



Research Article

A STUDY OF BHATIA'S MOVES AND LINGUISTIC FEATURES IN ENGLISH ABSTRACTS OF TCI-2 RESEARCH ARTICLES ON INDUSTRIAL EDUCATION

Received: October 12, 2023

Revised: January 24, 2024

Accepted: February 9, 2024

Yanumart Saengsai^{1*}

¹Faculty of Technical Education, Rajamangala University of Technology Isan
Khon Kaen Campus, Khon Kaen 40000, Thailand

*Corresponding Author, E-mail: yanumart.sa@rmuti.ac.th

Abstract

Writing research article (RA) abstracts in English is a frightful responsibility for nonnative researchers. It also situates much difficulty on them when they have to publish the papers in English. The objectives of this study were to identify Bhatia's (1993) four moves of Purpose, Method, Result, Conclusion in English Abstracts of Thai-Journal Citation Index Tier 2 (TCI-2) research articles on Industrial Education (IE), and to investigate the linguistic features (Tenses, Voice, and That-complement) written inside RA abstracts based on the same corpus. The data consisted of thirty English RA abstracts in Industrial Education published under the list of Thai-Journal Citation Index Tier 2 (TCI-2) journals during 2018-2020 by the university instructors across Thailand. The four-move framework was adopted to analyze 30 abstracts written by Thai researchers on Industrial Education field in this study. The results demonstrated that Result (R) was only the obligatory move in the corpus, whereas, Purpose (P) and Method (M) moves were conventional. Regarding linguistic features of the moves, Past tense in the Active voice form was the preferred choice of selection by the researchers to describe Purpose, Method, and Result moves within the English abstracts of the corpus. Present tense, and Passive voice were infrequently used, but there was no evidence of Perfect tense used in the present study. That-complement clauses were the outstanding form in the Result move of the abstracts when compared to others. These findings indicate the need for a further development on English RA abstracts training courses in academic writing with the aim to increase writers' understanding of a standardized structure and English RA abstracts linguistic features linked to their abstract writing.

Keywords: Bhatia's Move Analysis, Linguistic Features, Industrial Education, Abstract Moves Structure

Introduction

Nowadays English language has been recognized as an international language, where this language has been used in almost all countries. It is undeniable that English is the language of science, the language of technology, the language of business between non-native speakers of English, the language of the Olympics and the language of international conferences (Rintaningrum, 2015). In addition, all sources of information and references such as scientific reports and journals circulating around the world make use of the English medium. An English abstract associating a research article is one of the requisites from both international and national journals. This also includes English abstracts of Thai-Journal Citation Index Tier 2 (TCI-2) research articles on Industrial Education as well. As Kanoksilapatham (2015) states, the ability to read and/or write research articles (RAs) in English in the context of globalization and international research collaborations is important for academic and professional success in science and technology. We cannot overlook the fact that this concept is also crucial in the context of Industrial Education. Therefore, people who work in universities across Thailand that aim to be promoted as senior professors are expected to conduct their research studies, write research reports, and publish their research in the English language (Saengsai, 2021).

Based on a preliminary interview conducted by the researcher, two instructors at Faculty of Technical Education, Rajamangala University of Technology Isan, Khon Kaen Campus expressed that conducting and writing their research studies in English were ways for making progress on their academic careers. The primary interview results corresponded to Cheung (2010) that these situate much difficulty on them when they write papers to be published in English. Moreover, to avoid publishing their RAs to high impact citation journals such as journals published under Thai-Journal Citation Index Tier 1 (TCI-1), the researchers in Industrial Education are choosing the secondary ones (TCI-2). This is to gain more confidence and to inspire them for something greater in future careers. Therefore, to help these writers overcome the downsides of publishing their English abstracts of TCI-2 research articles on Industrial Education, a genre-based approach called “Move Analysis” will be centered.

The starting point on move analysis of abstracts is found in the studies of Swales (1990) and Bhatia (1993), and the focus is on RA abstracts from linguistic journals. Bhatia (1993) suggests that Move analysis is one of the genre-based approaches employed to investigate the move structures identified inside research articles. He also provides a definition of a move as a unit of communicative purpose. To understand the communicative purposes of RA abstracts, he notes that the abstracts present a faithful and accurate summary, which is representative of the whole article. As well as stated by Swales (1990; 2004), a genre refers to a class of communicative purposes, which is shared and recognized by the members of discourse community. This can be placed into the studies of language use, linguistic features, and social practices and ideological assumptions that are associated with language and/or communication (Biber et al., 2007). Similar to Holmes (1997) and Nwogu (1997), a move is a segment of text that is shaped and constrained by a specific communicative function, and it is a text segment made up of a bundle of linguistic features (lexical meanings, propositional meanings, illocutionary forces, and etc.) which give the segment a uniform orientation and signal the content discourse in

it. Moreover, Yang & Allison (2003) mention that a move is used to classify chunks of texts in terms of their particular communicative function. As such properties of move analysis has now become a significant method in research article studies.

