Genre Analysis of Research Article Abstracts in Applied Linguistics: Exploring Sub-disciplinary Variations

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ABSTRACT

The current study aimed to explore the sub-disciplinary variations in the generic structure of research article (RA) abstracts across three sub-disciplines of applied linguistics including English for Specific Purposes (ESP), psycholinguistics, and sociolinguistics. To this end, a corpus of 120 RA abstracts was drawn from the archive of numerous refereed journals in three sub-disciplines. The abstracts were analyzed in light of Hyland's (2000) five-move framework. The results revealed that Purpose, Method, and Product moves were the most frequent ones in the three corpora. It was also shown that more abstracts in ESP and psycholinguistics sub-disciplines included Introduction and Conclusion moves compared to the ones in the sociolinguistics corpus. However, the results of the Chi-square test demonstrated no significant differences among the abstracts across three sub-disciplines in terms of the use of five moves. The findings can be used in teaching academic writing to graduate students in English for Academic Purposes courses and prepare them to present their research findings at the global scale.

1. Introduction

The learners in EFL settings are required to show mastery of English language to fulfill the expectations of their academic communities and complete a wide range of academic tasks (Gessesse, 2016). In this regard, knowledge of genre would enable the members of academic discourse communities to build up and boost their confidence to share their research findings (Suntara & Usaha, 2013).

Among numerous available genres and subgenres of academic texts, abstracts leave the first impression and act as the "screening devices" (Huckin, 2006) which settle the ultimate fate of the full paper to be accepted or discarded by the academic communities (Ren & Li, 2011). To raise the EFL learners' awareness of the rhetorical structure of this important section of the research articles, conducting genre analysis seems to be of utmost significance (Supranont, 2012) since non-native writers encounter serious difficulties in writing academic texts embraced and acknowledged by international journals (Flowerdew, 2008). Abstracts act as the locus of presenting the results of research studies (Tanko, 2017). Indeed, the commercialization of a research article (RA) is initiated in the abstracts where "writers have to gain readers' attention and persuade them to read on by demonstrating that they have both something new and worthwhile to say" (Hyland, 2009, p.70).

Writing a RA abstract seems to be a daunting task particularly for non-native members of academic communities (Marefat & Mohamadzadeh, 2013). Studies have indicated sub-disciplinary variations in RA abstracts in two disciplines of English Language Teaching (ELT), namely translation studies and literature (Malekzadeh, 2020). In another study, the variations in the generic structure of RA introductions were found (Atai & Habibie, 2012) across three sub-disciplines of applied linguistics, ESP, Psycholinguistics, and

Sociolinguistics. Atai and Habibie (2012) referred to the "novelty of the concept of sub-disciplinary variation and sparse literature in this area" (p.42) and concluded that more research is needed to explore the generic structure of other sections of research articles. However, published work has not focused on comparing and contrasting the way abstracts are organized across these three sub-disciplines. Exploring the generic structure of RA abstracts in the aforementioned sub-disciplines, the findings may edify English for Academic Purposes (EAP) instruction and carry implications for academic writing courses by casting light on textual norms across these sub-disciplines.

2. Literature Review
2.1 Theoretical Background

Abstracts are considered as "a major scholastic enterprise" (Seidlhofer, 1995, p.2) and provide the readers with a quick overview of the objectives and outcomes of a study (Supranont, 2012). Furthermore, it determines whether a paper gets published or fully read by the academic community members (Marefat & Mohamadzadeh, 2013). It seems that knowledge of its generic structure would primarily contribute to the novice members' understanding of the norms to present a precise summary of their academic works (Ren & Li, 2011).

Numerous models have been proposed for the rhetorical structure of the abstracts. Swales (1990) provided the IMRD (Introduction-Method-Results- Discussion) framework. Bhatia (1993) identified moves including Introducing purposes, Describing methodology, Summarizing results, Presenting conclusions. Moreover, Santos (1996) put forth a five-move model encompassing Situating the research, Presenting the research, Describing the method, Summarizing the results, Discussing the results. Following these models, Hyland (2000) proposed a five-move model covering Introduction, Purpose, Method, Product, and Conclusion.

