

A Move Analysis of Abstracts from Hinthada University Research Journal

Phyo Su Paing

Abstract

Abstracts are important parts of research articles because researchers are very likely to read the abstract first and then decide to continue or stop reading the research article. Therefore, it is important to write an effective abstract in order to contribute acceptable research articles in the international academic community. So the study of the rhetorical structure of the abstracts of research articles is of importance in academic writing achievement. The purpose of this study is to investigate the rhetorical moves of research article abstracts from Hinthada University Research Journal (Vol.10, No.1) published in December, 2019. Hyland's (2000) five-move structure model was applied to the analysis of the move structures in each abstract. The results showed that Move one (Introduction), Move two (Purpose) and Move three (Method) were considered as obligatory structural moves in Arts research article abstracts while Move one (Introduction), Move three (Method) and Move four (Results) served as obligatory moves in Science abstracts. It is hoped that this study can help research article writers produce better research articles and increase their chances for publication and effective participation in international academic communities.

Keywords: abstract, research article, rhetorical moves

Introduction

In recent years, interest in international academic research articles has vastly developed in the world. In every academic community, research article (RA) is considered as an important genre. As Hyland (2000) has noted, RA follows binary purposes simultaneously: the first goal deals with new knowledge dissemination to the followers of their discourse community and at the same time the second goal is persuasion of the discourse members to admit the statements. As the role of research is important in teaching professionals and educational fields, it becomes almost essential not only for teachers but also for students to develop skills in writing research articles.

Increasing the number of academic publications and the need for the accessibility of one's research through online academic search engines, researchers have paid more attention to research article (RA) abstracts. According to Lore (2004), abstract is considered as the doorway that persuades the readers of specific discourse community to select an article or to choose a specific journal, or even the coordinators of seminars and conferences to admit or discard the submitted papers. The purpose of an abstract is regarded as 'a description or factual summary of the much longer report, and is meant to give the reader an exact and concise knowledge of the full article' (Bhatia, 1993).

According to Lim (2006) and Pho (2008), the organizational pattern analysis of the moves, grammatical structures, and literary features that formulate these moves and steps were the subject of studies in research article abstracts. Therefore, in the present study, an attempt has been made to explore research article abstracts from Hinthada University Research Journal (Vol. 10, No.1) published in December, 2019 and examine their constituent rhetorical structures. Moreover, the comparison of the move structures used in the RA abstracts in Arts and Science disciplines has also been discussed.

Aim and Objectives of the Study

The present paper aims at investigating the rhetorical moves of Arts and Science research article abstracts from Hinthada University Research Journal (Vol. 10, No.1) published in December, 2019. The objectives are mentioned as follows:

1. to assess the frequency of rhetorical moves used in RA abstracts
2. to identify whether Arts and Science RA writers differ in the use of rhetorical moves

Research Questions

This paper is conducted with the following research questions.

1. How frequently do the moves occur in the abstracts?
2. What are the similarities and differences between Arts and Science RA abstracts in terms of rhetorical moves?

Literature Review

Abstract is the summary of a research article that is written in the beginning of an academic paper. Its main purpose is to help other researchers and readers make a decision in selecting the reading. The American National Standards Institute has defined abstract as an abbreviated, accurate representation of the contents of a document, preferably prepared by its authors for publication with it. Lore (2004) states that research article abstract has received noticeable amount of attention as a result of the acceleration of the exchange of information in recent years. Therefore, abstracts play the crucial role in today's research world in which millions of research articles are being published every year.

There are different models for analyzing an abstract. According to Bhatia (1993), an abstract has four moves: introducing the purpose, describing the method, summarizing the results, and presenting the conclusions. Weissberg and Buker (1990) also report the order of typical elements included in an abstract. They are background, purpose, method, results and conclusion. According to Swales (2004), a move is a discourse or rhetorical unit that performs a coherent communicative function in a written or spoken discourse. Swales' model (1990) consists of three rhetorical moves. Each of these moves is divided into several steps. The components of Swale's model are outlined in Table (1).

