

Comparative Analysis of Generic and Linguistic Features of Research Article Abstracts

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Abstract

The present research study has made a comparative analysis of the rhetorical structure and linguistic choices of 500 research article abstracts from the inner and outer circle countries. It has used Ant Mover software to tag the rhetorical moves in research article abstracts following Hyland's (2004) five-move model while MAT v 1.3.2 was employed to highlight the linguistic features of these abstracts. It has identified the obligatory and optional moves in the research article abstracts. The data was taken from HEC recognized journals of Inner and Outer Circle countries published during five years (2016-2020). This research is quantitative in nature that has used the quantitative findings to highlight the comparative occurrence of different moves and linguistic features in the research article abstracts. It helps novice researchers to get them fully acquainted with the rhetorical structure of abstracts and thus assists them in following the generic structure of Research Article abstracts.

Keywords: genre analysis, linguistic analysis, research article abstracts, inner circle countries, outer circle countries

1. Introduction

Genre analysis is used to analyze the use of language in conventionalized settings. This thicker description of the language considers the socio-cultural as well as the psychological aspects that contributed towards the construction of language. Bhatia (2014) has aptly summarized Swales' definition of genre: "It is a recognizable communicative event characterized by a set of communicative purpose(s) identified and mutually understood by the members of the professional or academic community in which it regularly occurs" (p. 49).

In discourse study, genre plays an important role; it is a tool that sorts out the texts and cultural objects (Othman, 2011). Genre is determined by the communicative purpose, any major or minor change in this communicative purpose results in the change

in genre. Abstract has been called a sub-genre (Swales & Feak, 2009) and an embedded genre (Biber & Conrad, 2009). An abstract is a summary of longer research that covers the four basic points of that research: purpose, method, findings, and conclusion (Bhatia, 2014). There are four prominent models to analyze the move-structure of research articles abstracts Santo's (1996) model, Swales' (1990) IMRD model, Hyland's (2004) model, and Swales and Feak's (2010) model.

In the Three-circle Model proposed by Kachru (1990), the Inner Circle refers to the countries where English is the first language of the inhabitants, these countries are distinguished by mother-tongue varieties of English. The countries which fall in the inner circle as proposed by Kachru are Australia, Canada, New Zealand, UK and the USA. The Outer Circle are the non-native countries that take English as their second language. It comprises Pakistan, India, Bangladesh, Singapore, Malaysia, South Africa, and Nigeria (Kachru, 1990).

In the course of the research, this study will answer the following questions:

- What are the basic differences in rhetorical structure of abstracts from inner and outer circle countries?
- What are the basic differences in linguistic features of abstracts form inner and outer circle countries?

Following are the four remarkable approaches for the analysis of different sections of research articles: Swales (1981) introduced CARS model for the analysis of Research Article introductions; Swales (1990) proposed IMRD (*Introduction, Methods, Result and Discussion*) model for the analysis of research article introductions; Hyland (2004) analysed research article abstracts and proposed five-move pattern comprising of *Introduction, Purpose, Method, Product* and *Conclusion* for research article abstracts; later on, Swales and Feak (2010) proposed five-move structure for research article abstracts that comprises of: *Background, Purpose, Methodology, Results* and *Conclusion* moves.

This research has used Hyland (2004) model for the comparative analysis of Research article abstracts from inner and outer-circle countries. Hyland's model is detailed one where there has been made demarcation between Introduction and Purpose move as Introduction move is used to offer the motivation or basis of the research. Biber's Multi-dimensional model (1991) was used for the analysis of linguistic features of abstracts from both corpora. Biber (1991) used quantitative methods to highlight the co-occurring patterns of the features that determine the linguistic dimensions in a text. The dimension consists of the group of linguistic features. Biber (1991) found five dimensions in the corpora that he analyzed; these dimensions were as follows: involved vs informational, narrative vs non-narrative concerns, context-independent discourse vs

context-dependent discourse, overt expression of persuasion and abstract vs non-abstract information; and also interpreted the factors that were found in the corpora. The results that we got from analysis were quantitative so the two texts were directly compared on all dimensions.

The research article is a fast-emerging genre that helps the knowledge seekers as well as the researchers in knowing about the recent research in the field of study of their interest and in getting recognition for their research work. The seminal work on the moves and steps of research articles has been done by Swales (1990) that analyzed rhetorical structure of the introduction section of research articles which was followed by an endless stream of research on the rhetorical organization of all sections of research articles as well as the overall rhetorical structure of research articles. The current dominant domain of research in this regard is the research article abstract. Bhatia (2014) proposed 4 moves for research article abstracts, Santos (1996) defined move as a genre stage and suggested an additional move “situating the research” (p. 485), Hyland (2004) proposed five moves for research article abstracts; later on, these moves were revised by Swales and Feak (2010) with a slight difference in the name of moves.

Three considerable studies have analyzed the move structure of Linguistics Research Article abstracts (Can et al., 2016; Lores, 2004; Santos, 1996), in addition to this there has been done analysis of Research article abstracts in the field of Financial Economics (Ning, 2008), analysis of Persian research article abstracts (Harasti, 2012) and analysis of RA abstracts in Urdu (Khurshied et al., 2016).

