Rhetorical move structure of soft and hard science research article introductions by novice Indonesian authors

Struktur pola retorika pendahuluan artikel penelitian disiplin ilmu *soft* dan *hard science* oleh penulis pemula Indonesia

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KEYWORDS	ABSTRACT
genre, introduction, move analysis, novice, research article	Research article introduction is crucial in justifying a research topic and presenting the significant contribution of a study to the advancement of knowledge. Prior studies have attempted to investigate research article introductions from various viewpoints. However, the way novice Indonesian authors rhetorically construct their introductions is still under-explored. This study aims to explore cross-disciplinary introductions with regard to rhetorical move structure and the linguistic realizations of the moves. Employing Swale's (2004) revised CARS model, a corpus of 10 research articles from the fields of soft and hard science were analyzed. The findings revealed that the two disciplines were in agreement on the compulsory status of Move 1 Establishing a territory and Move 3 Presenting the present work and the conventional use of Move 2 Establishing a niche. However, discrepancies arose in the step level. Regarding the linguistic features, soft and hard science authors preferred using present tense and active voice in realizing the moves. In addition, a considerable number of metadiscourse such as hedges and boosters were observed in the introductions. This study concludes that novice Indonesian authors' disciplinary expertise possibly influences the quality of their introductions.

KATA KUNCI	ABSTRAK
genre, pendahuluan, analisis pola, pemula, artikel penelitian	Pendahuluan artikel penelitian sangat penting dalam menjustifikasikan topik penelitian dan menyajikan kontribusi signifikan dari studi yang dilakukan untuk perkembangan ilmu pengetahuan. Penelitian terdahulu telah berupaya untuk menyelidiki bagian pendahuluan artikel penelitian dari beragam perspektif. Namun, cara penulis pemula Indonesia mengkonstruksi bagian pendahuluan mereka secara retoris masih kurang dieksplorasi. Studi ini bertujuan untuk mengeksplorasi bagian pendahuluan lintas disiplin berkaitan dengan struktur pola retorika pendahuluan dan realisasi linguistik dari pola tersebut. Menerapkan revisi model CARS oleh Swales (2004), sebuah korpus yang merupakan kumpulan 10 pendahuluan artikel penelitian dari disiplin ilmu *soft* dan *hard science* dianalisis. Temuan penelitian menunjukkan bahwa kedua disiplin sepakat tentang status wajib dari *Move 1 Establishing a territory* dan *Move 3 Presenting the present work*, dan penggunaan konvensional *Move 2 Establishing a niche*. Namun, perbedaan muncul pada tiap tingkatan. Berkaitan dengan fitur linguistik, penulis *soft* dan *hard science* lebih memilih menggunakan kalimat aktif dan bentuk waktu masa kini (*present tense*) dalam merealisasikan pola. Selain itu, sejumlah besar metadiscourse seperti *hedges* dan *boosters* teramati dalam bagian pendahuluan. Studi ini menyimpulkan bahwa perbedaan fokus keilmuan penulis pemula Indonesia kemungkinan mempengaruhi kualitas pendahuluan mereka.

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Introduction

Research articles play a pivotal role in academia. It is through publications that new knowledge is disseminated within academic societies (Yoon & Casal, 2020). International journals, as the preeminent field of knowledge circulation, not only helps researchers to reach a wider scope of readership, but also brings them individual and institutional prestige (Coleman, 2014; Suherdi et al., 2020). These reasons urge scholars around the world to possess the ability to write a good research article and get it published in a reputable international journal. Unfortunately, compared to other Southeast Asian countries such as Malaysia, Singapore, and Thailand, the publication rate of Indonesian scholars in international journals is still lagging behind despite having a higher number of academics and researchers (Arsyad & Arono, 2016). Although the publication rate has significantly increased from 2010 to 2016, it was still inadequate (Arsyad et al., 2020). This case indicates that writing English research article is perceived as a daunting task for Indonesian researchers, especially novice authors. As EFL learners, apart from language barriers, novice Indonesian authors may not be familiar with the conventional rhetorical organization of research article that meets the requirements of international publication (Kanoksilapatham, 2005). Nevertheless, the increasing pressure to elevate Indonesian scholars' international publication rate is evident.

In academic writing, Bajwa et al. (2020) note that of all sections, introduction is regarded as one of the most difficult and time-consuming parts to write, even for experienced authors. However, this section still needs to be well-written considering its importance. Being the first section read by readers, introduction should be able to convince them that the article is worthy of their time and effort to be read thoroughly (Barney, 2018). American Psychological Association (APA, 2019) writes that, essentially, introduction should contain three elements: a concise explanation of the research problems, the historical antecedents, and the research objectives. In relation to the second element, Deveci (2020) adds that authors should argue why a certain topic deserves new research, elaborating how the research conducted contributes to the existing knowledge hence pointing out the inadequacy of prior studies. If the argument is weak and not convincing enough, readers will likely find the research unimportant. Consequently, a poorly written introduction might fail quality research from getting published in top-tier international journals (Ahlstrom et al., 2013). For this reason, it is justifiable that academic exploration on the acceptable organization of research article introduction is still being conducted to this day.