Table (1) Swales' model

Moves	Steps
(1) Establishing a territory	(1) Claiming centrality (2) Making topic generalizations (3) Reviewing items of previous research
(2) Establishing a niche	(1) Counter-claiming (2) Indicating a gap (3) Question-raising (4) Continuing a tradition
(3) Occupying the niche	(1) Outlining purposes (2) Announcing present research (3) Announcing principal findings (4) Indicating article structure

Moreover, a more elaborate model of RA abstracts is that of Hyland (2000). It includes five moves: Introduction, Purpose, Method, Product/Results, and Conclusion. The functions of the moves and their constituent steps are indicated in the Table (2).

Table (2) Hyland's model of research article abstracts

Moves	Functions
(1) Introduction (I)	Establishes context of the paper and motivates the research or discussion
(2) Purpose (P)	Indicates purpose, thesis or hypothesis, outlines the intention behind the paper
(3) Method (M)	Provides information on design, procedures, assumptions, approach, data, etc.
(4) Product/Results (Pr or R)	States main findings or results, the argument, or what was accomplished
(5) Conclusion (C)	Interprets or extends results beyond scope of paper, draws inferences, points to applications or wider implications

Previous studies on RA abstracts are research on abstract writing with the use of different theories. Darabad (2016) carried out research on "Move Analysis of Research Article Abstracts: A Cross-Disciplinary Study". Three disciplines: Applied Linguistics, Applied Mathematics and Applied Chemistry were chosen for his study. 63 research articles from each discipline were chosen for a cross-disciplinary study. Hyland's (2000) model was used in the analysis of the abstracts. The results of his study showed that there were instances of Purpose-Method moves in Applied Linguistics abstracts with no occurrence of Purpose-Result moves. The instances of Purpose-Result moves were observed in Applied Mathematics with no Purpose-Method move. And both of these integrated moves were identified in the abstracts of Applied Chemistry. The proportion of passive verbs was higher than active verbs in these three disciplines. The least frequent move was introduction and the most frequent move pattern was PMRC. The findings also indicated that the frequency of present tense verbs with active voice was dominant in these three disciplines.

Among the pioneers studying the research article abstracts, Hyland's (2000) five-move structure model (IPMRC) was utilized in the present study for the analysis of the rhetorical moves of the abstracts.

Methodology

In the present study, Hyland's (2000) five-move structure was adopted as the framework for move analysis of the abstracts. Firstly, a sample of eight research article abstracts was selected from Hinthada University Research Journal (HURJ) (Vol. 10, No.1) published in December, 2019 with the limitation of word count (100-250) in order to achieve acceptable results. Four Arts abstracts (two Geography and two Oriental Studies) and four Science ones (one Chemistry, two Physics and one Geology) were chosen for the materials of the study. Then, four abstracts written by Arts RA researchers were marked with stars to differentiate them from Science abstracts. After that, each and every abstract was analyzed by Hyland's (2000) five-move model: Introduction, Purpose, Method, Results, and Conclusion in terms of rhetorical moves. After the frequency of occurrence of each move was statistically tallied and summed, frequency analysis was performed and a comparison was made between

the rhetorical moves of the Arts and Science RA abstracts. Finally, the results of the data analysis were presented in tables showing the percentages.

Analysis of the HURJ Abstracts

In this analysis, a sample of eight research article abstracts selected from HURJ was analyzed with the model of Hyland's (2000) five-move structure. Samples of data analysis were shown in Tables (3).