Dos Santos (1996) analyzed 94 RA abstracts from three linguistic journals on the macro and micro-level and concluded that Move 2 and 3 were obligatory abstracts. Can et al. (2016) carried out an analysis of 50 research article abstracts from ESP journals by using Pho’s framework. They found that only 30% of abstracts followed the five-move pattern. Presenting the research purpose, describing the methodology, summarizing the findings and implications of results were four obligatory moves in Applied Linguistics RA abstracts. Lores (2004) conducted a study on the basis of Swales’ (2011) model for the analysis of 36 abstracts from four Linguistics journals and found that above 60% of RA abstracts followed conventional IMRD structure for RAs and 30% of the corpus followed CARS model.

Khurshied et al. (2016) adopted Swales and Feak’s (2010) model to analyze 40 Urdu Research Article abstracts. Their research revealed that the Introduction move was the only obligatory move in the abstracts understudy. There were only 13% of abstracts that followed the four-move model. Sabouri and Hashemi (2013) used Hyland’s (2004) model to do analysis of three disciplines by taking 63 RA abstracts, 21 each, from

Applied Linguistics, Mechanical Engineering and Applied Economics. Purpose, Product and Conclusion were found to be obligatory moves in three disciplines.

The major focus of research has been comparative study either in the disciplines or cultures; cross-disciplinary studies have been conducted to know the way disciplinary boundaries affect the standard rhetoric of generic structures (Alhuqbani, 2013; Bhatti, Mustafa & Azher, 2019; Darabad, 2016; Hussain, Qasim & Mahmood, 2019; Sunatra & Usaha, 2013; Tseng, 2011). Disciplinary variations influence the rhetorical structure of research articles (Swales, 1990). Tseng (2011) conducted a study to examine the features of move-structure and verb-tense of research article abstracts of 90 research articles. She applied five-move models to these abstracts taken from three different linguistic journals and concluded that these abstracts had three obligatory moves of Aim, Method and Results while Background and Conclusion were found to be two optional moves in abstracts of these research articles. Alhuqbani (2013) used Bhatia's (2014) and Hyland's (2004) models to analyze 40 Arabic language RA abstracts written in four different disciplines. He noted that the Introduction move was obligatory in Police, Law and Medicine RA abstracts. Method move was found to be obligatory in linguistics and medicine whereas it was optional in Law and Police. Law RA abstracts didn't use Product and Conclusion moves. Viewing the move structure of RA abstracts, he concluded that RA abstracts in the field of Medicine were the only abstracts that were in line with the respective models.

Darabad (2016) studied the rhetorical structure of 63 RA abstracts from the fields of Applied Mathematics, Applied Linguistics and Applied Chemistry. He used Hyland's (2004) model to analyze grammatical features and rhetorical structures of the RA abstracts and observed that PMRC was the most common move pattern across three disciplines. Most of the abstracts in Applied Mathematics and Applied Linguistics used 4 moves while the dominant number of moves in RA abstracts of Applied Chemistry was 3.

Hussain et al. (2019) studied the rhetorical structure of 100 research article abstracts from hard sciences and soft sciences, 50 each, and also analyzed the use of linguistic features as they differed across disciplines and rhetorical moves. The moves in hard sciences were abundant in nouns than those of soft sciences. The length of the result move is more in hard sciences than in soft sciences. Their study found that only 24% of abstracts followed Swales and Feak's (2010) five-move model and pointed out that respective discipline influences the linguistic features employed in abstracts.

Khansari et al. (2016) used Swales (1990) model to analyze 130 abstracts. The corpus was collected from 12 English journals. Out of 130 abstracts, 63% abstracts followed IMRD structure. It came up with the conclusion that introduction move was the

most occurring move in abstracts while conclusion move was the least occurring move; moreover, introduction move was the most cycled move as well.

Researchers have also focused on the cross-linguistic and cross-cultural comparison of Research Article abstracts to underscore the role that culture and language play in the varying choices regarding the observance of rhetorical structure in research article abstracts (Al-Khasawneh, 2017; Behnam, 2014; Candarh, 2012; Dong & Huan, 2010; Kafees, 2012; Lau, 2004; Martin, 2003; Noorizadeh-Honami & Chalak, 2018).

Martin (2003) carried out a cross-cultural and cross-linguistic study of 160 English and Spanish abstracts for research articles from the fields of Experimental Phonetics and Psychology. His results supported the proposition that culture affected the rhetorical structure where 67.5% of English abstracts followed the IMRC model while only 25% of Spanish abstracts followed this IMRC model. Candarh (2012) used the CARS model to do a contrastive analysis of 40 abstracts of Turkish and English Research Articles, 20 each, with the main focus on move structure and textual features of these abstracts. He found that Turkish researchers ignored the Conclusion move; he attributed this to a face-saving attitude of the researchers as well as to the writing instructions provided to the scholars. Introduction move was present in all RA abstracts; all other moves were obligatory except the Conclusion move that was found to be an optional one in Turkish RA abstracts.

