.00	6.66	9.93	2.96
Sig.	0.13	0.00	0.48	0.00	0.01	0.00	0.08

Critical $\chi 2$ for df = 1 is 0.00 [a]

3.2 Analysis based on Yang and Allison (2003) steps

The second set of analysis investigated the frequency of steps between the two groups based on Yang and Allison (2003) model. It is apparent from Table 2 that M4s1, M4s2, and M4s3 were used as the most frequent and regarded as the obligatory steps in two groups because they included 100% in both groups. Moreover, M7s2 was utilized as the next most frequent steps with 63% in nonnative and 43% in native group. Moreover, M6s3 in nonnative corpus and M7S4 and M4S4 in

native corpus included 0% which means they were not seen in both groups. The chi-square value was observed χ2 for the M4s1, M4s2, M4s4 are 17.38, 22.72, and 7.92, respectively and their significant values are less than 0.05. Consequently, there is a significant difference only in M4s1, M4s2, M4s4 in both groups and there is not any significant difference with regard to the frequencies of steps based on Yang and Allison (2003) model in native and nonnative RAs' Discussion sections.

Table 2

Frequency (Percentage) and Chi-Square Results for the Significant Differences between the Non-natives' and Natives' RAs Based on Steps

	M4s1	M4s2	M4s3	M4s4	M6s1	M6s2	M6s3	M7s1	M7s2	M7s3
Non-native	83	84	49	7	12	4	0	7	19	13
	100%	100%	100%	23%	40%	13%	0%	23%	63%	43%
native	69	75	43	0	13	4	1	11	13	10
	100%	100%	100%	0%	43%	13%	03%	37%	43%	33%
χ2	17.38	22.72	1.01	7.92	0.27	0.00	1.01	1.27	2.41	0.06
Sig.	0.00	0.00	0.60	0.00	0.79	1.00	1.00	0.39	0.19	1.00

4. Discussion

This study examined the move and step differences in Discussion sections of applied linguistic research articles based on Yang and Allison model (2003).

As pointed earlier the qui-square analysis of Discussion section moves of RAs written by non-native and native writers revealed that there is a significant difference between frequency orders of moves in Discussion sections of the corpus. While all the proposed moves by Yang and Allison (2003) were appeared in both native and nonnative groups, the order of frequency patterns was different. Therefore, there is a significant difference between the two groups. M4 (commenting on results) was the most frequent move for non-native groups which means they comment more on results while native writers used M2 (reporting results)and then M4 more frequently. In accordance with the present results, kim Loi, Evans, Lim and Akkakoson's (2016) study has demonstrated that although Move 2 (finding) was frequently used in the Malay corpus, the number of English discussions employing this move is greater. The present finding is consistent with other research by Ershadi and Farnia (2015) which found M2 as the most commonly used move in Persian and English Discussion section of research articles. In this study, M2 and M4 difference in native Group is only 1 although this difference in non-native group is 75. This result shows that non-native writers are commenting more rather than reporting results while native

writers comment as much as they report. It should be indicated thatM4 is more frequent in non-native texts than native corpora due to M4S1(Interpreting results) and M4S2(Comparing results with literature)while native writers comment (M4) more by accounting for results(M4S3). As drawn from the data, non-native writers may have fewer reasons and less inclination to rationalize and have their own argumentation than do their English-language counterparts. It seems possible that these results are due to non-natives' lack of knowledge and/or hedging. Non-native writers stand in the safe side and decrease their responsibility for their truth value and justifications, therefore; resort to previous studies for commenting on results rather than expressing their own thought and claims.

This finding corroborates the ideas of Amirian, Kassaian, and Tavakoli, (2008), Amnuai and Wannaruk (2013), Basturkmen (2012), Kanoksilapatham (2005), who called Move 2 and Move 4 as the substantial rhetorical moves in Discussions of applied linguistics RA.