The abstract section always appears at the beginning of research articles. Even if the remainder of the RA contents is composed in different languages, the most common combination with those languages is RA abstracts written in English (Benavides, 2011). An abstract is an explanation or factual summary of a much longer report, and it is meant to give the readers an exact and concise knowledge of the full article (Bhatia, 1993). Moreover, the most important function of the abstract is to inform prospective readers about the exact content of the article as it is a crucial section for academic papers which is used to conclude the whole contents (Ahmed, 2015; Arsyad, 2014; Pho, 2010; Zhang et al., 2012). Readers will determine the value of the research by reading abstracts, and the decision to judge whether the research papers are worth reading or not is often made by readers through reading the abstracts. A well-written RA abstract will promote the text attached to it more effectively (Benavides, 2011; Hyland, 2000; 2005; Martin, 2003; Ren & Li, 2011). Although the abstract section is considered as an important part of a paper, nonnative and inexperienced writers show scant attention to the rhetorical conventions of it (Hyland, 2000). As such, move analyses of English RA abstracts published in both national and international journals have been conducted numerously (Amnuai, 2019a; 2019b; Arsyad, 2014; Saengsai, 2021; Zhang et al., 2012).

Apart from move analysis, linguistic features studies can provide knowledge on writing RA abstracts to raise awareness for EAP researchers and/or writers in ways that abstracts are organized in terms of pedagogical implications (Saengsai, 2021). Simultaneously, linguistic features analyses in RA abstracts have given much insight into the particular genre as well for clearer pictures of how the writers write their RA abstracts. Zhang et al. (2012) state that the analyzed features can be divided into two main categories: 1) lexico-grammatical constructions, and 2) interactional metadiscursive devices. Biber et al. (1998) state that lexico-grammatical construction is a level of linguistic structure where lexis, or vocabulary, and grammar, or syntax, combine into one. At this level, words and grammatical structures are not seen as independent, but rather mutually dependent, with one level interfacing with the other (e.g., voice, verb tense, nominalizations, that-complement clauses, and etc.). Hyland (2005) describes that the second group refers to the cover term for the self-reflective expressions used to negotiate interactional meanings in a text, assisting the writer (or speaker) to express a viewpoint and engage with readers as members of a particular community (e.g., hedges, attitudinal stance, self-references, and boosters). One of the most inclusive studies of RA abstract linguistic features is Pho's (2008) which studied the RA abstracts across Applied linguistics and Educational technology. In this study, both grammatical features and interactional metadiscourse were investigated. The findings revealed about the use of grammatical subjects, verb tense and aspect, voice, modal auxiliaries and semi-modal verbs, epistemic adjectives, adverbs and nouns, reporting verbs, that-complement clauses, self-reference words, and stance expressions. However, the first category of lexico-grammatical constructions such as voice, verb tense, nominalization, that-complement clauses are widely studied. For example, Amnuai (2019a) revealed

that the use of the past tense in the thesis corpus of ICT was higher than in the RA corpus of the similar discipline and the active voice was used frequently in the RA corpus while the authors in the thesis corpus of ICT opted to present their Method and Product moves in the passive form. Cooley and Lewkowicz (2003) reported that abstracts written by the first-year university students in the form of a summary of the article tend to use the present tense whereas those that summarize the research typically are more likely to employ the past tense. Zhang et al. (2012) also found that the present tense was used in Background, Aim, and Conclusion moves while past tense was employed in Method and Results moves of RA abstracts written by Vietnamese Agricultural researchers. Unsurprisingly, the mentioned linguistic features should be seen as resources instead of rules in academic writing (Huang, 2014; Hyland, 2004; Swales, 1990; 2004). In addition, moves and their linguistic features are important factors when writing RA abstracts, specifically for those inexperienced nonnative writers who have to write this section in English (Wannarak & Amnuai, 2016). As revealed earlier of the preliminary interview with the researcher's colleagues, they have to conduct and write their RAs in English for making progress on their academic careers, often they opt for their distributions to the TCI-2 journals. This can lower the difficulty level to get published their RA studies if compared to the possibility to be selected by the TCI-1 journal committees.