Kafees (2012) highlighted the effects of cultural and linguistic backgrounds on the rhetorical organization of research article abstracts. He used Swales and Feak's (2010) model to analyze 46 abstracts each by Turkish, American and Taiwanese writers. Though there was the presence of all moves in 3 categories of research article abstracts, the articles from different social and cultural backgrounds differed in the relevant importance that the researchers assigned to a certain move. Purpose, Methods and Results were three obligatory moves in all 3 categories of research article abstracts while introduction was optional move in 3 categories and conclusion was optional move in Turkish and Taiwanese abstracts for research articles. Marefat and Mohammadzadeh (2013) used IMRD and CARS model respectively to analyze 90 Persian and English abstracts written in literature. In Literature RA abstracts, Method and Discussion moves were generally neglected by the writers and usually as they do not mention the reason for which they are undertaking the research.

Al-Khasawneh (2017) investigated the comparative rhetorical structure of abstracts by native and non-native writers by applying Hyland's (2004) five-move model. He took 20 articles, ten articles each, written during 2012-2015. He concluded that three moves Purpose, Method, and Result were given importance equally by native and non-native writers while two moves, Introduction and Conclusion were ignored by

some of the non-native writers. Noorizadeh-Honami and Chalak (2018) used Swales' (1990) CARS model to compare abstracts of English and Persian research articles. They took 30 abstracts each from English and Persian research journals and concluded that non-native writers were mindful of the linear IMRD structure and remained stuck to this conventional structure while only 33% of native writers followed this conventional model.

Though the researchers have worked on the comparative analysis of structure of Research Article abstracts by using some prevalent models, there was a need to highlight the effect of striking difference of language between norm-providing and norm-developing countries and in the rhetorical structure of academic writing as well. This research probes into the matter and highlights the basic differences in the rhetorical structure and linguistic features of research article abstracts from inner and outer circle countries by taking abstracts from 5 inner and 5 outer circle countries respectively. In this way, it is a significant contribution to the genre research as well as the research in world Englishes. This comparative analysis highlights the difference in the rhetorical and linguistic choices of researchers from two domains and points out the difference in linguistic choice of researchers.

Different researchers have studied different sections of research article abstracts. Jogthong (2003), Falahi and Mobasher (2007) and Afshar, Doosti and Movassagh (2018) studied introduction section of research articles, Kutay (2016) and Rezaei, Kuhl and Saeidi (2020) analyzed methodology section of research articles and Holmes (1997), Amirian, Kassaian and Tavakoli (2008) and Dujcik (2013) explored the generic structure of discussion section and Brett (1994) and Bruce (2009) studied result section. There are research studies that were conducted on the rhetorical structure of Research Article abstracts. These studies comprise the non-comparative as well as comparative studies which focus on the cross-linguistic, cross-cultural as well as cross-disciplinary comparisons. These studies have contributed well to the existing genre knowledge and pedagogical applications but there is no study that either compares data from more than 2 or 3 countries, or makes a comparison between inner and outer circle. In the territory of genre studies of RA abstracts, comparative analysis of the rhetorical structure of RA abstracts from Inner and Outer circle as a whole was ignored; this study makes an attempt to comparatively analyze the abstracts from these circles.

3. Methodology

This research used a quantitative approach to analyze Research Article abstracts from Inner and Outer Circle countries. Ant-mover software was used to tag the functional moves in RA abstracts; where a move is taken as the unit of analysis while Multidimensional Analysis Tagger (Nini, 2019) was used to explore the linguistic

features of the abstracts. The results of the above analysis were used to find out the percentage presence of moves in Research Article abstracts that helped the researcher in highlighting the obligatory and optional moves in abstracts.

For the earlier mentioned purpose of analysis, there was no corpus available that comprised the abstracts from inner and outer circle countries. So, the researchers had to prepare a corpus of their own that was further divided into two corpora: one was a corpus of abstracts from inner circle countries; the other was a corpus of abstracts from outer circle countries. Regarding the status of English in Indonesia, Lie (2007) viewed Indonesia as an Outer circle country and asked the Kachru's model to be revised. A recent study by Endarto (2018) also highlighted the shift of English from ESL to EFL. So, the current research included Indonesia in Outer circle country. The researchers used convenience sampling to collect data because there was no specification regarding data collection except the time span (2016-2020). So the abstracts were picked from online journals of arts, humanities and social sciences category of Inner as well as Outer Circle countries. These were HEC recognized journals that were selected after checking their data from HJRS.

Table 1

Sources and coding of corpus

Inner Circle Countries			Outer Circle Counties		
Country	Name of Journal	No. Of abstracts	Country	Name of Journal	No. Of abstracts
UK	British Journal of Educational Studies	50	Pakistan	Journal of Arts and Social Sciences Studies	50
USA	The Modern Language Journal	50	India	Indian Journal of Gender Studies	50
New Zealand	New Zealand Journal of Educational Studies	50	South Africa	South African Journal of Education	50
Canada	Canadian Journal of Linguistics	50	Indonesia	International Journal of Applied Linguistics	50
Australia	Australian Review of Applied Linguistics	50	Malaysia	3L: South East Asian Journal of English Language Studies	50

The journals that were selected from the Outer Circle countries were the following: Journal of Arts and Social Sciences (JASS.OC, Pakistan), Indian Journal of Gender Studies (IJGS.OC, India), 3L: South

East Asian Journal of English Language Studies (3L.OC, Malaysia), International Journal of Applied Linguistics (IJAL.OC, Indonesia) and South African Journal of Education (SAJE.OC, South Africa). The volumes of these journals published during the last 5 years 2016-2020 were picked to compile a corpus. Two corpora comprising 500 abstracts, 50 abstracts from each country, were selected for analysis.