Considering the complexity of writing research article introduction, genre approach through move analysis is assumed to be useful for getting a good grasp of introduction section organization (Nabilla et al., 2021). Move analysis investigates the rhetorical structure of a genre that is composed of communicative and sub-communicative functions—better known as moves and steps (Swales, 1990, 2004). Move analysis was first introduced by John M Swales in 1981 in his work on rhetorical pattern of the opening section of research articles (Paltridge, 2012). Swales, then, proposed a model of rhetorical organization of research article introduction called Create A Research Space (CARS) in 1990. It was later revised by him in 2004 to accommodate greater rhetorical style variations among research article introductions in different disciplines

and languages (Arsyad & Arono, 2016). The model is a three-move analysis of research paper introduction, examining how research territory is established (Move 1), research space is created (Move 2), and current work is presented (Move 3). Each move also contains sub-moves which examine the text in a more detailed way. This schema was said to be quite successful since the model was functional, relatively simple, and corpus-based (Swales, 2004).

In the past years, a considerable number of studies applying Swale's framework have been directed to the investigation of rhetorical patterns of research article introductions, showing the pioneer's influence on genre studies that is widely acknowledged (Devitt, 2015). The studies have been conducted from various viewpoints. Cross-language examinations of Chinese-English, Spanish-English, and Persian-English introductions were documented by Loi (2010), Sheldon (2011), and Zand-Vakili and Kashani (2012) respectively. The results of their studies revealed that works written in English have applied all the moves in CARS model, except for the English introduction in Loi's (2010) study which showed 85% occurrences in the manifestation of Move 2 only. On the other hand, although Move 1 'Establishing a territory' and Move 3 'Presenting the present work' appeared to be obligatory moves, variations were found in Move 2 'Establishing a niche' in the non-English texts. While 88% of Spanish introductions employed Move 2, Chinese and Persian authors tend to avoid indicating the gap in the prior studies to create a space for their research, proven by lower occurrences with 40% and 65% respectively. Given the results, Spanish authors appeared to be more aware of the importance of highlighting the novelty of their research topics as preferred by international journals, unlike their Chinese and Persian peers.

Many researchers also showed an interest in analyzing the way native and non-native speakers of English write their introductions. Farnia and Barati (2017) summarized the rhetorical patterns of English Introduction written by native speakers and non-native Iranian speakers of English, underscoring that native speakers significantly applied more strategies compared to their Iranian counterparts, which resulted in richer texts. Although all-three move was employed across native and non-native corpora, texts written by non-native speakers displayed fewer instances of the sub-communicative functions. The frequency of step occurrences in Move 2 and Move 3 was lower in the non-native corpus.

The reluctance to emphasize the limitations of preceding studies (Move 2) as evidenced by the aforementioned findings of the explorations of introductions written by native English and non-native English speakers may be influenced by the different academic discourse between English-speaking and non-English speaking communities. This is exemplified by the study by Zhang and Hu (2010) on Chinese and English research article introductions. They reported that Chinese authors tend to avoid a face threatening act as a politeness strategy by not pointing out the weaknesses of prior studies, which also may be the case of Indonesian authors.

Apart from language differences, researchers also attempted to investigate the rhetorical structure of cross-disciplinary (Abdullah, 2016; Adnan, 2014; Arsyad et al., 2020) and interdisciplinary (Rahman et al., 2017; Suryani et al., 2014; Tessuto, 2015) introductions. Amongst these various academic explorations, studies involving

Indonesian authors were conducted by Adnan (2014) and Arsyad et al. (2020). The first study examined introductions from the fields of Humanities and Hard Science research articles. It was discovered that the hard science texts applied more strategies than the humanities texts, demonstrating the influence of disciplinary focus on the way authors organized their introductions. Meanwhile in the second study, the findings revealed that in the fields of Humanities and Social Science, the authors did not complete all of the moves, particularly in the manifestation of Move 2 'Establishing a niche' which only showed 55% occurrences. This could be alarming since highlighting research novelty is crucial especially for international publications.

