# How Reputable Indonesian Writers from Cross-Disciplines Construct Their Research Articles During Established-Career Period? A Move Analysis

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## Article Info

## Abstract

Expert writers are defined as someone that frequently publish their research articles (hereafter RAs) in reputable journals during their established-career period. Publication in highly reputable journals is an essential part of academic life. Therefore, many academicians are competing to produce articles that can be published in international journals. However, the path to achieving this goal is not easy. This study investigates the rhetorical moves in 16 English RAs written by four highly reputable lecturers from soft and hard science throughout their established-career period. The RAs were chosen randomly from highly reputable journals and were analyzed using a framework from Maswana et al. in 2015. The results revealed that there were moves/steps often present in both soft and hard science articles in some sections, i.e., Move a Step 2 Purpose; Move a Step 3 Methods; Move a Step 4 Results; Move a Step 5 Conclusion; Move 1, Step 1 Reference to established knowledge in the field; Move 7, Step 4 Stating specific findings; and Move 9, Step 1 Stating the main results and significance. However, both disciplines also organize their RAs in different ways, specifically in the Methods section. Move 5 Describing experimental procedure was found to be frequently used in hard science articles rather than in soft science. These results can conclude that the cross-disciplines partly project rhetorical moves in RAs. The findings of this study provide a guideline and overview for expert writers in evaluating their writing and for novice writers in increasing their discourse competence.

## INTRODUCTION

One of the obligations and significant parts of the academic life of academicians is the productivity of article publication in reputable journals. This is in line with the Regulation of the Minister of Research, Technology and Higher

Education (Permenristekdikti) Number 20 of 2017 and 2018 concerning the appeal for lecturers to increase the number of their article publications in highly reputable journals (Retnowati, Mardapi, & Kartowagiran, 2018). Therefore, many universities in Indonesia have begun to adapt by creating policies that can encourage lecturers' enthusiasm in contributing to the spread and development of science in the world. In addition, publication in international journals also has a close connection with the vision-mission of internationalization and the university's reputation in global (Coleman, 2014).

The productivity of publications in reputable journals has positive impacts on both lecturers and the lecturer's institution. For lecturers, the productivity of publications in reputable journals can show the lecturers' academic competence, advance the lecturers' professional career, or only for the academic and professional success of lecturers so they can get promoted to certain positions. (Chang & Kuo, 2011; Coleman, 2014; Kanoksilapatham, 2005). The lecturers also have wider opportunities to get incentives from the institution (Coleman, 2014) and their network expands which positively impacts the reputation level from the increased possibility of the articles being cited by other authors. This is reasonable because reputable journals also have a good impact factor, so the level of visibility and readability of published articles is also high (Rajagopalan, 2015).

Meanwhile, for the lecturers' institution, the productivity of publications in reputable journals contributes to the institution in competing in the national and global areas to obtain excellent predicate in research downstream and dissemination. In this way, the institution can get a great possibility to be accredited by well-known institutions in the world. Then, this certainly has an impact on increasing Indonesia's scientific contribution as one of the countries that have global competitiveness in terms of research and international publications. Other than that, the quality of good and acceptable articles is one of the indicators that most determines the level of success of a work to be accepted and published in reputable scientific journals. English generic structure accepted in the international community cannot be separated from writing academic articles since English is still the main language in various reputable journals.

According to Coleman (2014), the structure of a RA generally consists of a title, abstract, introduction, literature review, methodology, findings and discussion, conclusion, and references. However, the structure of the RA in each sub-section