Hyland's (2004) model for the rhetorical structure of Research Article abstracts was used to analyze the structure of abstracts undertaken for research. Ant Mover software was used to identify moves. After the identification of moves in Research Article abstracts, the percentage presence of every move was highlighted. The criterion for a move being an obligatory one is 60% presence but if it is found to be less than 60%, it is regarded to be an optional move. It was followed by exploration of linguistic features of the abstracts by using MAT. Linguistic analysis of data was performed by using MAT v1.3.2. This is software that was designed by Dr. Andrea Mini by following Biber's (1991) dimension analysis.

4. Findings and Discussion

4.1 Generic Analysis of Research Article Abstracts

The occurrence and distribution of moves in abstracts is influenced by the guidelines provided by the respective journal (Fatma & Yagiz, 2020), socio-cultural influences (Kafes, 2012) and the generic knowledge of the researcher. According to Hyland's (2004) model and Swales and Feak's (2010) model, research article abstracts are generally supposed to have 5 moves. Santos (1996) also highlighted the presence of 5 moves in research article abstracts. This study used Ant mover software to analyze 2 corpora according to Hyland's (2004) model. In the previous studies, this model was used by Al-Khasawneh (2017), Behnam (2014), El-Dakhs (2018) and Lau (2004).

The abstract sections of research articles generally have five moves (Santos, 1996). The limited number of words and sentences allowed for abstracts significantly influence the distribution of moves. In this research study, RA abstracts written by native and non-native researchers were separately analyzed for rhetorical structure and linguistic features, then a comparison between these two groups of abstracts was made.

For the move analysis of the abstracts in the field of ELT, Hyland's (2004) model was applied. 500 RA abstracts, 250 abstracts from each group were analyzed and their percentages were chalked out. According to the results of the move analysis, the frequency of moves was utilized to make a comparison between native and non-native writers. Significant differences were not found between the two corpora.

Table 2

Move occurrence in inner and outer circle countries

Move	Inner Circle	Outer circle	Status
Introduction	135 (54%)	140 (56%)	Optional
Purpose	236 (94%)	240 (96%)	Obligatory
Method	160 (64%)	173 (69%)	Obligatory
Product	185 (74%)	184 (73.6%)	Obligatory
Conclusion	116 (46.4%)	93 (37.2%)	Optional

Move 1 Introduction:

Introduction move is supposed to be the first move in research article abstracts as it has been sketched out by Swales (2011) and Hyland (2004). In this move, the researcher introduces the topic, describes the reasons behind research or factors that motivated the research. It provides a set off point to research. It gives an overview of the research gap (Kafes, 2012), states the existing knowledge and provides the contextualization of the research (Al-Khasawneh, 2017). In this move, the writer justifies the rationale of the research and makes the reader recognize the inevitability of the research. In the previous years, the research studies conducted on native and non-native abstracts had different results. Candarh (2012), Lau (2004), Martin (2003) and Santos (1996) found it to be an obligatory move and Behnam (2014), Can et al. (2016), Kafes (2012) and Noorizadeh-Honami and Chalak (2018) found it to be optional in native RA abstracts. The present study found it to be an optional move in research article abstracts taken from the inner circle where 135 out of 250 abstracts (54%) used Introduction move.

The researchers from inner circle used the Introduction move to provide the motivation behind their research, to give a view of reasons for their research and thus they established a sound footing to initiate their research.

Example:

In response to the current policy of education, it is necessary for schools and the system of education to improve them. School inspections play a crucial role in promoting improvements and innovations in the system. (147BJES.IC)

In the research article abstracts taken from outer circle countries, Introduction move was found to be an optional move (56%). The result is in compliance with

Candarh (2012), Martin (2003) and Noorizadeh-Honami & Chalak (2018). The researchers used it to give a good start to their research that would help them in getting the attention of the reader. The evident research gap, incomplete spectrum or the context of the research serve as attention grabbers for the researchers.

Example:

Literature plays an important role in learning any language. In the EFL scenario, it is considered useful in learning English language skills. However, in Indonesia, adequate attention is not paid to the teaching and learning of literature in classroom environments and the general public. (81IJAL.OC)

Move 2 Purpose:

This is the second move in research article abstracts. This move informs about the purpose, aim or goal of the research. The researchers sometimes skip Introduction move and move directly to Purpose move as it is evident from this study that the most occurring move is the Purpose move. There were a few researchers who ignored this move. This move is bound to reveal the aim of the research and highlights the target that the researcher intends to achieve. They use purpose move to inform their readers about the object of the study, thus this move along with the introduction move is bound to help in the marketization of the article. In the research article abstracts taken from inner circle countries, it was found to be an obligatory move (94%) where 236 out of 250 abstracts had this move. The result for this move is in compliance with the results of studies by Al-Khasawneh (2017), Behnam (2014), Can et al. (2016), Kafes (2012), Lau (2004), Santos (1996) and Sunatra (2013).