A wide range of studies has been conducted adopting the aforementioned models. Following Bhatia's (1993) framework (Jie, 2010; Ren & Li, 2011; Tseng, 2011; Zheng, 2008), the scholars came up with variations across academic English abstracts written by the novice and established members of the academic discourse communities. Taking into account Santos's (1996) model (San & Tan, 2012), differences were explored between the abstracts written by the students in their term papers and scholars in their published

articles. Another group of studies adopted Swales' (1990) framework (Marefat & Mohammadzadeh, 2013) to identify the move patterns in RA abstracts.

The rhetorical moves of abstracts have also been analyzed using Hyland's (2000) model. Sidek, Mat Saad, & Idris (2016) unfolded the moves of abstracts in conference proceedings in the field of language and education. Suntara and Usaha (2013) analyzed the abstracts in two fields of linguistics and applied linguistics and found out that purpose, method, product moves were the conventional ones. Furthermore, Saeeaw (2014) investigated the moves in environmental science and applied linguistics in RA abstracts and demonstrated that four moves, excluding the Introduction move, were frequently used in two fields.

Several studies have attempted to compare the abstracts in different disciplines in terms of their constituent moves. Samraj (2005) compared the abstracts in conservation biology and wildlife behavior and found out that the abstracts of both disciplines included purpose, results, and conclusion moves. Pho (2008) analyzed the abstracts in two fields of applied linguistics and educational terminology and found three obligatory moves including presenting the research, describing the methodology, and summarizing the results. Li (2011) analyzed the abstracts written in English and Chinese in the fields of chemistry and linguistics and came up with cross-linguistic, cross-disciplinary variations. Doró (2013) unraveled the generic structure of abstracts in two disciplines of linguistics and literature and revealed that the linguistics abstracts were more in line with the model including the research scope, methodology, and man results. Darabad (2016) compared the abstracts across three fields of applied linguistics, applied mathematics, and applied chemistry and showed that almost all abstracts included the purpose and product moves. In a recent study, Malekzadeh (2020) examined the generic structure of RA abstracts in two sub-disciplines of ELT that is translation studies and literature and found no significant cross-disciplinary variations. Both group of abstracts included the purpose, methodology, and outcomes of the study.

Other group of studies has investigated the cross-linguistic variations in the RA abstracts (e.g. Behnam & Golpour, 2014; Marefat & Mohamadzadeh, 2013). Further studies attempted to compare the RA abstracts written by native and non-native

speakers of English (e.g. Kafes, 2015; Kaya & Yağız, 2020).

2.2 Research Questions

The current study attempted to address the following questions:

1. Are there any significant differences across RA abstracts in the three sub-disciplines of applied linguistics including ESP, Psycholinguistics, and Sociolinguistics in terms of their constituent moves?

2. Are there any significant differences across RA abstracts in the three sub-disciplines of applied linguistics including ESP, Psycholinguistics, and Sociolinguistics in terms of adopting the move structure of Hyland's (2000) model?

3. Materials and Method

3.1 Corpus

The corpus consisted of 120 RA abstracts in three sub-disciplines of applied linguistics (i.e. ESP, psycholinguistics, sociolinguistics) including 40 abstracts for each of them. The articles were selected from the archive of the journals published between 2020 and 2021 to control for the potential impact of time on the generic structure of the abstracts (Atai & Habibie, 2012).