According to the popularity of RA abstract move analyses, a large number of the studies is found diversely. However, they only focused on the RA abstract moves from high impact journals. These research includes the studies on Information Computer and Technology RA abstracts from leading journals, RA abstracts in multiple scientific disciplines from the most prestigious research articles, RA abstracts in experimental social sciences from leaning international journals, RA abstracts in Electronic Engineering articles with the highest impact factor written by Iranian, and the best RA abstracts in agriculture in Vietnam (Amnuai, 2019b; Kanoksilapatham, 2009; Martin, 2003; Mahjoobeh, 2015; and Zhang et al., 2012). These are just to name a few. Scarce are the studies relevant to move analysis of subordinate papers which could be scrutinized from different factors, such as writing styles, complications, norms of particular disciplines, ways of sharing concepts, and etc.

In regard to this, English abstracts of TCI-2 research articles on Industrial Education were centered on the present study. To help the writers of this discipline able to publish their research papers effectively, they need to know the structural writing ways and their linguistic features of English abstracts as guidance for writing preparation. Therefore, the objectives of this present study were firstly to identify Bhatia's four-move (P-M-R-C) of Industrial Education English RA abstracts published in TCI-2, and secondly, to investigate the linguistic features (Tenses, Voice, and That-complement) written in RA abstracts of the same corpus. It is expected by the researcher that the results will be beneficial for the writers / or practitioners of the particular discipline with the hope that they can make an advancement in their professional careers through increased publication of their RAs in English.

Methodology

Data Selection

As stated by Ross (2010), the data is accurate whether the distribution is normal. For sample sizes above thirty, normal distribution usually will be a good estimation of the actual way the responses are distributed. The sample mean of a sample size of at least thirty, is approximately normal. Therefore, the data consisted of 30 English RA abstracts in Industrial Education published under the list of Thai-Journal Citation Index Tier 2 (TCI-2) journals during 2018-2020 by the university instructors across Thailand. The abstracts were taken from five journals: 1) *Journal of Industrial Education*; 2) *Industrial Technology Lampang Rajabhat University Journal*; 3) *The Journal of Industrial Technology*; 4) *TNI Journal of Engineering and Technology*; and 5) *Journal of Industrial Education, Srinakharinwirot University*. The selected RA abstracts are reliable and available to be downloaded online of peer-reviewed open access journals, following the general identification criteria of sources from which texts to be collected (representativeness, reputation, and accessibility) suggested by Nwogu (1997). The RA abstracts in the corpus were designated to IE1-IE30 for ease of documentation and anonymity of each abstract.

Data Analysis

To start the move identification in English RA abstracts of the corpus, the move analysis method was manipulated to explore writing structures in the 30 abstracts of Industrial Education (IE) of the present study. The process of the method follows the four-step procedure suggested by Dudley-Evan (1994) and Holmes (1995). Firstly, the organization and patterns of the communicative purposes were explored in the abstracts. Secondly, the move was identified by using the sentence-level analysis as some moves could be perceived by one sentence or more or by the whole paragraph to show only a single move. Thirdly, all sentences to a move were assigned. Finally, the move classification is validated and compared by the inter-coder analysis which involves two raters to ensure the inter-rater reliability of the findings.

Although Hyland's (2000) five-move model of Introduction-Purpose-Method-Product-Conclusion (I-P-M-Pr-C) in RA abstracts was employed for abstract analyses among researchers globally (e.g., Amnuai, 2019a; 2019b; Kanafani et al., 2021; Saengsai, 2021; Sukhapabsuk, 2021), the researcher adopted Bhatia's (1993) four-move framework of Purpose-Method-Result-Conclusion (P-M-R-C). Following the minimum 10% of the pilot study from the main corpus suggested by Hyland (2000), 3 out of 30 RA abstracts showed the significance resembling moves with Bhatia's (1993) model. The four-move framework illustrated in Table 1 was adopted for the move-based study of the present research.