The most frequent moves of Discussion sections were M2 (reporting results) and M4 (commenting on results) that were the core elements of the Discussion sections. However, the third most frequent move in the two datasets was different; Move 1 (Background information) for the native group, and Move 7 (Deduction from the research) for the non-native corpus. The findings observed in this study mirror those of the previous study by Amnuai and Wannaruk's (2013) that reported M 1 for international corpus and M 7 for Thai corpus as the third most frequent move of Discussion

sections. As a result, non-native discussions seem to form a less coherent whole of beginning (lack of the background information move that recapitulates main points such as research questions, aims and purposes). It is possible to hypothesize that native discussions are more context independent and take nothing for granted than the non-native discussions. Non-native writers demand their audiences to do a lot of decoding for the missing information while writers are expected to briefly mention the relevant literature and then report the results.

While M2, M4, and M7 can be considered as obligatory moves for the Discussion sections of applied linguistic RAs written by NS and NNS, the rest are optional. These results match those observed in earlier study by Atai and Fallah (2005) that demonstrated M3 (summarizing results) as the least frequent move in both groups which made it as an optional move in Discussion sections of RAs. Moreover, the findings showed that non-natives were more eager to provide a brief account of the main points from the perspective of the overall study (M5). This might be due to non-natives willingness to categorization and clustering.

As cited in Atai and Fallah(2005) moves' use is related to time and space, related previous studies, following sections in the RAs, the writer's experience, and writer's preferences for information presenting (Lewin Fine, & Young, 2001; Yang & Allison, 2003). As a result, differences between non-native and native group as observed in this study were the result of any of the above- mentioned factors.

Through M5, a writer pinpoints the main findings of a study and it is optional. There is

a significant difference between non-native and native writers regarding this move use. Non-natives used M5 about two times more frequent than their native counterparts. This move was shown by concluding words such as in sum, to conclude, etc. This discrepancy could be explained by non-natives' willingness to emphasis and repetition of main points to justify their audiences more.

In accordance with the present results, Amnuai and Wannaruk's (2013) study has demonstrated that M6 evaluating the study by pointing out limitations, indicating the contributions or evaluating the methodology, is used more in native group (60%) compared to non-native group (53%). The observed difference could be attributed to M7S1 and M7S3 by which native writers indicate limitations and evaluate the methodology more than non-native writers. This finding is in agreement with Kim Loi, Evans, Lim and Akkakoson (2016) findings which showed non-native Discussions seem to have abrupt endings.

As seen in the analyzed articles, although moves were not ordered linearly in some articles cyclical structures, repetition of one or more move(s), were observed. This result matches those observed Amnuai and Wannaruk's (2013) and Peacock's (2002) who labeled cyclical structures as the frequent element in Applied linguistics RAs, especially non-natives. Move 2 and Move 4 were involved in cyclical structures and repeated in many move sequences for example, M1-M2-M4-M2-M4 ; M1-M2-M4-M2-M4-M7. This pattern shows that the writers indicate a specific finding and then interpret and comment on it. Li and Ge (2009) called such a finding presentation as

the induction method for Discussion developing. Moreover, Discussions were developed in the form of either reporting-interpreting or reporting-comparing to previous studies.

The analysis of steps showed that M4S2, M4S1, M4S3, and M7S2 were orderly more frequent in both native and non-native corpus. The findings pinpoint that non-natives interpret (M4S1) and compare to previous studies (M4S2) more than their native counterparts. It can be claimed that non-natives sticks more to previous studies for their results' justifications rather than their own interpretations. Conversely, Kim Loi, Evans, Lim and Akkakoson (2016) reported that reference to previous research was more frequent in English corpus than non-native one. Moreover, Evaluating Results (M4S4) was significantly different in both corpora and it was not seen in native RAs. In this step, the author evaluates the findings by stating the strengths and weaknesses of the results. This optional step was only seen in 7 non-native writers who mentioned their small sample as their results' weaknesses. This finding is in agreement with Amnuai and Wannaruk's (2013) study, in which only this step was observed in a non-native RA. One possible explanation for the above disparity extracted from comparing native and non-native corpora may be the preference for rhetorical concepts and values in the local writing community (cf. Xu, Huang, & You, 2016). In the research environment of Iran, all writers are not eager to publish in international-class journals while Jogthong (2001) asserts that English writers face higher pressure and competition for getting the attention of larger

international audience by publishing in international journals. It may be assumed here that rhetorical means in non-native and native discussions are governed by discoursal expertise that is valued in an academic environment.