The importance of writing an eligible introduction lies not only in the information being disclosed, but also in how it is delivered to the readers. The way various linguistic features are utilized by authors in order to form convincing arguments can influence the readers' perception about the significance of research. The use of features such as boosters for instance can emphasize an argument so it would leave a more significant impact on the readers since it reflects an author's certainty and confidence (Hyland, 2015). Other linguistic features such as verb tense, hedges, and citation type may also be considered drawing on the following previous research. Arsyad and Adila (2017) focused on the citing behavior of Indonesian authors in their English research paper introductions. The results revealed that they preferred using present tense and a non-integral citation type to cite other researchers' works for the purpose of supporting the significance of their topics and presenting a positive justification of others' studies. Meanwhile, Khedri and Kritsis (2018) studied meta-discourse markers of Applied Linguistics and Chemistry introductions. According to them, the former utilized interactive (transitions, evidentials, etc.) and interactional (hegdes, boosters, etc.) metadiscourse more than the latter. It further supports the claim that disciplinary practice may affect the quality of one's work.

Even though studies on research article introduction have been largely conducted, scant attention has been paid on the way novice authors rhetorically organize the introductory section of their research articles—particulary on Indonesian writers since the two aforementioned studies by Adnan (2014) and Arsyad et al. (2020) have not specified this certain group of authors. Novice refers to a person who is new in an activity or a job. The reason novice Indonesian authors should be considered is their limited experience in research article publication, thus they are more in the need of effort and attention compared to the experienced ones. In addition, some of the previous studies illustrate that different disciplinary focus partly affects not only the way ideas are rhetorically organized but also how these ideas are expressed using language. Therefore, it is interesting to investigate how these aspects were manifested in cross-disciplinary introductions. This study aimed to explore research article introductions written by novice Indonesian authors from soft and hard science disciplines with regard to rhetorical move and linguistic features of the moves. Employing Swale's (2004) revised CARS model as the research instrument, this study specifically aimed to seek the answers for the following questions:

1. How do novice Indonesian authors from soft and hard science rhetorically construct their English research article introductions?

2. What are the linguistic features used by both groups of authors to convey the rhetorical moves?

The results of this study, hopefully, can shed light on the way English research article introduction is rhetorically organized. Thus, when Indonesian authors, especially novice, are reaching for international publications, the chance of their submissions being accepted will increase. Then, in a broader sense, the rate of Indonesian scholars' international publication will elevate.

Method

This study was designed as a qualitative research using a genre-approach through a move analysis (Swales, 1990, 2004). It attempted to examine research article introductions written by novice Indonesian authors from different disciplines, examining the rhetorical move structure as well as the linguistic realizations of the moves. It was expected that the results would unveil whether disciplinary focus affects the way novice Indonesian authors organize the introductory section of their research articles and influence the quality of their works.

The corpus of the study was 10 English research article introductions written by novice Indonesian authors, 5 from the field of soft science and 5 from hard science. Corpus is defined as a collection of written or spoken texts; 'corpora' is the plural form of corpus. The authors were lecturers from the Faculty of Language and Literature Education and the Faculty of Mathematics and Science Education at a state university in Bandung. The publication journey of the authors was set as the consideration of selecting potential targets, excluding their teaching experience. Those who have published English research article in a non-Scopus-indexed journal, but never in a Scopus-indexed one, were considered as novice authors thus selected for this study. Ten novice authors were selected to be the subject of the present study because the present research was part of a larger study in the area of move analysis studies, examining rhetorical moves of abstracts and introductions from various viewpoints. In addition, in the faculties where this research was conducted, the majority of the lecturers were either experienced authors or novice authors who only have written research articles in Indonesian.

The first step of collecting the data was checking the publication journeys of both groups of lecturers using the university and each faculty's websites. Once the suitable participants were chosen, their latest English research articles were collected from Google Scholar. The selected articles of the authors were published in the following journals: two articles from *Journal of Science Learning (SINTA 3),* one from *Unnes Science Education Journal (SINTA 3),* one from *Unnes Journal of Mathematics Education (SINTA 3)* for the hard science introductions*;* three articles from *International Journal of Education (SINTA 2),* one from *Francisola (SINTA 3)*, and one from *English Journal Literacy Utama (SINTA 5)* for the soft science introductions. The articles were published between the year of 2017 and 2020. The authors of the selected introductions were then contacted in order to ask for their consent. After that, the research articles were downloaded and stored in two separate folders. The title, author's information, and the introduction section of each research article was then copied and pasted in Microsoft Word document to ease the data analysis. Lastly, the introductions

were codified into RAI 1 until RAI 10, starting from the soft science corpus to the hard science group, to maintain anonymity.

Swale's (2004) revised Create A Research Space (CARS) model was adopted as the research instrument for the study. This coding scheme provides a guideline for the rhetorical move analysis of introductions in this study. The CARS model is comprised of three moves in which within Move 2 there are three sub-moves and within Move 3 there are seven steps. A research article introduction is considered a quality piece of work if all three moves are manifested in the writing. Emphasizing on Move 2, it is assumed that for international journals, indicating a gap or research novelty in the area of research is more preferable since it could elevate the impact of the journal. Figure 1 summarizes the division and sub-division of moves in the model.