can have variations influenced by the journal's demands. An internationally accepted abstract includes conveying the background, research aims, research methods, general findings, and conclusion (Hyland, 2000). Acceptable introduction covers information about the research topic and research problem that want to be explored further in order to build a research context, findings that were obtained from previous studies, identification of gaps in previous studies, and statement of research aims and problem formulation (Swales, 2004). Acceptable methodology should provide information on the research subject/object, research instrument, data collection techniques, data analysis techniques, and procedures to ensure the credibility of the data (Cotos, Huffman, & Link, 2017; Gladon, Graves, & Kelly, 2011). Then, internationally accepted findings and discussion include information regarding the presentation and interpretation of research results, comparing research results with previous research or literature, and providing reasons for discussing further research results (Suherdi, Kurniawan, & Lubis, 2020; Yang & Allison, 2003). The last is conclusion includes the conclusion of the entire study, an evaluation of the study both from its benefits and limitations, and recommendations for further research (Moreno & Swales, 2018; Yang & Allison, 2003). Thus, each sub-section of a RA has its own function and rhetorical organization, which is interrelated with one another to convey the main goal to the reader properly and effectively.

Academic writing that is internationally accepted is discussed in several handbooks (Wallwork, 2016) and practice books (Swales & Feak, 2000; Wallwork, 2013). But many researchers are still having trouble writing for scientific publication purposes. In addition, previous studies have shown that writers from native speakers and non-native speakers have difficulty mastering acceptable language structures and styles in international journals (Amnuai, 2019; Ren & Li, 2011; Wannaruk & Amnuai, 2016). The lack of knowledge indirectly affects the writers' ability to organize information in each section of RA; in other words, the rhetorical organization of the writers is still not convincing enough (Pho, 2008). Therefore, the quality of academic writing for publication purposes greatly influences whether or not the article is accepted by the editors of international journals.

In response to this challenge, the researcher thinks a structured solution is needed to overcome this issue. Analysis of discourse patterns can be a solution for revealing acceptable structures in reputable journals. Swales (1981) popularized discourse patterns under the concept of genre analysis in the introduction section of

the journal article, which then continued in the abstract section in 1990. In general, the analysis of discourse pattern is strongly tied to the rhetorical structure used by the author. The rhetorical structure encompasses a number of communicative units known as move and the constituent steps known as a step. Move and step itself are components of a text's microstructure. One of the reasons discourse pattern analyses is widely studied is because this study aims to explore variations of the rhetorical organization of certain genres so that researchers can get a picture of the quality of RAs approved in reputable journals. Thus, the result of this study can be material to improve the writer's knowledge and competency related to the international standard of text structure.

There are numerous previous studies that conducted rhetorical organization of abstract discourse patterns (Amnuai, 2019; Doro, 2013; Fauzan, Lubis, & Kurniawan, 2020; Kaya & Yagiz, 2020; Kurniawan, Lubis, Suherdi, & Danuwijaya, 2019); introduction (Hirano, 2009; Lu, Yoon, & Kisselev, 2021; Luthfianda, Kurniawan, & Gunawan, 2021); literature review (Rabie & Boraie, 2021); method (Bruce, 2008; Musa, Khamis, & Zanariah, 2015); findings and discussion (Lubis, 2019; Suherdi et al., 2020); conclusion (Cheng, 2019). There are also several studies that have thoroughly examined all parts of the RAs (Kanoksilapatham, 2005; Maswana, Kanamaru, & Tajino, 2015; Ye, 2019). The findings generally show variations in how the researchers manifest their rhetorical organization and realize their linguistic features.

Several previous studies discussed discourse patterns throughout sections. However, research that specifically discusses discourse patterns in journal articles written by highly reputable lecturers during their established careers and across disciplines is still lacking in the literature. Established-career period itself is a period when a writer is considered to be well-established in his/her career and is also considered skilled and expert in writing RAs for academic purposes, especially for publication in journals (Lim, Loi, Hashim, & Liu, 2015; Nayan & Jusoff, 2009). Therefore, an attempt has been made to examine the discourse patterns and the differences in rhetorical steps shown in RAs written by highly reputable lecturers across the two disciplines mentioned. This is also in line with what was stated by Lubis (2019), that said cross-disciplinary comparative studies are still being conducted because it is believed that the differentiating characteristics of disciplines produce various manifestations of rhetorical organization.