Example:

The current article discusses the problems that researchers may have faced when they are working on language varieties. It points out the need to explore special aspects that researchers need to work on while working on languages. (74CJL.IC)

. In research article abstracts taken from outer circle countries, Purpose move is the frequently occurring move fortifying the results from inner circle countries, 240 out of 250 RA abstracts (96%) used this move making it an obligatory move in non-native research article abstracts. The result for this move is in agreement with Al-Khasawneh (2017), Behnam (2014) and Kafes (2012). Below are examples of Purpose move from outer circle countries:

Example:

The purpose of this study was to explore and assess the feasibility of counselling based on life-design principles in enhancing the career resilience of children who are exposed to family violence (203SAJE.OC).

Move 3 Method:

The method move is set to provide information about the research design, data collection procedures, assumptions of the study and the approach to analyze the data (Hyland, 2004). Thus, this move tells the reader how the set target of the research will be accomplished, what procedure will be used for analysis and throws light on the research approach as well. Al-Khasawneh (2017) noted that method move is used to talk about the mechanism and design of the study. “This move indicates the design of the study in terms of subjects, procedures, materials, instruments, variables, according to the type of experimentation” (Santos, 1996, p. 491).

In the research article abstracts taken from inner circle countries, 160 out of 250 (64%) abstracts used method move thus making it an obligatory move. The result for this move is in compliance with findings of Al-khasawneh (2017), Behnam (2014) and Kafes (2012). Below are examples of Method move from inner circle countries:

Example:

The data for assessment was collected from an Australian university. The study used ethnographic research design and involved university’s staff as well. The data consisted of interviews, assignments and observations. (217MLJ.IC)

In the research article abstracts taken from Outer circle countries 173 out of 250 abstracts (69%) used this move, making it an obligatory move. The researchers used this move to tell the readers about the methodology, research design, the sampling technique and the data collection procedures. The result is in agreement with Martin (2003). Below are examples of Method move from outer circle countries:

Example:

“This study employs a descriptive-qualitative research design embracing the characteristics of a case study approach. The data obtained from the best undergraduate student’s thesis were analyzed from the perspective of Halliday’s theme system and its progression” (53IJAL.OC).

Move 4 Product:

The Product move elucidates the findings and the product of the research (Santos, 1996). It states main findings or results, the argument or what was accomplished (Hyland, 2004). Thus, the product move is used by the researcher to state the end product of his study gained as the result of the analysis.

In the research article abstracts taken from inner circle countries, 185 out of 250 (74%) used this move to state the product of their study. The result of this study for product move is in compliance with Al-Khasawneh (2017), Behnam (2014), Can et al. (2016), Candarh (2012), Kafes (2012) and Lau (2004).

Example:

The results of this study showed that moves of the feedback section were divided into multi-area episodes. However, supervisors used single-area episodes in less numbers and used them in combination with sources. (16ARAL.IC)

In the research article abstracts taken from Outer Circle countries, 184 out of 250 (74%) abstracts used this move to state the results or findings of the research. The result is in keeping with Al-Khasawneh (2017), Behnam (2014), Kafes (2012) and Lau (2004).

Example:

The analysis reveals that participants were eager to know about women's rights. Any sort of informational programs arranged in future will help the women in knowing about the ways to report crime and making them familiar with the use of technology as well. (28IJGS.OC)

Move 5 Conclusion:

The conclusion move interprets the results, draws on the implications of the research (Hyland, 2004) and underscores the way in which the findings of the research can be applied to a real, practical life situation. In this move, the researcher evaluates findings of his study and establishes a link between his study and a wide spectrum of research in the respective field (Santos, 1996). The writers use conclusion move to make claims about their research and to throw light on the implications of their research results (Kafes, 2012). Can (2016) put the conclusion move as: "It could ferry the reader from the text into the world by commenting on the implications of the research or its applications" (pg. 214).

In the research article abstracts taken from Inner circle countries, 116 out of 250 (46%) abstracts used conclusion move to sum up the results of their findings and to draw

on the implications of their research. This study, unlike Can (2016), found it to be an optional move with least paid attention by the researchers of inner circle countries. The result is in agreement with Santos (1996). Below are examples of Conclusion move from inner circle countries:

Example:

The paper discusses methodological implications for teaching IC in the context of increasingly multilingual and multicultural learning communities (12ARAL.IC).

In research article abstracts taken from outer circle countries, 93 out of 250 (37%) abstracts used conclusion move to summarize the results of their research. This is the least used move in the outer circle corpus. The result is in compliance with Al-Khasawneh (2017), Candarh (2012), Kafes (2012) and Martin (2003).

Example:

This study makes an original contribution to the area of phonological acquisition in adult speakers by giving attention to the understudied languages of Indonesia in order to more fully understand the interaction of different language systems” (57IJAL.OC).