Table 1 Bhatia's (1993) four-move framework (pp. 78-79)

Moves	Functions
Introducing the purpose	<i>Outlining objectives or goals of the experiment. This move gives a precise indication of the author's intention, thesis or hypothesis which forms the basis of the research being reported.</i>
Describing the methodology	<i>Providing a good indication of the experiment design, including information on data, procedures and methods. The author gives a good indication of the experimental design, including information on the data, procedures or method(s) in this move.</i>
Summarizing the results	<i>Offering observations and findings and suggesting solutions to the problem. This is an important aspect of abstracts where the author mentions his observations and findings.</i>
Presenting the conclusions	<i>Interpreting results and drawing conclusion. This move is meant to interpret results and draw inferences. It typically includes some indication of the implication and applications of the present findings.</i>

Apart from move structure of Industrial Education English research article abstracts published in Thai-Journal Citation Index Tier 2 (TCI-2) identification, their linguistic features of Verb-tense, Voice, and That-complement of each move in the RA corpus were also examined. As suggested by Tseng (2011), little research has investigated the verb tense of the move in RA abstracts. This can be caused from the complexity of the tense usage in RA abstracts (Swales & Feak, 2004). The feature of 'That-compliment clause' is capable of expressing in RA abstracts stated by Hyland and Tse (2005). Another two features on Pho's (2008) list, namely Voice and Tense in RA abstracts writing are also mentioned by many (Amnuai, 2018; 2019a; 2019b; Arsyad, 2021; Huang, 2014; Zhang et al., 2012). Therefore, the three linguistic features of Industrial Education English RAs abstracts published in Thai-Journal Citation Index Tier 2 (TCI-2) were realized in the present study.

The criteria for move frequency classification of the English RA abstracts of the present research were based on Kanoksilapatham (2005). If a particular move occurred in all thirty English IE abstracts, the move will be accounted for 100% or entitled as "Obligatory". The occurrence of move from 60-99% will be considered as "Conventional". And one that is found lower than 60% will be regarded as an "Optional" move. Nonetheless, a move that is not recognized 50% or more will not be determined as a new move (Nwogu, 1997). Two coders work collaboratively for the inter-rater reliability. It is the extent to which a measuring method yields the same repeated results on reproduced trials. In this action, the simple method of reporting inter-reliability, "Percent Agreement" proposed by Frisby (2017) was used to ensure the reliability of abstracts in Industrial Education English research article abstracts published in Thai-Journal Citation Index Tier 2 (TCI-2). As suggested by Kanoksilapatham (2005), the researcher with PhD in English Language Studies invited the other researcher with PhD in Industrial Education to help verify the reliability and validity of the RA abstracts moves findings. As such

point of the IE English abstract move analysis was that the only one abstract in this corpus was written with only the Result (R) move. The answer to this insignificant phenomenon could be responded by discourse-based interviews suggested by Hyland (2000) and Saengsai (2015) for further studies.

For the move frequency classification of a dominant move pattern (P-M-R), Purpose and Method moves were conventional (96.6% and 93.3%) while the R move was regarded as obligatory (100%). The result of this R move occurrence in this present study is resemble to Amnuai (2019b) in that the R move in her study of English abstracts in Thai corpus (Accounting) was also found as an obligatory (100%). Moreover, the move frequency classification of the three moves, particularly the R move, was compatible with these previous studies (Amnuai 2019b; Pho, 2008; Ren & Li, 2011; Zhang et al., 2012). This can be indicated that the R move is the outstanding character in the English abstracts in almost all disciplines of studies. Therefore, the Thai writers who wish to write their English abstracts to TCI-2 journals have to be realized and considered the significance of Purpose (P), Method (M), and especially the Result (R) moves. Table 3 reveals Move Patterns in the corpus.

Table 3 Move Patterns of Industrial Education (IE) English RA Abstracts Published in TCI-2 Journals

Order	Move Pattern	Frequent Move Pattern (n=30)
1	I-P-M-R-C	1 (3.3%)
2	I-P-M-R	2 (6.6%)
3	P-M-R-C	9 (30%)
4	P-M-R	16 (53.3%)
5	P-R	1 (3.3%)
6	R	1 (3.3%)

Note: I = Introduction, P = Purpose, M = Method, R = Result, C = Conclusion

Linearity of the move refers to the sequential appearance (i.e. M1-M2-M3-M4-M5) of the move in any sample abstract whereas the non-linear moves show irregularity in the same ordering like M1-M3-M2-M5-M4 (Ahmed, 2015). The result on Move patterns of the thirty IE English RAs abstracts published in TCI-2 journals of the present study reveals that the most linear pattern of move employed by the IE abstracts writers is P-M-R structure which is accounting for sixteen in the corpus (53.3%). Only nine (30%) and one (3.3%) of them follow the pattern of a four-move (Bhatia's 1993), and a five-move models (Hyland's 2000), respectively. As seen in Table 3 above, this is corresponded to Amnuai's (2019b) and Hyland's (2000) studies that the P-M-R pattern was the only structure used by most Thai authors and it was found as the most frequent pattern in RA abstracts. Although some abstracts are formed with only one or two moves, they can be considered as abstracts written by using the linearity of the move.