In order to obtain relevant information, this study seeks to address the following questions:

1. How are the discourse patterns of English-language RAs manifested by highly reputable lecturers in their established-career period?
2. How does the rhetorical organization of English-language RAs differ according to their respective fields?

## METHOD

### Research Design

This study employed a comparative-descriptive qualitative design by comparing the variation in manifestation of rhetorical organizations in RAs of two disciplines (soft and hard science), which are categorized specifically into four sub-disciplines: education, management, chemistry, and engineering. This is in line with the aim of this study which not only describes the structure of the discourse patterns of English articles written by highly reputable lecturers in their established-career but also compares the discourse patterns of their articles across disciplines.

### Participants

This study involved four lectures with a high reputation from reputable indexing institutions. The criteria in selecting the participants are as follows: 1) have the highest Scopus h-index in their affiliation in the field of soft and hard sciences, and 2) are still active as permanent lecturers at the university. Four highly reputable lecturers were selected from one of the state universities in Indonesia. Two lecturers from soft science, respectively, have H-index 9 and 7, and two lecturers from hard science have H-index of 33 and 13.

### Corpus

A total of 16 English RAs from two disciplines (soft and hard science) were selected randomly based on the publication year of the article within the last four years from the current established lecturer's career path, which varied from each lecturer starting from 2019-2022. The details of the articles are shown in Table 1.

Table 1. Publication year and sub-disciplines of RAs

| RA No. | Publication Year | Sub-disciplines |
|--------|-----------------|-----------------|
| 1 | 2019 | Education (Soft Science) |
| 2 | 2021 | |

| 3 | 2020 | |
|---|------|---|
| 4 | 2019 | |
| 5 | 2022 | Management (Soft Science) |
| 6 | 2022 | |
| 7 | 2021 | |
| 8 | 2022 | |
| 9 | 2022 | Chemistry (Hard Science) |
| 10 | 2022 | |
| 11 | 2022 | |
| 12 | 2022 | |
| 13 | 2021 | Engineering (Hard Science) |
| 14 | 2019 | |
| 15 | 2021 | |
| 16 | 2020 | |

The journals included in the dataset are as follows: *International Journal of Instruction, New Educational Review, Tourism, Sustainability, International Journal on Informatics Visualization, GATR Journal of Business and Economics Review, and Journal of Engineering Science and Technology.*

**Instrument and Data Analysis Procedure**

Maswana et al. (2015) model was adopted as the guideline for data analysis (**see** Appendix A). The *Introduction* move establishes the context of the paper and motives for the research or discussion; the *Purpose* move indicates and outlines the intention behind the paper; the *Method* move provides information on design, procedures, assumption, approach, and data; the *Product* or *Findings* move states the main findings and the arguments; and the Conclusion move interprets results, draw inferences, points to the application or broader implications (Kurniawan et al., 2019). This model was chosen based on the results of the initial analysis conducted by

the researcher, which showed a match between the article's discourse pattern and the Maswana et al. model. The sample of the initial analysis is shown in Table 2.

Table 2. A sample of the initial analysis process

| RA No. 1 | Label (Step-based) | Classification (Move-based) |
|---|---|---|
| **This study seeks to develop and validate** a model of living values-based interactive multimedia in Civic Education learning. | Purpose | Move a (Step 2) |
| **A Research and Development approach was employed**. Data were gathered through observations, interviews [...] | Method | Move a (Step 3) |
| **The rapid progress of ICT offers new conveniences of learning, giving rise to the shift of learning orientation** from outside-guided to self-guided and from knowledge-as-possession to knowledge-as-construction **(Priyanto, 2009).** | Reference to established knowledge in the field | Move 1 (Step 1) |
| **Fourth, media involve the aspects of "knowing the good,** desiring the good/loving the good and acting the good" **(Lickona,1991).** | Reference to previous research | Move 2 (Step 1) |
| **The research took place in Bandung, West Java, Indonesia.** Participants in the study were students of Junior High School [...] | Indicating source of data | Move 4 (Step 1) |
| ...with **60 students** participating from each school, amounting to **360 students**. | Indicating data size | Move 4 (Step 2) |
| **Table 2 shows that** 76.2 % of junior high school students and 76.3% of senior high school students respond very well to the use of interactive multimedia in civic learning. | Stating specific findings | Move 7 (Step 4) |
| **Third, the use of interactive learning multimedia is comprehensible** for the students because it enhances self-learning process and active role of students. | Stating a specific outcome | Move b (Step 1) |
| **In addition, interactive multimedia can stimulate learning process** that takes place outside the classroom (Latuheru, 1988). | Interpreting the outcome | Move b (Step 2) |