Sample 1: *Assessing the Impact of Climate Change and Natural Disasters on Residents in Ayeyarwady Region

[The Ayeyarwady Region experiences regular cyclone impact although such cyclones are smaller compared to Cyclone Nargis. The Region has experienced severe floods in 2011, 2013, and 2015, and many smaller flooding. Most inhabitants within the Ayeyarwady Region rely on agriculture for livelihood, and they usually live under poverty line. Therefore they cannot cope with natural hazards. In recent years, local people are suffering from the impact of storms, intense rain and flooding.] **(Move 1: Introduction)** [This paper assesses the impact of natural disaster on the residents of Ayeyarwady Region.] **(Move 2: Purpose)** [The data for this study were gathered through purposive sampling, which is selected sampling of areas that have withstood natural disasters, such as cyclone- and flood-affected areas. In-depth interviews with local people are also made.] **(Move 3: Method)**. [As a result, the great impact of natural disaster is found on the rural residents of Ayeyarwady Region.] **(Move 4: Results)**

Table (3) Frequency of move order of sample 1

Moves	I	P	M	R	C
Tally	✓	✓	✓	✓	-
Order of moves	IPMR				

In sample (1), a brief introduction provides essential background to the study and indicates the significance of the research title. Then, a purpose statement is given to express the intention of the research. The writer then presents the general description of the method, indicating how to collect the data, following the result of the experimental research. However, the writer does not include the conclusion in the paper. Therefore, the sequence of move structure, Introduction-Purpose-Method-Results (IPMR) is found in this abstract.

Sample 2: *Primary Economic Activities in the Islands between Ngawun and Thetkethaung Rivers, Ngaputaw Township

[The study area is located at the southernmost part of Ngaputaw Township in Ayeyarwady Region. The location of the study area is a Central Island between Thetkethaung and Pathein (Ngawun) rivers. It is composed of 22 villages. As a rural area of Ayeyarwady Region, the main economic activities are primary activities.] **(Move 1: Introduction)** [This study focuses on spatial distribution of primary economic activities in the study area.] **(Move 2: Purpose)** [although the areas have statistical recorded data, the main data in this study are obtained from the field survey.] **(Move 3: Method)** [In the study 4 types of the primary economic activities are recognized as agriculture, fishing, shrimp farming, and salt farming. Spatial

distribution and the development of economic activities are depending mainly on the relief and drainage.] (**Move 4: Results**)

Table (4) Frequency of move order of sample 2

Moves	I	P	M	R	C
Tally	✓	✓	✓	✓	-
Order of moves	IPMR				

Sample (2) introduces the background information to the study and describes the locations of the townships. After the use of the purpose statement, the writer expresses the way of gathering the data from the field survey. Then the abstract ends vividly up with the products of the study. Nevertheless, there is no conclusion move in the abstract. Therefore, the sequence of this sample is Introduction-Purpose-Method-Results (IPMR) (Table 4).

Sample 3: *A Study of Teacher-pupil Relation in Pāḷi Literature

[The Buddha's doctrines include instructions that would bring benefits to all the beings. This forms an attribute of Dhamma, which is called 'kevala paripunnam' (wholly fulfilled). The Dhamma is totally free from any deficiency or lack of secular or holy benefits.] (**Move 1: Introduction**) [This paper aims to study social conduct in general according to the Pāḷi literature, but specifically its study will be made on social conduct in teacher and pupil relation.] (**Move 2: Purpose**) [Teacher and pupil relation from Pāḷi literature will be discussed in four sub-titles. The instruction on Teacher and pupil relation will be based on the canon proper, its commentaries] (**Move 4: Method**) and will surely forth benefit in this world and in the next existences.] (**Move 5: Conclusion**)

Table (5) Frequency of move order of sample 3

Moves	I	P	M	R	C
Tally	✓	✓	✓	-	✓
Order of moves	IPMC				

The writer introduces the benefits of the Buddha's doctrines to all the beings. The purpose statement is then given, beginning with the infinitive "to study". The structure of method move occurs in the abstract. Then in the conclusion, the writer gives the suggestions in regard with his study. But the results move is not found in the abstract. The sequence of this sample is Introduction-Purpose-Method-Conclusion (IPMC) (Table 5).