Moreover, 30 abstracts (100%) in the corpus were written in the linear pattern which was different from Ahmed's (2015) study that most Tourism abstracts in his study were formed with irregularity in the move

order. The variations in move ordering of the present research can possibly be to some extent affected by the type and method of the research employed and the author's freedom (Ahmed, 2015). As a result, the finding of Move patterns obviously emphasizes that Thai authors who submit their English abstracts to Industrial Education published in TCI-2 journals prefer to use particular moves and display them sequentially according to the Purpose (P), Method (M), and Result (R) structure.

Linguistic Features of IE English Abstracts

Verb-tenses

Table 4 Verb-tenses of Industrial Education (IE) English RA Abstracts Published in TCI-2 Journals

Move Types	Introduction		Purpose		Method		Result		Conclusion	
Number of RA abstracts containing Move Types (n=30)	3		29		28		30		10	
Present Tense	3	10.0%	5	16.6%	6	20.0%	3	10.0%	7	23.3%
Past Tense	0	0.0%	24	80.0%	22	73.3%	27	90.0%	3	10.0%
Present Perfect Tense	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

As mentioned previously in the Methodology section, Tenses, Voices, and That-compliment clauses were the focus linguistic features to be examined in the present study. Illustrating in Table 4, Past tense was the most frequent used in most of the five moves while Present tense was found as the second most frequent one. However, there was none of the Perfect tense found in the corpus. The distinctions between Present and Past tenses usage of the IE English abstract corpus were that the Present tense was employed in all five moves found in the three abstracts with Hyland's (2000) model, and the Past tense was used in all abstracts found in four-move pattern in Bhatia's (1993) framework. The three most moves found with Past tense written in the abstracts were Result (90%), Purpose (80%), and Method (73.3%), respectively. This present study has a distinction from the abstracts of law, linguistics, medicine, and police (Alhuqbani, 2013), linguistics and applied linguistics (Suntara & Usaha, 2013), and agricultural research (Zhang et al., 2012) in that Past tense was dominant in both Purpose and Method moves in their research abstract corpora. However, it is found similarly in the study of RA abstracts in the Journal of Education and Linguistics in that Past tense was dominant in Purpose, Method, and Result moves (Arsyad, 2021). This can be suggested that in RA English abstracts studies, the Past tense is favored by the RA abstract writers (Education field included). Moreover, disciplinary variations between different fields of research including journal regulations as well as experience of the writers and competitiveness of each journal can possibly be the influences in abstracts writing and submission. Excerpt 1 below shows the Purpose, Method, and Result moves written in the past tense.

(Excerpt 1, IE01) "*The objective of this research were to develop an instructional media*" (P)

"The target group consisted of 134 Construction Engineering Technology....." (M)

“This research results were that the instructional media was derived and,....” (R)

Voices

The second study of the linguistic features of the IE English RA abstracts published in TCI-2 journals was on the use of Active and Passive voice sentences in the abstract corpus.

Table 5 Voice of Industrial Education (IE) English RA Abstracts Published in TCI-2 Journals

Move Types	Introduction		Purpose		Method		Result		Conclusion	
Number of RA abstracts containing Move Types (n=30)	3		29		28		30		10	
Active Voice	1	3.3%	26	86.7%	13	43.3%	19	63.3%	6	20.0%
Passive Voice	1	3.3%	3	10.0%	11	36.7%	5	16.7%	3	10.0%
Both	1	3.3%	0	0.0%	4	13.3%	6	20.0%	1	3.3%