In analyzing the RAs, three-step was carried out. First, the researcher starts by breaking down all sections of the whole RAs into their communicative purposes. Second, the data were labelled with corresponding moves/steps based on the model framework. Lastly, the data were transferred and organized into Excel sheets according to their part respectively so the researcher could re-check them easily.

**Inter Coder Reliability**

Inter-coder was used to validate the findings of the study. The coders were two lecturers mastering a language and move analysis. The process of inter-coding was carried out when re-examining moves. First, the researcher coded the rhetorical movements of RAs independently. Then, the coders rechecked several moves and

steps. Sometimes a discussion with the coders was performed to determine which move and/or step labels to be used.

**RESULT AND DISCUSSION**

A total of 16 English RAs in soft and hard science from Scopus-indexed journals were analysed using Maswana et al. (2015) model (**see Appendix A**) in this study, in which each discipline contributed eight RAs. The interpretation of the percentage of RAs featuring moves and steps is called 'salience.' This section shows the salience of moves and steps used in every section of RAs, starting from the abstract to the discussion section. The data are presented in the tables below.

**Abstract**

Table 3. Salience of moves and steps in the abstract section

| Move/Step | Soft Science (N=8) | | Move/Step | Hard Science (N=8) | |
|---|---|---|---|---|---|
| **Move a: Abstract** | **Featuring** | **Percentage** | **Move a: Abstract** | **Featuring** | **Percentage** |
| a1 Background of research | 1 | 12,5% | a1 Background of research | 3 | 37,5% |
| a2 Purpose | 8 | 100% | a2 Purpose | 8 | 100% |
| a3 Methods | 8 | 100% | a3 Methods | 8 | 100% |
| a4 Results | 8 | 100% | a4 Results | 8 | 100% |
| a5 Conclusion | 8 | 100% | a5 Conclusion | 8 | 100% |

Table 3 shows the salience of moves/steps in the abstract section. The findings found that the two disciplines have similar tendencies. As seen in Table 3, Move 2 (Purpose); Move 3 (Method); Move 4 (Results); and Move 5 - (Conclusion) were the move that most frequently manifested in soft and hard science RAs. This means that those mentioned moves were obligatory in both disciplines. In addition, the table above also shows that the most frequent patterns were the sequence P-M-R. This was in line with the finding of Hyland's (2000) research in which the sequence P-M-Pr was the most move structure that was frequently used. Although the move labels differ, they serve the same purpose. Moreover, another unique finding was the use of Move 5 (Conclusion), which manifested in all RAs. Even though it seemed an optional extra move in all disciplines (Hyland, 2000), all lecturers consistently used it in their RAs. The following is one of the samples of this finding realization.

**Example**

Move a, Step 2: This study aims to create a multi-criteria decision-making system based on a classical approach namely Analytical Hierarchy Process (AHP) [...]. Move a, Step 3: Two Fuzzy AHP analytical tools, namely Chang's Extent Algorithm and Geometric Mean were used to validate the results of priority weighing method of the AHP method. [RA 13, hard science discipline]

On the other hand, there was one move/step that was least frequently used in these two disciplines, namely, Move 1 (Background of research). This is similar to Al-Khasawneh's (2017) study that found Move 1 (Introduction) was less used in the abstracts written by non-native speakers of English due to the authors tend to begin their abstracts with Move 2 (Purpose) and ended the abstracts without drawing references to the field. Another reason was that some of the authors tend to use indicative abstracts rather than informative abstracts in their RAs. Since they start the abstract with a general overview of the research by describing the research background or topics instead of making specific information related to the significance of their research (Youdeowei, Stapleton, & Obubo, 2012). Due to the abstract's limitation, in some cases, authors can choose to remove the background or evaluation so that they will have more space to write down the methodology and main findings, which are the most crucial components of an abstract (Fang, 2021).