Move 1 Establishing a territory
Topic generalizations of increasing specificity

Move 2 Establishing a niche
Step 1A Indicating a gap, or
Step 1B Adding to what is known
Step 2 Presenting positive justification

Move 3 Presenting the present work
Step 1 Announcing present research descriptively and/or purposively
Step 2 Presenting research questions or hypotheses
Step 3 Definitional clarifications
Step 4 Summarizing methods
Step 5 Announcing principal outcomes
Step 6 Stating the value of the present research
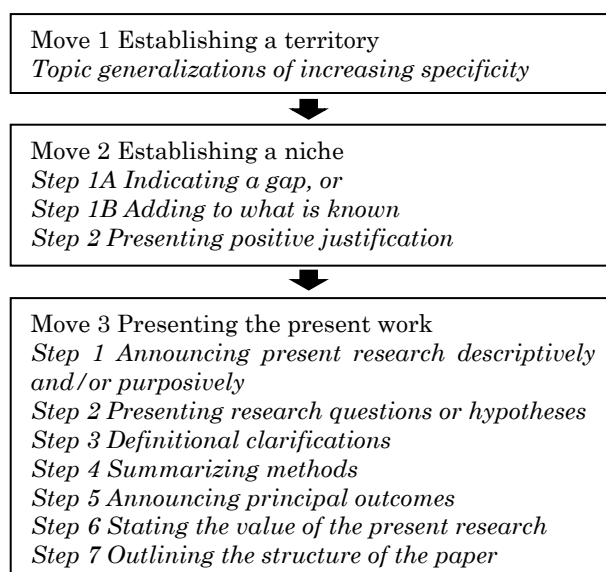*Step 7 Outlining the structure of the paper*

Figure 1. Swale's (2004) revised Create A Research Space (CARS) model

The data analysis was divided into two stages. The first stage involved the rhetorical move analysis and the second stage was centered on the linguistic features analysis of the moves identified in the introductions. Both analysis stages were conducted by the first author. The results of the analysis were then checked by the second and third authors as well as an experienced researcher whose expertise were in move analysis studies. The attempt of doing an inter-rater coding was done to maintain data reliability.

The first analysis stage was reading the titles, abstracts, and introductions of the selected research articles to understand the topic as well as the content of the study. Second, the introduction of each paper was once again read thoroughly while breaking it down into sentences then grouping them into ideas. Third, every main idea was moved to a table in a Microsoft Word document. Fourth, the rhetorical move analysis was conducted by labeling each of the main idea with the appropriate step and move based on the coding scheme—Swale's (2004) revised CARS model. Once the introductions have been labeled by the respective steps and moves, the frequency of occurrences of the moves and steps by soft science and hard science group were calculated. The results of both soft science and hard science move analysis were presented as a group with detailed descriptions of comparing the occurrences of moves and steps.

The second analysis stage was centralized on the linguistic feature analysis of the moves. The features that were analyzed were verb tense, sentence voice, and metadiscourse. After the analysis was done, the occurrences of the types of tense (present, past, perfect, and future), voice (active and passive), and metadiscourse (hedges and boosters) were calculated into percentages according to the respective groups. The results of linguistic features analysis of the two groups were also presented in the same way as the rhetorical move analysis.

Results and Discussion

The results and discussion section is divided into two subsections. The first subsection elaborates the rhetorical move structure of the analyzed introductions while the second subsection answers the second research question regarding linguistic realizations of the moves.

Rhetorical Moves

The analysis results of 10 cross-disciplinary English research article introductions written by novice Indonesian authors revealed that all three moves were manifested in more than half of the total introductions, specifically in 60% of them. Furthermore, it was discovered that although two moves (Move 1 and Move 3) were present in the rest of the introductions (40%), one communicative function was absent (Move 2). The absence of Move 2 would affect the quality of an introduction since according to the framework, this communicative function is crucial to highlight the novelty of research—justifying the need to conduct new research. To present a more detailed explanation, Table 1 summarizes the moves and steps manifested in the research article introductions.

Table 1. The frequency of moves and steps employed in the research article introductions

Move-step Category	Soft Science (%) n=5	Hard Science (%) n=5	Total (%) n=10
Move 1	100	100	100
Move 2			
Step 1A	20	40	30
Step 1B	40	20	30
Step 2	40	0	20
Move 3			
Step 1	100	100	100
Step 2	20	40	30
Step 3	40	20	30
Step 4	0	40	20
Step 5	0	0	0
Step 6	40	20	30
Step 7	0	0	0

The following subsections delineate the move-step occurrences in the analyzed introductions presented in Table 1. In addition, written in bold are the signaling ideas used to identify the step employed by the authors.

Move 1: Establishing a Territory

Move 1 establishes a research territory by making a generalization of the research topic then increasing the specificity of the topic. Authors may present their research

background, claim the centrality of their research topic, and review some previous related studies. In the present study, this move was found to be an obligatory move for both groups of authors with 100% occurrences in all introductions. This suggested that the establishment of research territory was fundamental. Some of the purposes of employing this move were to (1) describe the research topic as important; and (2) point out that the topic was of great interest among scholars. The following excerpts demonstrate the aforementioned purposes.