The articles were drawn from the following journals: *Journal of Pragmatics, Language in Society, Language and Communication, The Linguistics, Linguistics and Education, Applied Linguistics, Information Organization, Language Learning, Discourse Process, Journal of Psycholinguistics Research, Brain and Language, System, International review of Applied Linguistics, Applied Linguistics, Cognition, Applied Psycholinguistics, Cognition and Brain Research, The Journal of English for Academic Purposes, The Journal of English for Specific Purposes.*

It is worth noting that the list of the journals was drawn from a similar study on the RA introductions across these three sub-disciplines (Atai & Habibie, 2012). To ensure the homogeneity of the corpus, the original empirical research papers were considered for analysis (Pho, 2008).

3.2 Data Analysis

In the current study, Hyland's (2000) five-move framework was used to analyze RA abstracts. The model was used as a comprehensive one covering Introduction (I), Purpose (P), Method (M), Product (Pr), and Conclusion (C) (Ghasempour & Farnia, 2017). Furthermore, Hyland's (2000) model was formed based on genre analysis of 800 abstracts in eight disciplines of science and social sciences (Amnuai, 2019).

Hyland's (2000) model includes five moves, 1) Introduction, setting the required background and indicating the gap in the literature, 2) Purpose, outlining the aim(s), 3) method, explaining the design of the research, 4) Product, presenting major outcomes, and 5) Conclusion, providing the inferences and implications. To distinguish between the conventional and optional moves, the researchers relied on the existing literature and considered the moves with the frequency of occurrence above %60 as conventional and less than %60 as optional one(s) (Suntara & Usaha, 2013).

The moves of the RA abstracts were coded by the two researchers. In case of disagreement, the researchers negotiated till a consensus was reached. Descriptive statistics was used and the frequency and percentage values were reported for the occurrence of moves in three corpora. Following that, the non-parametric test of Chi-square was used to explore whether there were statistically significant differences among the RA abstracts across three sub-disciplines of applied linguistics in terms of their constituent moves.

4. Results and Discussion

The study attempted to identify the moves used in abstracts in three sub-disciplines of applied linguistics including ESP, psycholinguistics, and sociolinguistics. Furthermore, it aimed to see whether there were sub-disciplinary variations in terms of the constituent moves using Hyland's (2000) five-move framework.

4.1 Move Occurrence

To analyze the generic structure of the abstracts in three sub-disciplines, Hyland's (2000) model was utilized and the frequency and percentage of moves were reported. Table 1 displays the frequency and percentage values of moves in ESP, psycholinguistics, and sociolinguistics corpora.

Table 1: Frequency and percentages of moves in abstracts

Moves	ESP		Psycholinguistics		Sociolinguistics	
	F	%P	F	%P	F	%P
Introduction	33	82.5	33	82.5	24	60
Purpose	38	95	38	95	37	92.5
Method	39	97.5	35	87.5	34	85
Product	36	90	38	95	31	77.5
Conclusion	33	82.5	36	90	29	72.5
Embedded	9	22.5	18	45	7	17.5
Total	199		212		170	

As the results demonstrate, the conventional five-move model was not adopted in all abstracts. Only %25, %25,

and %20 of the abstracts followed the conventional pattern in ESP, psycholinguistics, and sociolinguistics corpus, respectively. Comparing the three corpora, it was demonstrated that the frequency of Purpose, Method, and Product moves was similar whereas differences were noticed in terms of the Introduction and Conclusion moves among ESP, psycholinguistics, and sociolinguistics corpora.

It seemed that the introduction move was optional for the authors in sociolinguistics sub-discipline in that %60 of the abstracts included this move. This might imply that the authors in this sub-discipline disregarded the importance of signifying the void before stating the purpose of the study while the authors in two other dub-disciplines recognized the importance of introducing the topic and specifying the existing gap (Kaya & Yağız, 2020). In addition, the authors in ESP and psycholinguistics corpora seemed to prefer elaborating on the implications of their study in the Conclusion move while their counterparts in sociolinguistics corpus put less emphasis on this move.