Sample 4: *The Key Role of Sakka in Support Buddha's Sāsana

[The Myanmar word, "Thagyarmin" is derived from the original Sanskrit word *Sakra*, which is called *Sakka* in Pāḷi language. *Sakka* is the lord of devas who rules *Tavatimsa* and *Catumahārājika* (deva realms).] (**Move 1: Introduction**) [This paper will present *Sakka's* key role in support *Buddha's sāsana*.] (**Move 2: Purpose**) [His efforts to support and safeguard Buddhism were found in many Pāḷi text and commentaries (*Atthakathās*). Based on these reliable sources, *Sakka's* active and enthusiastic participation in supporting *Buddhasāsana* will be presented in this paper.] (**Move 3: Method**) [It is expected that the

recorders will be able to get a comprehensive description about *Sakka* who performs his duties and responsibilities to safeguard *Buddhasāsanā* by reading this research paper.] (**Move 5: Conclusion**)

Table (6) Frequency of move order of sample 4

Moves	I	P	M	R	C
Tally	✓	✓	✓	-	✓
Order of moves	IPMC				

In the introduction of this sample, the origin of the Myanmar word “Thagyarmin” is described. After a purpose is offered to the readers, the method of the study follows in the text. Then, the writer goes to the conclusion move to describe the expectation for the readers by reading this research paper. Therefore, the text contains no Results statement. The sequence of this sample is Introduction-Purpose-Method-Conclusion (IPMC) (Table 6).

Sample 5: Isolation of Soil Fungi Collected from Hinthada University Campus and Their Enzyme Activity

[Amylases are enzymes that break down starch or glycogen. Amylases have been produced by bacteria, fungi and other organisms.](**Move 1: Introduction**) [In this study, seven soil samples were collected from seven different places in Hinthada University Campus, Hinthada Township, in order to discover amylase enzyme produced by soil microbes.] (**Move 2: Purpose**) [Seven soil samples were analyzed by soil texture and pH. The soil samples were isolated by soil dilution method. Thirty two soil fungi (HU-01 to HU-32) were isolated from seven soil samples. Pure colonies were inoculated into slant culture containing in Potato Glucose Agar medium. Pure fungal isolates were also tested by starch hydrolysis activity.] (**Move 3: Method**) [Among them, thirty two soil fungi, except HU-30 and HU-31 did not show the hydroxyl starch or amylase enzyme activity.] (**Move 4: Results**)

Table (7) Frequency of move order of sample 5

Moves	I	P	M	R	C
Tally	✓	✓	✓	✓	-
Order of moves	IPMR				

In this science sample, the formation of amylases is introduced to the readers. The author indicates that his purpose is to “discover amylase enzyme produced by soil microbes”. In this study, the writer presents his method to do the research, followed by the results statement. However, the author does not mention Move 5 (Conclusion). The order of moves of this sample is Introduction-Purpose-Method-Results (IPMR) (Table 7).

Sample 6: Study on Extraction and Characterization of Chlorophyll Dyes from Spinach, Ivy Gourd and Bottle Gourd Leaves

[In this study, spinach leaves (*Spinacia oleracea*), ivy gourd leaves (*Coccinia grandis*) and bottle gourd leaves (*Lagenaria siceraria* (Mol.)) were extracted by methanol solvent. The

extracting temperature treated was 100°C for 2 hr. Chlorophyll from three pigments has been confirmed by UV- Vis analysis. From absorbance and transmittance spectra, optical band gap was determined for spinach dye, ivy gourd dye and bottle gourd dye. The residual parts of spinach powders, ivy gourd powders and bottle gourd powders were examined by FTIR analysis and EDXRF analysis. FTIR was used to determine the various functional groups present in the adsorbent. EDXRF analysis was used to determine the concentration of elements of the residual parts of the three leaves.] (**Move 3: Method**)

Table (8) Frequency of move order of sample 6

Moves	I	P	M	R	C
Tally	-	-	✓	-	-
Order of moves	M				

In this sample, the author explicitly describes the methodology of the experimental study (Table 8). However, other moves of an abstract such as introduction, purpose, results and conclusion are not mentioned in the study. The only order of move 3 (Method) is introduced to the readers.