**Introduction**

Table 4. Salience of moves and steps in the introduction section

| Move/Step | Soft Science (N=8) | | Move/Step | Hard Science (N=8) | |
|---|---|---|---|---|---|
| **Move 1: Presenting background information** | Featuring | Percentage | **Move 1: Presenting background information** | Featuring | Percentage |
| 11 Reference to established knowledge in the field | 8 | 100% | 11 Reference to established knowledge in the field | 8 | 100% |
| 12 Reference to main research problems | 4 | 50% | 12 Reference to main research problems | 2 | 25% |
| **Move 2: Reviewing related research** | Featuring | Percentage | **Move 2: Reviewing related research** | Featuring | Percentage |
| 21 Reference to previous research | 8 | *100%* | 21 Reference to previous research | 6 | 75% |
| 22 Reference to limitations of previous research | 1 | *12,5%* | 22 Reference to limitations of previous research | 2 | 25% |

| Move 3: Presenting new research conducted by the author(s) | Featuring | Percentage | Move 3: Presenting new research conducted by the author(s) | Featuring | Percentage |
|---|---|---|---|---|---|
| 31 Reference to research purpose | 8 | *100%* | 31 Reference to research purpose | 7 | 87,5% |
| 32 Reference to main research procedure and outcome. | 3 | *37,5%* | 32 Reference to main research procedure and outcome. | 6 | 75% |

As shown in Table 4, three moves/steps, M1-M2-M3, were used by all writers from both fields. Move 1 Step 1 was the most frequently used in soft and hard science, which means that move was obligatory. The way Move 1 was manifested by the authors is quite similar, where they start by identifying the research area, establishing the research area's importance, and providing essential background information about the research area (Stoller & Robinson, 2013). However, Move 1 Step 2 was the least frequently used in the two disciplines. The example of Move 1 is given in the example below.

**Example**

**Move 1 Step 1:** In the realm of tourism studies, tourists' visit intention refers to the likelihood of tourists actually visiting a particular tourism destination (Luo and Ye, 2020). [RA 5, soft science discipline]

In addition, the way writers manifested Move 2 in their RAs shows only a slight difference. Move 2 Step 1 appeared in every soft science RAs while in hard science RAs, two RAs did not indicate the existence of this move/steps. This was because some of the moves/steps for the introduction section were also used in the literature review section. Thus, several recycled moves (such as Move 1 Step 1 and Move 2 Step 1) appeared, especially in soft science. The cyclical patterning of Move 2 is in accordance with Kanoksilapatham's (2005) study, which stated that Move 2 is common, indicates the study being discussed is complex and considers a lot of gaps in previous research. Meanwhile, Move 2 Step 2 was identified as manifested slightly in both disciplines. The example of Move 2 Step 1 is presented below.

**Example**

**Move 2 Step 1 (Introduction):** For instance, Lieder and Rashid (2016) explain that the CE framework is supported by the principles, namely environment, resources, and economic benefits.

**Move 2 Step 1 (Literature Review):** Stahel dan Reday (1976) further illustrates that implementing CE in the industry reduces waste, adds more jobs, optimizes sources, and dematerializes the economy. [RA 7, soft science discipline]

Furthermore, Move 3 Step 1 was manifested almost in both disciplines, with one hard science RA not showing the use of this move. This indicates Move 3 Step 1 was obligatory in soft science and was conventional in hard science. Whereas, Move 3 Step 2 was manifested more frequently in hard science RAs rather than in soft science. Thus, Move 3 Step 2 was conventional in hard science RAs and was optional in soft science RAs.