Excerpt 1

Learning outcomes are the most important factor in learning, *because they can describe the state of learners in understanding the material delivered by lecturers. (RAI 3, Soft Science)*

Excerpt 2

The point of student's satisfaction has become the major concern of many research, *and the majority of the studies agreed that student's satisfaction has a strong correlation with university supports. (RAI 8, Hard Science)*

The compulsory status of a territory establishment found in this study echoes with prior studies that examined research article introductions from cross-disciplinary (Abdullah, 2016) and interdisciplinary (Rahman et al., 2017; Suryani et al., 2014; Tessuto, 2015) viewpoints, showing 100% occurrences of Move 1. These studies confirmed that for both soft and hard science disciplines i.e. Applied Linguistics, English Language Teaching, Law, Civil Engineering, and Computer Science, proving the worthiness of research topic being investigated is crucial. Furthermore, Move 1 can be carried out by claiming the centrality of a topic, generalizing it, and reviewing earlier studies (Abdullah, 2016; Rahman et al., 2017). The majority of authors in this study, however, preferred the first option unlike in Rahman et al.'s (2017) which reveal dominant literature reviews in the analyzed introductions.

Move 2: Establishing a Niche

Move 2 elaborates the rationale of a research. It underlines the limitations of the previous studies thus the gap in knowledge that can be filled in by the study being conducted. Based on the data, presenting Move 2 was not a compulsory move for novice authors from both soft and hard science disciplines since it similarly occurred only in 60% of the introductions by the respective groups. However, the trends found within Move 2 did not exactly coincide for the ground that discrepancies arose in the step level.

Step 1A: Indicating a gap

The establishment of a niche in order to create a space for author's present research can be done by highlighting an inadequacy in the existing knowledge that can be covered by the present research, underlining a topic that has not been investigated yet. Move 2 Step 1A was preferred by hard science authors compared to their soft science counterparts. The analysis found 40% occurrences in the former while 20% occurrences in the latter introductions. Excerpt 3 exemplifies how indicating a gap was realized in the introduction.

Excerpt 3

> *Based on the opinions of these experts, the researcher conducted this study to examine whether the problem-posing approach could have a positive effect on students' attitudes in solving problems, **considering the relation between problem-posing approach and attitude towards problem-solving had not been examined by any researcher yet.** (RAI 6, Hard Science)*

Step 1B: Adding to what is known

Adding some new insights to the body of knowledge also can justify why conducting a study on the research topic was necessary. This step, with 40% occurrence, was found to be the tendency of soft science authors carrying Move 2 in their papers. Conversely, only 20% of this step was employed in the hard science introductions.

> Excerpt 4
>
> *In the same note, (citation), learning styles and metacognitive skills may have influence on critical thinking. **However, most research has not really probed into how a combination of the two factors affects critical thinking.** (RAI 2, Soft Science)*

The previous paragraph of Excerpt 4 mentioned prior studies on the effects of learning styles on critical thinking. Then, the author proceeded to highlight some other researchers on how other factors including metacognitive skills affected students' ability to think critically. The sentence that is typed in bold from Excerpt 4 conveyed that the author intended to take a different approach towards the topic by combining the aspects from the previous studies. Hence, the study would contribute to the already known knowledge regarding the issue, resulting in a deeper understanding.

Step 2: Presenting positive justifications

Positive justifications followed the establishment of a niche that was realized by Step 1A or 1B. This optional sub-communicative function was only displayed in 40% of soft science introductions, supporting the argument regarding the need to gain some new perspectives to add to what was already known. Excerpt 5 presents the justification for the statement written in Excerpt 4.

> Excerpt 5
>
> ***Mostly focus on either the influence of metacognitive skills only*** *(citation), or on the effect of learning styles only (citation). In addition, most of the cited research focused on nursing students or students at the primary and secondary levels. (RAI2, Soft Science)*

The analysis result of the manifestation of Move 2 revealed that while soft science corpus employed more of 'Adding to the knowledge' step (Step 1B) followed by a positive justification (Step 2), the hard science ones were dominated by the gap-indication step (Step 1A). This finding conforms to that of Suryani et al. (2014) and Moghaddasi and Graves (2017) which reported that in Computer Science and Discrete Mathematics disciplines belonging to the hard science field, authors favored Step 1A compared to the other one. This indicates the awareness of the majority of hard science authors in this study of the importance of pointing out the novelty of their research that as the result increased the journal's impact.