Sample 7: Assessment of Heavy Metals Content in Hun's Eggs

[This research was assessment of some heavy metals concentration of hen's eggs and drinking water of hen collected from Yatsauk (battery farm and poultry farm) and Nyaung Shwe from battery farm.] (**Move 1: Introduction**) [The samples were digested and analyzed for detection and measurement of cadmium (Cd), iron (Fe), lead (Pb) and arsenic (As) with Atomic Absorption Spectroscopy (AAS).] (**Move 3: Method**) [The obtained results showed the value of cadmium (Cd), iron (Fe) and lead (Pb) in hen's eggs was lower than the World Health Organization (WHO) standard. Level of arsenic (As) concentration in all samples was lower than WHO standard except sample E2. Sample E2 was higher than the maximum permissible limit of WHO standard value. Cadmium (Cd) concentration in drinking water of hen from Yatsauk was higher than WHO standard. Concentration of iron (Fe) in drinking water of hen samples was lower than WHO standard.] (**Move 4: Results**)

Table (9) Frequency of move order of sample 7

Moves	I	P	M	R	C
Tally	✓	-	✓	✓	-
Order of moves	IMR				

The introduction provides readers with a context for the study and addresses a significant problem "heavy metals concentration of hen's eggs and drinking water of hen". There is no occurrence of Purpose statement in this sample. The order of the Method move follows in the abstract. The writer then presents the product of the research. However, the Conclusion move is not mentioned in this sample. The sequence of the study is Introduction-Method-Results (IMR) (Table 9).

Sample 8: Spatial Distribution Pattern of Tea Shops in Bago Town

[Most of the urban residents are getting into the habit of taking tea and coffee at least twice a day.] **(Move 1: Introduction)** [This study tries to depict the distribution of tea-shop in Bago town and finds out the relationships between social and economic status of the town.] **(Move 2: Purpose)** [In Bago town, there are three types of tea shops. The distribution patterns are affected by the socio-economic conditions of the town. Simple statistical methods are used to find out the relationships. And three sizes of tea-shops are High, Medium and Small depending on their open space. The number and quality of the tea shops depend on the socio-economic status of the city. Therefore, this paper is titled The Spatial Distribution Pattern of Tea Shops in Bago Town.] **(Move 3: Method)** [For the whole town, most of the tea shops are distributed mainly along the highways, the main roads, junction of the streets and concentrated near markets. Distribution pattern of the tea shops in Bago town shows that it is clustered in the northern part while dispersed in the southern part. Most of the tea shops are upgraded their shops' decorations and open the whole day with the variety of foods because of their local needs.] **(Move 4: Results)** [The existence of these tea shops centers shows that Bago town has better environmental conditions for the locational choice of economic activities.] **(Move 5: Conclusion)**

Table (10) Frequency of move order of sample 8

Moves	I	P	M	R	C
Tally	✓	✓	✓	✓	✓
Order of moves	IPMRC				

The introduction sets the scene for the reader, providing the habits of urban residents. A clear purpose is offered in the second sentence “to find out the relationships between social and economic status of the town”. A Method statement follows, presenting the simple statistical methods of the study. The writer states the outcome of what the paper achieves. Finally the conclusion explicitly announces the wider significance of the research to the community. This sample follows the Hyland’s (2000) five-move structure model (IPMRC) (Table 10).

Findings

In this study, the rhetorical moves used in the selected abstracts have been analyzed. Findings after analyzing the entire abstracts based on Hyland’s (2000) five-move model are reported in this section.