As shown in Table 5, the Active voice sentences were found more frequently than the Passive voice sentences in all moves. This indicated that the Active sentence was the preferred choice selected by the Industrial and Educational writers who published RAs to TCI-2 journals, especially the English Abstract section. Moreover, it is noticeable that the Active voice sentence was nearly twice or more as frequent as the Passive voice in all moves except abstracts included the Introduction in Hyland’s (2000) framework. Correspondingly to Tseng (2011) and Zhang et al. (2012), the Active voice was found to have nearly doubled as many as the Passive voice and appeared mostly in only Method and Product moves. On the other hand, four moves of the RA abstracts of the present study (Purpose, Result, Method, and Conclusion) employed the Active voice largely. Whereas the Active sentences were used dominantly in only Purpose, and Product moves in the corpora of Thai and international Accounting English abstracts (Amnuai, 2019b). This result of Voices used by the Industrial Education RA abstract writers represented that the authors tended to use more direct ways than the indirect ones in their English abstracts writing especially on Purpose, Result, Method, and Conclusion moves. Nonetheless, the use of both Active and Passive voices in the abstract moves was found to be insignificant in the Method move (4%) and with zero percent occurrence in Purpose move of the present study corpus. Excerpts 2, 3, and 4 below show the abstracts with Active voice in Purpose move, Passive voice in Method move, and an abstract with both Active and Passive voices in Result move, respectively.

(Excerpt 2, IE05) “The objectives of this research were to 1) develop and determine the efficiency of the instructional media and to 2) compare the learning achievement of students to the predetermined standard...” (P)

(Excerpt 3, IE11) “*Computational fluid dynamics and mathematical modeling methods were used to evaluate the suitable working conditions of the cogeneration system of the three hot fluids*” (M)

(Excerpt 4, IE26) “*The results of the research revealed that...which can be concluded that the electrical circuit laboratory was at the excellent level*” (R)

That-complement clauses

Table 6 That-complement clauses of Industrial Education (IE) English RA Abstracts Published in TCI-2 Journals

Move Types	Introduction		Purpose		Method		Result		Conclusion	
Number of RA abstracts containing Move Types (n=30)	3		29		28		30		10	
That-complement clauses	0	0.0%	3	10.0%	1	3.3%	23	76.7%	2	6.7%

As Hyland and Tse (2005) state, complement clauses are used to mark the main argument, summarize the purpose of the research, form an assessment of the validity of information presented and comment on the writer’s own work. One of the common semantic denotations of That-complement clause is subjectivity, referring to speakers’ comments, which could be divided into different layers and evaluated entity of evaluative source of information (Kim & Crosthwaite, 2019). Moreover, they reflect the promotional aspects of the abstracts genre in order to attract readers’ attention so that they continue reading the paper. Revealed in Table 6, That-complement clauses were found in all four moves (P-M-R-C) in Bhatia’s (1993) framework. They were obviously noticed to have a much higher frequency of occurrence in the Result move of 23 from 30 abstracts (76.7%) than in any other move. The result was also in harmony with many previous studies (Amnuai, 2019a; Pho, 2010; Suntara & Usaha, 2013; Zhang et al., 2012). All of which mentioned claimed that the element of That-complement clause was a crucial characteristic of the Result move. This can be explained that the RA writers frequently relied on such expressions (e.g. The results revealed that.../ The analysis showed that...) when reporting their findings. Excerpts 5 and 6 show examples of the use of That-complement clauses in the Result move of the RA abstracts in the corpus.

(Excerpt 5, IE14) “*In regard to pain, the study found that about 44.1% of maize farmers reported pain in their lower back and 39.1% on their hands*”.

(Excerpt 6, IE30) “*The results showed that 1) Applications meet real users requirements at an average of 4.63 and standard deviations 0.52...*”

Conclusions and Recommendations

The study of 30 Industrial Education English RA abstracts published in TCI-2 journals (Thai-based context) has revealed some beneficial information regarding the writing techniques among English abstract

writers. The objectives of this study were to identify Bhatia's (1993) four moves of Purpose, Method, Result, Conclusion (P-M-R-C) in English Abstracts of Thai-Journal Citation Index Tier 2 (TCI-2) research articles on Industrial Education (IE), and to investigate the linguistic features (Tenses, Voice, and That-complement) written inside RA abstracts based on the same corpus. Only Result (R) was the obligatory move; however, Purpose (P) and Method (M) moves were conventional. With linguistic features of the moves, Past tense in the Active voice form was the preferred decision employed to present each move in the English RA abstracts of the corpus. Adversely, Present tense, and Passive voice were infrequently employed. None of the Perfect tense usage was found in the corpus. Finally, That-complement clauses were the outstanding form in the Result move of IE abstracts.