 In light of these findings, it can be deduced that the two sets of discussions generally support Yang and Allison's (2003) model as all the moves labeled in the model can be found in the corpora.

5. Conclusion

This study set out to determine any similarities and differences in the generic structure of Discussion sections of RAs written by non-native and natives. This genre analysis investigation showed that there are significant differences in some moves (M2, M4, M5, M6) and steps (M4s1, M4s2, M4s4) of non-native and native Discussion sections of RAs.

Although non-natives writers have read many RAs as the gear for sharing and updating Knowledge within discourse community, non-native writers don not confirm to the conventions of Discourse section's generic structure. Therefore, explicit teaching is demanding.

The second focus of this study was on Step. The differences observed, particularly in M4S4 might be due to non-natives' lack of knowledge for sampling selection.

The findings of the present study have some pedagogical implications for teaching and material design. Lack of knowledge in generic structure of academic discourse might be related to material inadequacy. The framework, applied in this study, can be used in writing classes of BA, MA, and PHD

students. Familiarizing students with the generic structure of RAs enhance their chance of acceptance in journals and their creditability in discourse community. Students should consider RAs as a social interaction media rather than only a linguistic text.

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APPENDIX. Yang and Allison's (2003) Model

Move 1—Background information

This Move is employed by authors to relate their discussion to the study by recapitulating main points such as research questions, aims and purposes, theoretical or methodological information.

e.g. Our aim has been to explore, within the limits of the data available, a relatively

complex issue: the accommodation of languages that parents in ethnolinguistic

minority groups have to make. . .

Move 2—Reporting results

This is the central Move in which results of a study are presented, normally with relevant evidence such as statistics and examples.

e.g. The results indicate that if a subject has a high SR in L1, then it is likely that SR will also be high in L2.

Move 3—Summarizing results

This Move presents integrated results on the basis of a number of specific results.

To sum up, it becomes clear that keeping a heritage language alive across generations is not a simple matter of mothers taking a position on language use and holding it. . . .

Move 4—Commenting on results

The main purpose of this Move is to establish the meaning and significance of the research results in relation to the relevant field.

Step 1—Interpreting results

These results suggest, first, that some significant changes take place between time one and time two and, second, that the knowledge which underlies L2 processing is in some way different to the knowledge which underlies the processing of L1 (APP3)

Step 2—Comparing results with literature

These findings support the previous survey results of Ostler (1980) and the ethnographic

data of Mason (1995). (TESOL1)

Step 3 —Accounting for results

Such differences may also be promoted by the educational systems of both cultures, and by. . . This can be a reason why. . .(ESP2)

Step 4—Evaluating results

Of course, the results are rather speculative and based on a small sample. . . (ESP2)

Move 5—summarizing the study

This is the Move that RA authors use to provide a brief account of the main points from the perspective of the overall study.

e.g. In summary, the research presented in this paper offers a contrastive textlinguistics study of rhetorical differences between texts . . .

Move 6—evaluating the study

This Move functions to evaluate the overall study by pointing out the limitations, indicating the contributions or evaluating the methodology.

Step1: Indicating limitations

The present study has raised a number of interesting differences, but a larger corpus is needed to establish how far they can be generalized. . .

Step 2—Indicating significance/advantage

What is new in our study is the links we try to find with school performance, and the within family dynamics of the accommodation process, . . .

Step 3—Evaluating methodology

. . . She performed extremely well in the experiment (as well as in the Japanese course), but it is questionable whether her experimental data represent the strategy she would employ outside of the laboratory. .

Move 7—Deductions from the research

This is the Move where authors extend beyond the results by suggesting what can be done to solve the problems identified by the research, pointing out the line of further study or drawing pedagogic implications.

Step 1—Making suggestions

. . .Where such complex methods are used it may be better for the writer to provide a

full and specific description of . . .

Step 2—Recommending further research

Further research might be profitably conducted within a single discipline to determine the

degree of variability according to subdiscipline, ideology, region of origin and level of prestige.

Step 3—Drawing pedagogic implications

The findings of this study may have some implications for the teaching of EAP. . .