As Table 1 displays, the Purpose, Method, and Product moves had the highest frequency. In this regard, the results corroborated those of previous studies (Amnuai, 2019; Malekzadeh, 2020; Pho, 2008; Suntara & Usaha, 2013). This demonstrated that the researchers were quite aware of the prominent role of these three moves in persuading the readers to go through the full paper (Kaya & Yağız, 2020). On the other hand, in the three corpora, embedded moves were noticed. In this regard, the Purpose and Method moves, the Method and Product moves were mostly combined. This was in agreement with findings of previous studies (Darabad, 2016; Kaya & Yağız, 2020) and might be justified by the word limitations set for the abstract. Attempting to provide a synopsis of the entire research paper, the authors make the most use of the existing moves.

To find if there were any statistically significant differences among the abstracts in three sub-disciplines of applied linguistics in terms of their constituent moves, the Chi-square test was run. The results are presented in Table 2.
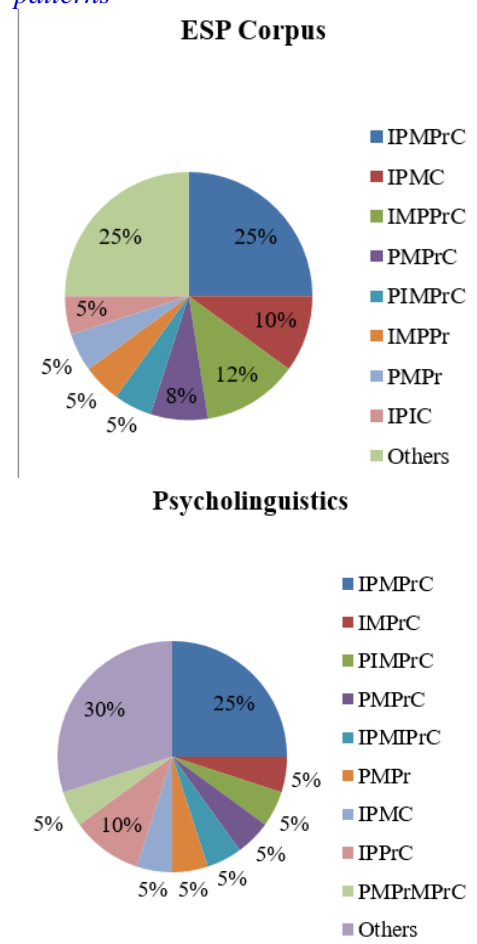
Table 2: Results of Chi-square test

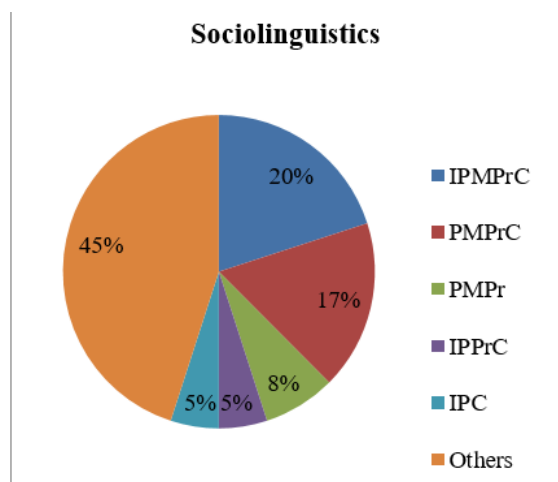| Chi-square test of independence	Value	Df	Sig.
Introduction	1.800	2	0.40
Purpose	0.018	2	0.99
Method	0.389	2	0.82
Product	0.743	2	0.69
Conclusion	0.755	2	0.68

As Table 2 illustrates, despite the meager discrepancies in the frequency of the moves among three groups of abstracts, no statistically significant differences were found in terms of the use of five moves. The findings were in line with those of previously conducted studies (Kaya & Yağız, 2020) in which no significant difference was observed among different groups of abstracts. However, the results contrasted those which revealed differences in terms of the frequency of the move occurrence (Noorizadeh-Honami & Chalak, 2018).