Table (11) Frequency of the moves in the abstracts in Arts and Science research articles

Moves	Arts		Science	
	Frequency	Percentage	Frequency	Percentage
I	4	100%	3	75%
P	4	100%	2	50%
M	4	100%	4	100%
R	2	50%	3	75%
C	2	50%	1	25%

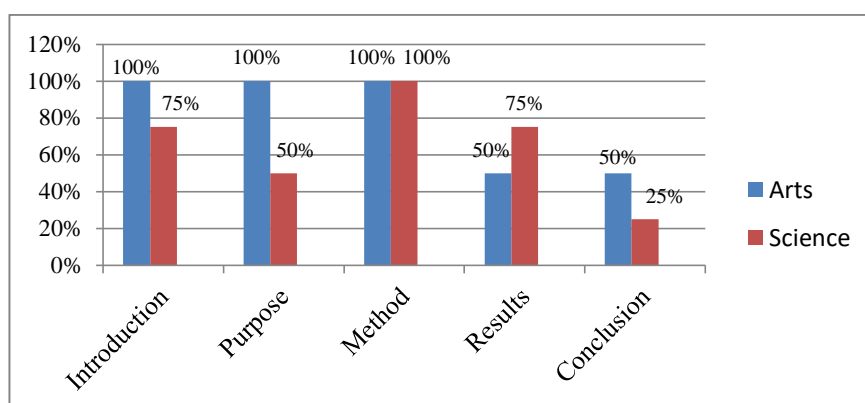


Figure (1) Comparison of the percentage of the moves in Arts and Science abstracts

As shown in Table (11), the results display that the full percentage of Move 1 (Introduction), 2 (Purpose) and 3 (Methodology) occurs in the move structures used in arts abstracts. The least frequent moves are Move 4 (Results) and Move 5 (Conclusion). On the other hand, the frequency of Move 3 (Method) is primarily used in all science abstracts. The Science RA writers mainly use Move 1 (Introduction) and Move 4 (Results) than the others. The lowest frequency move is Move 5 (Conclusion).

As it can be seen in Figure (1), Move 1 (Introduction) and Move 2 (Purpose) are included in 100% of the moves used in Arts RA abstracts but in 75% and 50% in Science RA abstracts respectively. Moreover, the same frequency of method move (100%) is used in both Arts and Science RA abstracts. The same frequency of results and conclusion moves (50%) occurs in science abstracts.

The findings show that there is a little difference between Arts and Science RA abstracts in result moves (Table 12). While results move occur 75% of the moves used in science abstracts, the occurrence of results move is only 50% in the arts abstracts. Moreover, the findings indicate that Method moves display the highest frequency in both Arts and Science RA abstracts. However, Conclusion move occurs with low frequency in both Arts and Science abstracts.

Table (12) Frequency of the moves in RA abstracts

Moves	Abstracts	
	Frequency	Percentage
I	7	88%
P	6	75%
M	8	100%
R	5	62.50%
C	3	37.50%

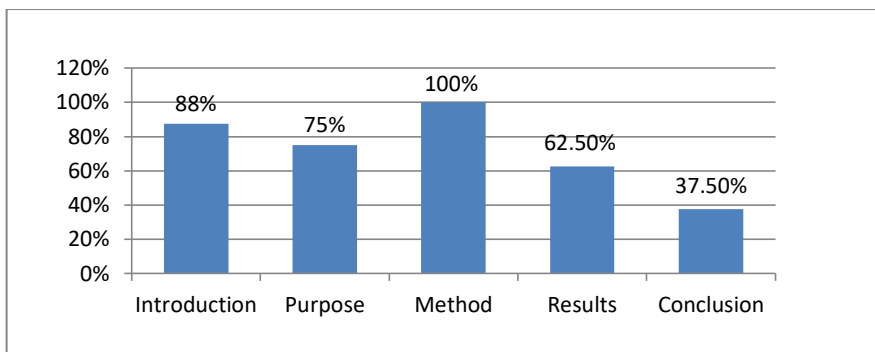


Figure (2) Comparison of the percentage of the moves in RA abstracts

As seen in Figure (2), results indicate that the Method move (100%) is the most frequently used move and it occurs in all the abstracts. The other most frequently used moves are introduction (88%) and purpose (75%). Moreover, the results move occurs 62.5% of the moves in the abstracts. The Conclusion move displays the lowest frequency in all RA abstracts.