However, the results of the present research are also in contrast to the study by Adnan (2014) which investigated a hundred and twenty-three introductions in the field of humanities (Education, Linguistics, and Social and Political Science) and hard

science (Agriculture, Biology, and Medical Science). In his study, between Step 1A and Step 1B, the humanities corpus applied more of the first strategy than the second step, unlike the hard science corpus which showed a higher frequency of Step 1B than Step 1A. In addition, the results do not conform to the findings of Rahman et al.'s study (2017) which analyzed twenty Applied Linguistics (soft science) introductions, revealing that Step 1A was preferred by the authors. The aforementioned discrepancies might be resulted from the bigger size of corpus and the higher total of introductions analyzed in the cited studies.

Move 3: Presenting the Present Work

Move 3 reports the way present research was carried out as an attempt to fill in the gap in knowledge that was previously indicated by the realization of Move 2. From 7 sub-moves within Move 3, the analysis results showed that 5 steps were presented in all introductions. Apart from Step 5 'Announcing principal outcomes and Step 7 'Outlining the structure of the paper', the rest of the steps in Move 3 were employed by the authors. The absence of Step 5 and Step 7 implied that both groups of authors in the present study did not consider informing the readership about the research outcomes and the structure of their papers important.

Step 1: Announcing present research descriptively and/or purposively

Step 1 was perceived as an obligatory move for both groups of authors, reaching 100% of occurrences in all introductions. They agreed that between the two options, informing the purpose of their studies was more crucial, which is demonstrated by Excerpt 6 and Excerpt 7.

> Excerpt 6
>
> **Based on the background, the objective of this article is** *to investigate solar cell as learning multimedia to improve students' scientific literacy on science and nanotechnology. (RAI 7, Hard Science)*
>
> Excerpt 7
>
> **Therefore, this study aims at** *raising the perspective of students and the challenges they feel in source-based writing. (RAI 5, Soft Science)*

Step 2: Presenting research questions or hypotheses

Step 2 was employed in 40% hard science and 20% soft science introductions, suggesting that both groups of authors considered it as an optional move. In addition, although the former showed higher occurrences, the difference was only one introduction. Between the two options, presenting hypotheses were slightly more preferred in realizing this step as exemplified in Excerpt 8.

> Excerpt 8
>
> **Accordingly, the author hypothesizes that** *the following factors will have a positive direct effect on student satisfaction: 1) gender, 2) reason to participate in STEM-related subjects, 3) programs, and 4) university support. (RAI 8, Hard Science)*

Step 3: Definitional clarifications

Clarifying some unfamiliar terms to the readers is a strategy employed by authors to help the readers understand the topic of their research better. In the examined

introductions, the authors of soft and hard science introductions showed 40% and 20% occurrences respectively. The instance of the employment of Step 3 is shown in Excerpt 9.

Excerpt 9

The syllabus of the IG510 (citation) mandated that *the students should be introduced with a meaning-based theory of grammar, i.e. functional grammar. (RAI 4, Soft Science)*

Step 4: Summarizing method

Summarizing the methodology of research informs readers about the way a study was conducted. A clear discrepancy was found in the application of Step 4. While hard science articles informed the readers about the research methods, soft science articles did not (40% and 0% occurrences respectively). Of all information that might be included in research method, authors tend to mention the approach used in analyzing data as shown in Excerpt 10.

Excerpt 10

To examine the effectiveness of the problem-posing approach, ***then a direct approach, specifically by using an expository teaching strategy, was chosen as a comparison.*** *(RAI 7, Hard Science)*

Step 5: Announcing principal outcomes

Announcing principal outcomes in the Create A Research Space (CARS) model is marked as "probable in some fields, but unlikely in others" (Swales, 2004, p. 232). It appeared that in the observed fields, specific to this research, this step was unlikely to be employed since it showed 0% occurrence.

Step 6: Stating the value of the present research

Showing how the results of the present research would be advantageous for the readers as well as the field of knowledge being investigated might help to increase the importance of conducting it. However, only 30% of all introductions manifested this step. Two of five authors from soft science and one of five authors from hard science employed Step 6 (40% and 20% respectively). The example is presented in Excerpt 11.

Excerpt 11

The result of this study is expected to positively contribute towards *the development of sociolinguistics science, especially on the studies on the differences of language varieties between men and women. (RAI 1, Soft Science)*

Step 7: Outlining the structure of the paper

Outlining the structure of a paper in its introduction section would give readers a hint about the content of the paper. From the data analysis, similarly, this step was found absent with 0% occurrence in both soft science and hard science corpora, indicating the optional status of this sub-communicative function.

Regarding the realization of Move 3, according to the Swale's (2004) revised CARS model, the only obligatory step is Step 1 Announcing the present research descriptively and/or purposively meanwhile the other six steps are considered as optional. As has been mentioned, the present study showed the manifestation of Move 3 Step 1 in all introductions. This result is in line with the studies conducted by Suryani et al. (2014)

and Rahman et.al (2017) which focused on introductions from a discipline from soft science and hard science respectively, indicating that for both disciplines informing the readers about the present research purpose was important.