4.2 Linguistic Analysis of RA Abstracts:

Communication either written or spoken has certain features that depend on its purpose, the speakers interacting in a professional environment use different diction, lexical choice and all other linguistic aids as compared to those who are interacting in a non-professional environment. The communication environment affects linguistic choices of speakers, in the same way as it affects the speech of a speaker, because human beings in general tend to have different relationships with others and thus have different interactions with different persons. Biber (1991) clearly stated that the linguistic dimensions are defined by the patterns of co-occurring linguistic features. He defined dimension as: “Dimensions encompass features that consistently occur together and those that consistently complement one another” (pg.15). MAT v1.3.2 was used to analyze corpora on following 5 dimensions:

Dimension 1: Involved vs Informational Production

Dimension 2: Narrative vs Non-narrative concerns

Dimension 3: Explicit vs Situation-dependent reference

Dimension 4: Overt expression of persuasion

Dimension 5: Abstract vs Non-abstract information

Dimension 1 involved vs informational production:

Dimension 1 has been named by Biber as involved vs informational; high score on this dimension highlights the involved feature of the text while low score on this dimension marks the informational feature of the text. Unlike conversations, official documents and press reportage; academic prose is characterized by low score as it is dense with information. The positive features of this dimension are wh-questions, wh-clauses, second person pronouns, demonstrative pronouns, private verbs, indefinite pronouns and contractions while the negative features of this dimension are type/token ratio, word length, nouns, prepositions and attributive adjectives (Biber, 1991).

Inner circle corpus has low score on Dimension 1, it displays the features of informational texts i.e., attributive adjectives, average word length, type/token ratio, preposition and nouns (Biber, 1991). The use of more informational features than the involved one is evident from the following example:

Example:

“This article draws upon recent theorising of the ‘becoming topological’ of space— specifically, how new social spaces **are constituted through relations rather than physical ... standardised data, and specifically test data, have influenced teachers’ work and learning”** (50ARAL.IC).

Outer circle corpus has low score on Dimension 1, it displays informational text features i.e., attributive adjectives, average word length, type/token ratio, preposition and nouns (Biber, 1991). The informational nature of the outer circle corpus is revealed by following example:

Example:

“Drawing insights primarily from **field work data, the paper examines the changing **role** and **status** of **Kuki women** in **Delhi, India**, and argues that they have moved away from their **traditional domestic roles**.”** (6IndianJGS.OC)

Dimension 2:

Biber (1991) named dimension 2 as narrative vs non-narrative concerns. The high score on this dimension reveals the narrative traits of the text while low score shows non-narrative attributes of the text. Novels, short stories and plays have narrative attributes as they describe the stories and the real-life incidents. The narrative aspect of a text is revealed by the use of personal pronouns of third person, public verbs, present

participial clauses, synthetic negations, past tenses and perfect aspects while the non-narrative nature of the text is marked by a little presence of these features.

Inner circle corpus has low score on Dimension 2 and has non-narrative features. The non-narrative trait of the corpus is revealed by the following example where the whole abstract has only four instances of past tense usage.

Example:

“There is an emerging field in literacy research which **acknowledges** the potential variances...home environments **were** not **recognized** within the child’s school context... a reader **situated** in dichotomous environments” (156NZJES.IC).

Outer circle corpus has low score on Dimension 2 and has non-narrative features, thus it is abundant in the use of present tense verbs and attributive adjectives.

Example:

“...COVID-19 **affects** the world ... This discourse **has** ... This section **presents** a series of articles ... government bodies **communicate** with the public” (1103L.OC).

Dimension 3:

Biber (1991) named Dimension 3 as context-independent discourse vs context-dependent discourse. High score on this dimension marks the independence of text from the context while the low score on this dimension indicates the dependence of text on the context. Use of place adverbials, time adverbials and general adverbs indicates dependence of text while use of nominalizations, wh-relative clauses on subject and object position and phrasal coordinations points out the independent nature of discourse.

Inner circle corpus has high score on Dimension 3, thus making it situation independent and explicit and the closest genre is official documents. It is rich in phrasal coordination, nominalizations and use of wh- clauses on object and subject position. The context independent trait of the inner circle corpus is revealed by following example:

Example:

“Together, the findings demonstrate that both the patterns of the target words **and** children's productive **abilities** are predictors ...This supports models of language **development** where there are influences stemming

not only from phonological **and** lexical **representations**, but also from phonetic **representations**.” (69CJL.IC)

Outer circle corpus has high score on Dimension 3, thus making it situation independent and explicit and the closest genre is official documents. It is rich in use of nominalizations, wh-relative clauses on subject and object position and phrasal coordinations.

Example:

“The analysis consists of four levels: **Collocation**, **Colligation**....**whereas** discrepancy at the levels of **Colligation and** complete **description** of the node items ... rarely found in the available studies” (188JASS.OC).

Dimension 4:

Biber (1991) named Dimension 4 as overt expression of persuasion. High score on this dimension indicates the explicit persuasion used by the author to express his opinion and judgment of a situation as well. This dimension is marked by the occurrence of conditional Subordinations, split auxiliaries, suasive verbs, infinitives, necessity modals and prediction Modals.

Inner circle corpus has low score on Dimension 4; thus, it can be said that the researchers are not explicit in the persuasion and that they need to learn the persuasive language and the convincing tactics so that they may persuade their readers. The researcher rarely used arguments or persuasions, thus the abstracts lacked in the use of modal verbs. Outer circle corpus has a low score on Dimension 4; thus, it can be said that the researchers are not expert in the persuasive strategies and convincing language; they need to train themselves so that they may convince others of their opinion. The researcher rarely used arguments or persuasions, thus the abstracts lacked in the use of modal verbs.