Despite the modest size of the study, several of the researcher's conclusions can be applied to Thai writers who wish to publish their Industrial Education research articles especially the English abstracts to TCI-2 journals. Some implications are visible from this study. To ensure that abstracts are generally readable, potential writers should be aware of structural and some linguistics features to be employed in the writing. An attempt to help improve the formative and linguistics inadequacies for the writers, know-how such as a genre-based approach, opportunities to experience the genre of IE English RA abstracts, obligatory moves, conventional moves, and grammatical aspects of language use should be arranged by Thai institutions of higher learning where the IE writers or the would-be researchers in this field are trained. With the full understanding of abstract moves, and its linguistic features, it is hoped that the IE writers will be able to generate their English abstracts effectively. Nonetheless, the sample size, the types of journals, and the years of journal publication, the insignificant phenomena of moves may have an impact on the generalization of the study's findings. Therefore, it is important to consider these limitations when conducting more of the English research article abstract move studies in the future.

References

- Ahmed, S. (2015). Rhetorical organization of tourism research article abstracts. *Procedia-Social and Behavioral Sciences*, 208, 269-281.
- Alhuqbani, M. N. (2013). Genre-based analysis of Arabic research article abstracts across four disciplines. *Journal of Educational and Social Research*, 3, 371-382.
- Amnuai, W. (2018). The rhetorical structure and verb tense employed in research article abstracts in two different disciplines. *International Journal of Languages, Literature and Linguistics*, 4(2), 132-136.
- Amnuai, W. (2019a). Rhetorical structures and linguistic realizations of abstracts in ICT research articles and master's thesis. *MFU Connexion*, 8(1), 157-183.
- Amnuai, W. (2019b). Analyses of rhetorical moves and linguistic realizations in accounting research article abstracts published in international and Thai-based journals. *SAGE Open*, 1, 1-9.

- Arsyad, S. (2014). The discourse structure and linguistic features of research article abstract in English by Indonesian academics, *Asian ESP*, 10(2), 191-224.
- Benavides, G. (2011). Common difficulties observed in abstracts written in English by people having Spanish as mother tongue. *Revista Escuela de Administración de Negocios*, 70, 78-86.
- Bhatia, V. K. (1993). *Analysing genre: Language use in professional settings*. New York: Longman.
- Biber, D. Conrad, S., & Reppen, R. (1998). *Corpus linguistics: Investigating language structure and use*. Cambridge, England: Cambridge University Press.
- Biber, D., Conner, U., & Upton, T. A. (2007). *Discourse on the Move: Using corpus analysis to describe discourse structure*. Netherlands: John Benjamins Publishing Company.
- Cheung, Y. L. (2010). First publications in refereed English journals: Difficulties, coping strategies, and recommendations for student training. *System*, 38, 134-141.
- Cooley, L., & Lewkowicz, J. (2003). *Dissertation writing in practice: Turning ideas into text*. Hong Kong: Hong Kong University Press.
- Dudley-Evans, T. (1994). Genre analysis: An approach to text analysis for ESP. In M. Coulthard (Ed.). *Advances in Written Text Analysis* (pp. 219-228). London: Routledge.
- Frisby, C.N. (2017). Sacrificing Dignity for Publicity: Content Analysis of Female and Male Athletes on “Sports Illustrated” and “EPN Magazine” Covers from 2012-2016. *Advances in Journalism and Communication*, 5, 120-135.
- Holmes, R. (1997). Genre analysis and the social sciences: An investigation of the structure of research article discussion sections in three disciplines. *English for Specific Purposes*, 16(4), 321-327.
- Huang, J. C. (2014). Learning to write for publication in English through genre-based pedagogy: A case in Taiwan. *System*, 45, 175-186.
- Hyland, K. (2000). *Disciplinary Discourses: Social interactions in academic writing*. London: Longman Pearson Education.
- Hyland, K. (2004). *Genre and Second Language Writing*. Michigan: The University of Michigan Press.
- Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. London, England: Continuum.
- Hyland, K., & Tse, P. (2005). Hooking the reader: a corpus study of evaluative that in abstracts, *English for Specific Purposes*, 24, 123-139.
- Kanafani, A., Nurcik, A., Harisbaya, A., Fauzia, S., Kurniawan, E., & Lubis, A. (2021). Rhetorical Move and Linguistic Features Comparative Analysis of Research Article Abstracts by Authors of Different Organizational Backgrounds. *Proceeding of the Fifth ICOLLTE 2021 “Advance in Social Sciences, Education and Humanities Research”* (pp. 129-135). <https://doi.org/10.2991/assehr.k.211119.021>
- Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. *English for Specific Purposes*, 24, 269-292.
- Kanoksilapatham, B. (2009). Generic Structure of Research Article Abstracts in Sciences. *Journal of Studies in the English Language*, 4, 95-111.