**Methods**

Table 5. Salience of moves and steps in the method section

| Move/Step | Soft Science (N=8) | | Move/Step | Hard Science (N=8) | |
|---|---|---|---|---|---|
| **Move 4: Identifying source of data and method adopted in collecting them** | **Featuring** | **Percentage** | **Move 4: Identifying source of data and method adopted in collecting them** | **Featuring** | **Percentage** |
| 41 Indicating source of data. | 6 | 75% | 41 Indicating source of data. | 2 | 25% |
| 42 Indicating data size. | 7 | 87,5% | 42 Indicating data size. | 1 | 12,5% |
| 43 Indicating criteria for data collection. | 0 | 0 | 43 Indicating criteria for data collection. | 1 | 12,5% |
| 44 Indicating data collection procedure. | 8 | 100% | 44 Indicating data collection procedure. | 0 | 0 |
| 45 Providing background details about the study is going to analyze | 3 | 37,5% | 45 Providing background details about the study is going to analyse | 1 | 12,5% |
| **Move 5: Describing experimental procedures** | **Featuring** | **Percentage** | **Move 5: Describing experimental procedures** | **Featuring** | **Percentage** |
| 51 Identifying main research apparatus | 0 | 0 | 51 Identifying main research apparatus | 6 | 75% |
| 52 Recounting experimental process. | 0 | 0 | 52 Recounting experimental process. | 8 | 100% |
| 53 Indicating criteria for success | 0 | 0 | 53 Indicating criteria for success | 1 | 12,5% |

| Move 6: Describing data analysis procedures | Featuring | Percentage | Move 6: Describing data analysis procedures | Featuring | Percentage |
|---|---|---|---|---|---|
| 61 Defining terminologies | 0 | 0 | 61 Defining terminologies | 1 | 12,5% |
| 62 Indicating process of data classification. | 1 | 12,5% | 62 Indicating process of data classification. | 0 | 0 |
| 63 Identifying analytical instrument and procedure. | 5 | 62,5% | 63 Identifying analytical instrument and procedure. | 0 | 0 |
| 64 Indicating modification to instrument and procedure. | 0 | 0 | 64 Indicating modification to instrument and procedure. | 0 | 0 |

Table 5 depicts the analysis of the methods section in all RAs from both disciplines. As shown in Table 5, the distinction in the patterns of rhetorical structure in the two disciplines can be seen obviously. Soft science RAs more frequently used Move 4 than hard science RAs. Although, there was one move/step which nowhere to be found in soft science RAs, namely Move 4, Step 3. In addition, from the above table, it can be seen that Move 4 Step 4 was the most frequently manifested in soft science RAs, while in hard science RAs, it was not manifested.

Meanwhile, Move 5 cannot be found in soft science RAs since this discipline was quite rare in using experiments. On the other hand, hard science RAs predominantly used Move 5. Based on the table, the unique finding was the use of Move 4 and Move 6 in the two hard science RAs. This was quite uncommon in this discipline, but it was acceptable since there was no fixed model for the Method section in all RAs of all disciplines, as many scholars did not pay attention to this section (Kanoksilapatham, 2009). Moreover, the model of the method section was in contrast to other sections in the RAs. As an example, the introduction section of any discipline employs a common move sequence, which was Move 1-2-3 from Swales's framework. However, the Method section did not have common moves sequence as it needed different rhetorical structure patterns for different disciplines to be discussed (Kanoksilapatham, 2003). Below is the example of Move 4.

**Example**

**Move 4 Step 1:** The research subjects were 8th-grade students at State Junior High School 5 and State Junior High School 44 Bandung, West Java, Indonesia. **Move 4 Step 2:** ...three classes were taken, each consisting of 30 students, so the total number of research subjects was 180 students. [RA 4, soft science discipline]

On the other hand, there were two Moves 6 used in soft science, namely, Move 6 Step 2 and Move 6 Step 3. While in hard science RAs, only Move 6 Step 1 was found to be used by the author. Based on the percentage, Move 6 was optional in soft and hard science.