Dimension 5:

Biber (1991) named Dimension 5 as abstract vs non-abstract information; high score on this dimension throws light on the abstract aspect of the text while low score marks the non-abstract nature of the information in the text. The positive features of this dimension as described by Biber (1991) are agentless passives, past participial clauses, WHIZ deletion, by passives and conjuncts.

Inner circle corpus has high score on Dimension 5, announcing the abstract nature of information presented in the RA abstracts, the closest genre is Press Reportage. It is rich in the use of conjuncts, past participial clauses, by passives, WHIZ deletion, adverbial subordinators. The abstract nature of corpus is revealed by the following example:

Example:

“ **furthermore** tease **apart** the complex set of constraints **governing** ...
Indeed, once an individual speaker ...**while** the periphrastic future acts
as the default option” (81CJL.IC).

Outer circle corpus has a high score on Dimension 5, announcing the abstract nature of information presented in the RA abstracts; the closest genre is Press Reportage. It is rich in the use of conjuncts, past participial clauses, by passives, WHIZ deletion, adverbial subordinators.

Z score comparison:

The researchers from inner circle countries made more use of independent clause coordination, conjuncts, attributive adjectives, that relative clause on subject position, past participial clauses, pied-piping relative clauses and split infinitives as compared to researchers from outer circle countries. Thus, the researchers from inner circle countries were found to have precise, to the point and exact approach with less focus on extravagant details, this is also supported by the smaller number of words in inner circle corpus as compared to outer circle corpus.

On the contrary, researchers from the outer circle surpassed the inner circle ones in the use of phrasal coordination, sentence relatives, by-passives and agentless passives. The more use of passives by researchers from outer circle countries showed that they didn't assign an active role to the researcher and tended to use passive voice to express their research components.

Table 3

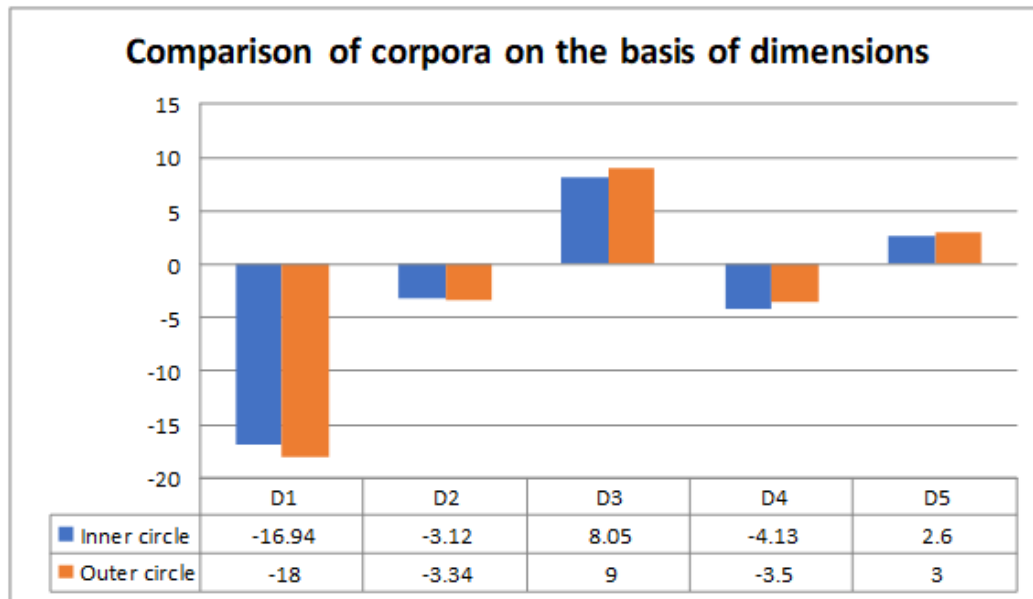
Z score comparison

Token	Inner Circle	Outer Circle	Token	Inner Circle	Outer Circle
AMP	-0.81	-0.83	THAC	-0.28	-0.23
ANDC	0.75	0.17	THVC	0.59	0.86
AWL	3.08	2.65	TIME	-0.9	-1.2
CAUS	-0.51	-0.47	TO	-0.19	-0.04
CONC	-0.15	0.06	TOBJ	-0.1	0.1