After analyzing both soft and hard science corpora, the findings revealed that generally novice Indonesian authors have manifested Move 1 'Establishing a territory' and Move 3 'Presenting the present work' in their introductions. Occurring as obligatory moves, the authors displayed an awareness of informing the readers regarding the research background and the purpose of conducting the study. However, they were not in agreement with regard to the establishment of a niche (Move 2) which is considered as a crucial move to employ in order to create a space for their research. Considering the importance of Move 2 manifestation, especially about a gap indication (Step 1A), the need to increase novice Indonesian authors' awareness about employing this particular step was evident.

Linguistic Realizations of the Moves

The investigation of linguistic realizations, although has been conducted before, still receives scant attention. Therefore, this study attempted to analyze the aforementioned realizations by focusing on three aspects namely tense, voice, and metadiscourse. Table 2 summarizes the results of the analysis of each move in all introductions.

Table 2. Linguistic features of the moves

Move Type	Linguistic Realization					
	Tense		Voice		Metadiscourse	
	Soft Science (%)	Hard Science (%)	Soft Science (%)	Hard Science (%)	Soft Science (%)	Hard Science (%)
Move 1	Pr (75.47)	Pr (77.19)	Ac (69.95)	Ac (53.4)	B (40.12)	B (67.73)
	Pa (7.94)	Pa (16.02)	Pa (30.05)	Pa (46.6)	H (59.88)	H (32.37)
	Pf (9.66)	Pf (3.63)				
	Ft (6.93)	Ft (3.16)				
Move 2	Pr (75)	Pr (66.67)	Ac (66.67)	Ac (11.11)	H (100)	H (0)
	Pf (16.67)	Pf (33.33)	Pa (33.33)	Pa (88.89)	B (0)	B (0)
	Pa (8.33)					
Move 3	Pr (88.88)	Pr (71.42)	Ac (73.47)	Ac (60.56)	B (100)	B (100)
	Pa (5.76)	Pa (24.64)	Pa (26.53)	Pa (39.44)	H (0)	H (0)
	Pf (1.34)	Pf (2.40)				
	Ft (4.02)	Ft (1.54)				

Tense: Pr=Present; Pa=Past; Pf=Perfect; Ft=Future, Voice: Ac=Active; Pa=Passive, Metadiscourse: B=Boosters; H=Hedges

In terms of the tense, the dominant use of simple present tense in conveying all three moves in both corpora was observed, reaching more than 66% occurrences. This result supports the findings of research conducted by Öztürk (2019). His study revealed that in Applied Linguistics introductions, present tense was the most frequently used tense. In this study, variations were displayed in the realizations of past, perfect, and future tense across moves. Regarding Move 1, future tense was the least used one in the realization of Move 1 'Establishing a territory' in both corpora (6.93% and 3.16%, soft science and hard science); past tense was the second most used one in hard science, but was the third most used one in soft science (16.02% and 7.94% respectively); perfect tense ranked second in the soft science, but ranked third in the other corpus (9.66% and

3.63% respectively). Below is the example of the use of simple present tense to convey Move 1 found in the data.

Excerpt 12

*It **is** unfortunate that in Indonesian context, the level of scientific publications of students at the international level **is** still very minimal. (RAI 5, Soft Science)*

As for the tense used to convey Move 2, similarly present and past perfect tenses were the second most used ones in the manifestation of Move 2 'Establishing a niche' in both corpora (soft science=16.67%, hard science=33.33%). However, a discrepancy was found within the occurrence of past tense in soft science yet none in hard science corpus. In relation to the 'Indicating a gap' step in Move 2, Lim (2012) pointed out that of all verb tenses, present perfect stands out the most as the one that Management authors used in highlighting the absence of earlier research, which does not conform to the result of this study since both groups of authors preferred using present tense (soft science=75%, hard science=66.67%). This might be caused by the insufficient evidence of Move 2 manifestation in the data of the present study since it appeared as non-obligatory. Additionally, the bigger size of the corpora being analyzed and the focus Lim's study which investigated particularly the niche establishment in Management introductions only might also influence this case.

Lastly, with regard to Move 3 'Presenting the present work' past tense was the second most used one in the application of this move for both corpora. However, a noticeable difference was found in the frequency of the tense (5.76% and 24.64, soft and hard). Past tense was followed by future tense then perfect tense in soft science texts (4.02% and 1.34%) unlike in hard science texts in which perfect tense ranked higher than future tense (2.40% and 1.54%). Move 3 in both corpora were most commonly realized by the first sub-communicative function that is presenting the present work descriptively and/or purposively. Excerpt 13 presents an example of the use of simple present tense in the analyzed introductions.