Discussion

In this research, Hyland's (2000) five-move structure model was used to analyze the eight samples of the RA abstracts from Hinthada University Research Journal. Regarding the comparison of each of four Arts and Science RA abstracts, the findings of this study indicate some similarities and differences between the two sets of data.

According to Kanoksilapatham (2005), a move is viewed as an obligatory unit if its frequency is no less than 60% of the study in each discipline and it is regarded as an optional unit if its frequency occurs less than 60% of the study. Moreover, Swales and Feak (2004) point out that RA abstracts should be informative rather than indicative. The informative types contain the fundamental moves such as Purpose, Methodology, and Results. However, the indicative types present Introduction and Purpose. Conclusion move is an optional unit.

From the results of the study, it was found that Move one (Introduction), two (Purpose), three (Method), and four (Results) occur more than 60 percent of the move structures used in RA abstracts. As three fundamental moves which have above 60% of rhetorical moves are regarded as obligatory moves, it is assumed that the RA abstracts from HURJ are informative abstracts. Therefore, it is considered that these RA abstracts in this study provide the reader with concise, accurate and specific information of the subject.

Comparing the two types of data, the obligatory moves for arts writers are Introduction-Purpose-Method (IPM) and those for science writers are Introduction-Method-Results (IMR) moves. Therefore, it was found that both arts and science writers similarly regard Introduction-Method (IM) as obligatory moves. However, a little difference is found in purpose and results moves. While the purpose move is obligatory for arts writers, it is optional for science authors. Unlike science writers, arts writers assume Results as an optional move. The other similarity between arts and science writers is that the Conclusion move is regarded as an optional structure in agreement with Swales and Feak (2004).

As regards the order of the moves, one of the science abstracts (Geology) follows the usual order suggested by Hyland (2000). Abstracts from the arts discipline do not follow his order. Based on the results of the study, it was found that arts and science writers have some

different assumptions regarding obligatory and optional moves. However, if all five-move structures are regarded as obligatory, it will be more beneficial to the researchers in order to produce effective and efficient abstracts for their publications.

Conclusion

The present study investigated the rhetorical moves of the abstracts from Hinthada University Research Journal published in December, 2019. Hyland's (2000) model (IPMRC) was used as the framework of the data analysis. Eight samples of Arts and Science RA abstracts were selected for the materials of the study.

After analyzing the data, it was found that the RA abstracts are informative abstracts including Purpose-Method-Results moves. The most striking feature of the data is that all papers include Method move. The results move is obligatory in science abstracts but not in arts abstracts. But, Conclusion move is regarded as an optional structure of all RA abstracts.

It is hoped that the present study can pave the way for novice academic research paper writers to write efficient and effective abstracts for publications and presentations in international academic communities.

Acknowledgements

I would like to express my profound gratitude to Dr Nilar Myint, and Dr Mar Lar, Pro-rectors of Hinthada University, for their permission to write this paper. I would also like to extend my sincere thanks to Dr Toe Su Hlaing, Professor and Head of English Department, for her invaluable guidance and encouragement to conduct this research. Moreover, I am very grateful to U Htun Win, Associate Professor, English Department, for his valuable suggestions. Finally, I would like to express my deepest gratitude to all the people who have helped me in various ways to accomplish this research paper.

References

- Buker, R. W. (1990). *Writing up Research, Experimental Research Report Writing for Students of English*. Englewood Cliffs, New Jersey: United States of American.
- Darabad, A. M. (2016). Move Analysis of Research Article Abstracts: A Cross-Disciplinary Study. *International Journal of Linguistics*, Vol.8, No. 2.
- Hyland, K. (2000). *Disciplinary Discourses Social Interactions in Academic Writing*. London, UK: Longman.
- Ministry of Education, Department of Higher Education, Hinthada University. (2019). *Hinthada University Research Journal*, Vol.10, No.1.
- Tseng, F.-p. (2011). Analyses of Move Structure and Verb Tense of Research Article Abstracts in Applied Linguistics Journals. *International Journal of Linguistics*, Vol. 1, No.2.