4.2 Move Patterns

The study attempted to determine the most preferred move patterns across three corpora. As Figure 1 shows, the most frequent move patterns were IMPPrC, IMPC, and IPMPrC in ESP corpus, IPMPrC and IPPrC in psycholinguistics corpus and IPMPrC and PMPrC in sociolinguistic corpus.

Figure 1: Percentage of the most frequent move patterns

Sociolinguistics

The considerable difference among the three corpora is that the authors of ESP and psycholinguistics abstracts followed the five-move model more than those of the sociolinguistics abstracts. Furthermore, abstracts of sociolinguistics corpus entailed a higher degree of variations considering the move patterns compared to the abstracts of the two other corpora.

Previous studies have demonstrated generic differences in the abstracts among various fields of study (Darabad, 2016; Pho 2008; Suntara & Usaha, 2013). Also, the existing literature pointed to the variations across sub-disciplines of a particular field of study (Malekzadeh, 2020). In the same line, the results indicated that various generic norms might exist across sub-disciplines of applied linguistics. The results also revealed that some of the moves were omitted and different patterns were formed. The authors' emphasis on specific parts of their research might account for their preferences (Kaya & Yağız, 2020). In this regard, authors of sociolinguistics abstracts seemed to allocate more attention to presenting the purpose, method, and findings of their studies while the authors of the abstracts in psycholinguistics and ESP attached the same degree of importance to five moves in the abstracts.

On the other hand, the results of a study on RA introductions (Atai & Habibie, 2012) across these sub-disciplines reveled no remarkable differences in terms of Move 1 and Move 3 while a marked difference was noticed in terms of Move 2 of the introduction adopting Swales' (1990) CARS model. According to Hyland (1999) and Samraj (2005), the authors in established fields regard themselves as "inhabiting a relatively discrete and clearly identifiable area of study and their research as proceeding along a well-defined path" (p.352). Despite the findings of Atai and

Habibie (2012) which deemed that psycholinguistics and sociolinguistics were established fields and ESP was an emerging one, the results of the current study indicated that authors of the abstracts in the sub-disciplines of ESP and psycholinguistics assumed their readers' need to be presented with some "background" through including the Introduction move while the authors of sociolinguistics abstracts considered it unnecessary to introduce the topic and relied on the readers' shared knowledge. Moreover, the authors' unfamiliarity with the generic structure of the abstracts might underlie the observed variations in the three corpora (Atai & Habibie, 2012).

5. Conclusion

The current study attempted to investigate sub-disciplinary variation in the structure of RA abstracts across three sub-disciplines of applied linguistics including ESP, psycholinguistics, and sociolinguistics. To analyze the abstracts, Hyland's (2000) five-move model was adopted. The results indicated that only one-fourth of the abstracts followed the conventional pattern. Furthermore, the Purpose, Method, and Product moves were the most frequent ones in three corpora. Additionally, the results of Chi-square test revealed no significant difference among these sub-disciplines in terms of the use of five moves. However, more abstracts in ESP and psycholinguistics corpora included the Introduction and Conclusion moves compared to the ones in sociolinguistics corpus.

The findings of the current study can be transferred to EAP pedagogical settings to raise the graduate students' awareness of the variations in the generic structure of one of major academic genres that is abstracts. The results can be used by the academic writing materials developers and instructors in order to incorporate and implement genre-based tasks and activities in EAP courses and prepare the novice members to follow and observe the generic norms of their academic discourse communities. This would empower them to present their research findings so well that are embraced and acknowledged by the international expert audience.

The current study aimed to explore the sub-disciplinary variations in the RA abstracts across three sub-disciplines of applied linguistics. The discrepancies in the frequency and use of the constituent moves of the abstracts across various disciplines and sub-disciplines seem to necessitate

conducting further research on the possible sub-disciplinary variations existing in different academic genres. Further research can also be conducted focusing on the generic structure of abstracts across various sub-disciplines using other prevailing models and frameworks in the literature.

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