Excerpt 13

This study has some distinctive aspects compared to aforementioned similar studies. First, this study focuses only on language varieties of women and their utterances in French movie. Second, the movie script writer is a man. These two aspects become the main consideration in conducting this study. (RAI 1, Soft Science)

Regarding the sentence voice, both groups of authors preferred using active voice in establishing the research territory (Move 1) and presenting the present work (Move 3). Similarly, the niche establishment (Move 2) in soft science introductions also showed the tendency to use active voice (active= 66.67%, passive=33.33%). On the other hand, hard science texts applied more passive voice than active voice with a clear gap in realizing Move 2 (passive= 88.89%, active=11.11%). Previous studies did not underline certain voice that was better used in rhetorical move manifestations for research article introductions. However, some agreed that active voice was more commonly used than passive voice in English introductions as reported by Deveci (2020) and Tessuto (2015), which echoes to the aforementioned result in the present study. Excerpt 14 illustrates the use of active voice in realization of Move 3.

Excerpt 14

> *This **has encouraged** and **triggered** the lecturers of the course to do a research on this topic in order **to get** some ideas and frameworks **to find** adequate solutions to the students' problems, particularly the one related to transitivity. (RAI 4, Soft Science)*

With regard to metadiscourse, hedges and boosters (interactional metadiscourse) were analyzed in the introductions. While hedges are used in a text because it shows that the authors are being cautious with other perspectives, the use of boosters put emphasize on the arguments made by authors (Khedri & Kritsis, 2018). In realizing Move 1 'Establishing a territory', the authors from soft science discipline tend to use hedges (59.88% occurrences) while the authors from hard science discipline preferred using boosters (67.73% occurrences). Conversely, the former only used hedges in conveying Move 2 'Establishing a niche' while the latter did not use either hedges or boosters in the introductions. Lastly, all the authors agreed that only boosters were used in Move 3 'Presenting the present work'. Excerpt 15 shows an example of the use of both boosters and hedges in conveying Move 1. In the excerpt, boosters are marked by bold letters while hedges are marked by underlined letters.

> Excerpt 15
>
> *The point of student's satisfaction has become the **major** concor of many research, and the <u>majority of</u> the studies agreed that student's satisfaction has a **strong** correlation with university supports [citation]. <u>Most of</u> the finding discuss that student's satisfaction <u>can</u> be used as the indicators to identify the areas where the university are performing well. (RAI 8, Hard Science)*

The type of boosters that frequently occurred in all three moves were adjectives such as 'important', 'significant', 'obvious', 'fundamental', and 'positive'. On the other hand, hedges that were often used by the authors include modal verbs such as 'may' and 'can' and adverbs such as 'most', 'several', 'possibly', and 'usually'.

Regarding the metadiscourse, the findings in the earlier work by Khedri and Kritsis (2018) seem to be in line with the results of this research. It was highlighted that, of all types of interactional metadiscourse (used to involve readers in the text), hedges and boosters were the most frequently used ones in the corpora being analyzed.

Overall, the majority of novice Indonesian authors from both soft and hard science disciplines preferred using simple present tense and active voice with regard to the manifestation of the three moves. In relation to metadiscoursal units used by the authors to write their introductions, boosters occurred more often in the hard science corpus than in the soft science one. However, soft science introductions displayed more variations in using boosters and hedges even though there was only a slight difference in the use of the aforementioned metadiscoursal units. Drawing on these results, it can be said that disciplinary focus might have an influence on the use of metadiscourse in one's introduction.

Conclusions

The present research has examined research article introductions from soft and hard science corpora written by novice Indonesian authors with regard to their rhetorical organizations and linguistic realizations of the moves. The results revealed that Move 1 'Establishing a territory' and Move 3 'Presenting the present work' were perceived as

compulsory moves by all authors, while Move 2 'Establishing a niche' has only been manifested in 60% of the introductions. Furthermore, variations occurred in the step level, particularly within Move 2. Hard science corpus displayed a frequent use of Step 1A 'Indicating a gap'. Conversely, its soft science counterparts showed a more frequent application of Step 1B 'Adding to what is known' followed by Step 2 'Presenting positive justification'. In international publication, gap indication is much more preferable since it could elevate the journal's impact.

With regard to the linguistic realizations of the moves, it appeared that most novice authors from both groups preferred using simple present tense and active voice in conveying all three moves. Meanwhile, in terms of metadiscourse, soft science introductions revealed more various uses of hedges and boosters compared to hard science texts. Considering the aforementioned results, this study concludes that novice authors' disciplinary expertise has an influence on the quality of their research article introductions.

The implication of this study for English for academic purposes is the development of research publication materials which includes the emphasis on the significance of gap indication in research article introductions to highlight the novelty of the study. Therefore, the acceptance rate of the submission to a reputable international journal will possibly increase. In addition, the present study suggests further cross-disciplinary research on the rhetorical move of research article introductions from various disciplines with a bigger corpus size.

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