COND	-1.07	-1.02	TPP3	-0.97	-0.87
CONJ	2.16	1.55	TSUB	3.19	2.62
DEMO	0.82	0.6	TTR	-4.73	-4.37
DEMP	-0.39	-0.58	VBD	-0.74	-0.62
DPAR	-0.51	-0.51	VPRT	-0.79	-0.75
DWNT	-0.56	-0.73	XX0	-1.06	-1.05
EMPH	-0.75	-0.8	[BEMA]	-2.16	-2.06
EX	-0.39	-0.57	[BYPA]	0.19	0.61
FPP1	-0.79	-0.96	[CONT]	-0.73	-0.73
GER	1.87	1.63	[PASS]	0.24	0.4
HDG	-0.44	-0.46	[PASTP]	2.29	1.75
INPR	-0.69	-0.7	[PEAS]	-1	-0.98
JJ	2.03	1.73	[PIRE]	0.58	0.21
NEMD	-0.78	-0.64	[PRES]	0.56	0.48
NN	3.07	3.23	[PRIV]	-0.45	-0.48
NOMZ	2.46	2.21	[PROD]	-0.8	-0.78
OSUB	0.71	0.59	[PUBV]	-0.28	-0.53
PHC	4.79	5.21	[SERE]	1.74	2.65
PIN	0.52	0.63	[SMP]	-0.25	-0.35
PIT	-0.8	-0.73	[SPAU]	-1.19	-0.91
PLACE	-0.18	-0.48	[SPIN]	2936	1296
POMD	-0.66	-0.82	[STPR]	-0.65	-0.67
PRED	-0.26	-0.1	[SUAV]	0.31	0.24
PRMD	-1.17	-1.12	[THATD]	-0.35	-0.51
RB	-2.53	-2.54	[WHCL]	0.08	-0.02
SPP2	-0.71	-0.72	[WHOBJ]	-0.75	-0.72
SYNE	-0.5	-0.76	[WHQU]	-0.3	0.26
[WHSUB]	-0.39	-0.03	[WZPAS T]	0.33	0.52
[WZPRE S]	1.79	1.5			

Comparison of two corpora on the basis of mean scores of six dimensions:

This section compares the dimension scores for inner circle and outer circle. Figure shows that outer circle has high negative score on Dimension 1 and 2 and high positive score on Dimension 3 and 5 while inner circle has higher negative score on Dimension 4. It shows that outer circle abstracts are more informational, context independent and have more abstract information. Figure 1 indicates that both corpora have negative score on Dimension 4, where outer circle abstracts are more persuasive than the inner circle abstracts.

Figure 1. *Score of corpora on both dimensions**

Descriptive statistics of dimension scores:

This section compares the dimension results of the two corpora. The dimension scores show that Outer Circle corpus is highly condensed in informational, non-narrative, situation-dependent, persuasive and non-abstract features as compared to the inner circle corpus.

Table 4

Descriptive statistics of Dimension scores

	<u>Dimensions</u>	<u>Mean</u>	<u>Minimum value</u>	<u>Maximum value</u>	<u>Range</u>	<u>Standard Deviation</u>
Inner Circle	D 1	-16.94	-28.69	0.62	29.31	5.44
	D 2	-3.12	-7.38	7.84	15.22	2.8
	D 3	8.05	-5.08	17.8	22.88	3.91
	D 4	-4.13	-9.27	6.6	15.87	3.14
	D 5	2.6	-3.92	13.36	17.28	3.74
Outer Circle	D 1	-18	-27.56	-2.99	24.57	4.74
	D 2	-3.34	-7.38	6.65	14.03	2.56
	D 3	9	0.31	18.29	17.98	3.65
	D 4	-3.5	-9.27	8.46	17.73	3.63

	D 5	3	-3.92	15.6	19.52	3.78
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5. Conclusion

English is a global language, it is mother-tongue of millions of people but it is also used as language of communication by billions of people. Inner circle countries are supposed to be proficient in the use of English language while the Outer circle countries are not considered to be expert in the use of English language. Our spoken or written discourses are divided into genres on the basis of communicative purpose of the discourse. While performing discourse functions, the speakers are supposed to follow the conventionalized structure of the particular discourse communities. The study used Hyland's (2004) model to analyze the rhetorical structure of research article abstracts and used MAT to analyze linguistic features of RA abstracts.

The generic analysis revealed that introduction and conclusion were the optional moves in RA abstracts while Purpose, Method and Product were obligatory moves in RA abstracts, the difference was seen in the percentage presence of moves in both circles where outer circle countries showed high occurrence of moves. Thus, the researchers from outer circle countries showed adeptness in the use of rhetorical structures in writing RA abstracts.

The linguistic analysis was performed using MAT v 1.3.2, it showed that the researchers from both circles made apt use of lexical devices and linguistic embellishments but those from inner circle surpassed the researchers from outer circle in the use of precise language; on the other hand, the researchers from outer circle excelled in the use of information, context-dependent and persuasive features.

The present research concludes the discussion with the argument that researchers from outer circle countries are more apt in the use of rhetorical structure as well as lexical elements and linguistic devices. If they overcome the occasional imperfections in their writing, and adopt linguistic traits of natives and utilize it to convey their ideas in the best way possible then there is no reason to have any sort of native or non-native discrimination anywhere in the world.

The researcher compared corpora from inner and outer circle countries to look into the linguistic and generic features employed by native and non-native researchers in writing RA abstracts. The revelation of differences will help researchers and research teachers alike in knowing the differences in abstract structures as well as in bridging the gap that generally exists between novice structures and standard rhetoric and lexis of the genre.

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APPENDIX:

Inner circle corpus: https://docs.google.com/document/d/1tL7-ALKdvgJwIh7hivKyOBE_VWVt6IbV/edit?usp=sharing&oid=111699296055059550296&rtpof=true&sd=true

Outer circle corpus: <https://docs.google.com/document/d/1t-QHMTIrdSlKWkCFpwcHFZqSj92Jn1c4/edit?usp=sharing&oid=111699296055059550296&rtpof=true&sd=true>