- Kanoksilapatham, B. (2015). Distinguishing textual features characterizing structural variation in research articles across three engineering sub-discipline corpora. *English for Specific Purposes*, 37, 74-86.
- Kim, C., & Crosthwaite, P. (2019). Disciplinary differences in the use of evaluative that: Expression of stance via that-clauses in business and medicine. *Journal of English for Academic Purposes*. Retrieved from <https://doi.org/10.1016/j.jeap.2019.100775>
- Mahjoobeh, A. (2015). A structural move analysis of abstract in Electronic engineering articles. *International Journal of Research Studies in Language Learning*, 4(4), 69-80.
- Martin, P. M. (2003). A genre analysis of English and Spanish research paper abstracts in experimental social sciences. *English for Specific Purposes*, 22, 25-43.
- Nwogu, K. N. (1997). The medical research paper: Structure and functions. *English for Specific Purposes*, 16(2), 119-138.
- Pho, P. D. (2008). Research article abstracts in applied linguistics and educational technology: A study of linguistic realizations of rhetorical structure and authorial stance. *Discourse Studies*, 10(2), 231-250.
- Pho, P. D. (2010). Linguistic realizations of rhetorical structure: a corpus-based study of research article abstracts and introductions in applied linguistics and educational technology. In S. T. Gries, S. Wulff & M. Davies (Eds.), *Corpus-linguistic applications: Current studies, new directions* (pp. 135-152). Amsterdam: Editions Rodopi B.V.
- Ren, H., & Li, Y. (2011). A comparison study on the rhetorical moves of abstracts in published research articles and Master's foreign-language theses. *English Language Teaching*, 4, 162-166.
- Rintaningrum, R. (2015). Bahasa Inggris Tidak Perlu Dihapus dari Kurikulum 2013 Sekolah Dasar. *Proceeding Seminar Nasional ADPISI "Membangun Indonesia Berbasis Nilai-Nilai Agama"* (pp. 125-133). <http://repository.its.ac.id/id/eprint/60207>
- Ross, S. M. (2010). *Introductory Statistics*. Canada: ELSEVIER.
- Saengsai, Y. (2015). *Genre Set of Abstract, Introduction, and Conclusion in Science and Engineering PhD Dissertations: Variations between the Two Disciplines* (Doctoral dissertation). Nakhon Ratchasima: Suranaree University of Technology.
- Saengsai, Y. (2021). Moves of Electronics and Telecommunication Engineering English Research Article Abstracts Published in Thai Journals. *The Golden Teak: Humanity and Social Science Journal (GTHJ)*, 27(4), 82-92.
- Santos, M. (1996). The textual organization of research paper abstracts in applied linguistics. *Text-Interdisciplinary Journal for the Study of Discourse*, 16, 481-500.
- Sukapabsuk, D. (2021). A Genre Analysis of Linguistic Research Article Abstracts: A Comparative Study with Hyland 's Moves. *Journal of Language and Linguistics*, 39(2), 137-155.
- Suntara, W., & Usaha, S. (2013). Research article abstracts in two related disciplines: Rhetorical variation between linguistics and applied linguistics. *English Language Teaching*, 6, 84-99.

- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge, UK: Cambridge University Press.
- Swales, J. M. (2004). *Research genres: Explorations and applications*. Cambridge, UK: Cambridge University Press.
- Swales, J. M., & Feak, C. (2004). *Academic Writing for Graduate Students: Essential tasks and skills* (2nd ed). Michigan: University of Michigan Press.
- Tseng, F. (2011). Analyses of move structure and verb tense of research article abstracts in applied linguistics journals. *International Journal of English Linguistics*, 1(2), 27-39.
- Wannaruk, A., & Amnuai, W. (2016). A comparison of rhetorical move structure of applied linguistics research articles published in international and national Thai journals. *RELC Journal*, 47, 193-211.
- Yang, R., & Allison, D. (2003). Research articles in applied linguistics: Moving from results to conclusions. *English for Specific Purposes*, 22, 365-385.
- Zhang, B., Bui Thi Thuc, Q. & Pramoolsook, I. (2012). Moves and linguistic realizations: English research article abstracts by Vietnamese agricultural researchers. *The Asian ESP Journal*, 8(3), 126-149.