**Results**

Table 6. Salience of moves and steps in the results section

| Move/Step | Soft Science (N=8) | | Move/Step | Hard Science (N=8) | |
|---|---|---|---|---|---|
| ***Move 7: Reporting results*** | **Featuring** | **Percentage** | ***Move 7: Reporting results*** | **Featuring** | **Percentage** |
| 71 Restating data analysis procedures | 1 | 12,5% | 71 Restating data analysis procedures | 0 | 0 |
| 72 Restating research questions. | 0 | 0 | 72 Restating research questions. | 0 | 0 |
| 73 Stating general findings. | 0 | 0 | 73 Stating general findings. | 0 | 0 |
| 74 Stating specific findings. | 8 | 100% | 74 Stating specific findings. | 8 | 100% |
| ***Move 8: Commenting on results*** | **Featuring** | **Percentage** | ***Move 8: Commenting on results*** | **Featuring** | **Percentage** |
| 81 Interpreting results. | 1 | 12,5% | 81 Interpreting results. | 3 | 37,5% |
| 82 Comparing results with previous studies. | 2 | 25% | 82 Comparing results with previous studies. | 4 | 50% |
| 83 Evaluating results (or research). | 0 | 0 | 83 Evaluating results (or research). | 1 | 12,5% |

Table 6 shows that Move 7 Step 4 was the most frequently used in both disciplines, which means this move was obligatory for soft and hard science. The manifest of this move/step was also supported by Maswana et al. (2015), who found that Move 7 Step 4 was frequently used in three disciplines such as environmental, electrical, and chemical engineering. Meanwhile, Move 7 Step 1 was manifested only in one soft science RA. The other Move 7, such as Move 7 Step 2 and Move 7 Step 3, were not used in both disciplines. Below is an example of Move 7.

**Example**

**Move 7 Step 4:** Table 4 shows the results of illumination measurement on the evaluated area. The analysis result in the location revealed that [..] [RA 14, hard science discipline]

On the other hand, Move 8 was manifested least frequently in soft and hard science. Based on Table 6, it was found that in both disciplines, writers rarely interpret the result (Move 1 Step 8). Different from Maswana et al. (2015) study, which stated that other than Move 7 Step 4, there was also Move 8 Step 1, which was highly common in RAs from hard science. Thus, it was indicated that Move 8 Step 1 was optional in this case. However, Move 8 Step 2 appeared in half hard science RAs. While in soft science RAs, it was found that only two RAs showed the manifestation of this move/step. As for Move 8, Step 3 was manifested in only one RA from hard science.

**Discussion (Conclusion)**

Table 7. Salience of moves and steps in the discussion-conclusion section

| Move/Step | Soft Science (N=8) | | Move/Step | Hard Science (N=8) | |
|---|---|---|---|---|---|
| *Move 9: Highlighting overall results and their significance* | **Featuring** | **Percentage** | *Move 9: Highlighting overall results and their significance* | **Featuring** | **Percentage** |
| 91 Stating the main results and significance. | 8 | 100% | 91 Stating the main results and significance. | 8 | 100% |
| *Move b: Explaining specific research outcomes* | **Featuring** | **Percentage** | *Move b: Explaining specific research outcomes* | **Featuring** | **Percentage** |
| b1 Stating a specific outcome | 7 | 87,5% | b1 Stating a specific outcome | 8 | 100% |
| b2 Interpreting the outcome. | 6 | 75% | b2 Interpreting the outcome. | 2 | 25% |
| b3 Indicating significance of the outcome | 4 | 50% | b3 Indicating significance of the outcome | 5 | 62,5% |
| b4 Contrasting present and previous outcomes. | 7 | 87,5% | b4 Contrasting present and previous outcomes. | 1 | 12,5% |
| b5 Indicating limitations of outcomes | 2 | 25% | b5 Indicating limitations of outcomes | 3 | 37,5% |
| *Move c: Stating research conclusions* | **Featuring** | **Percentage** | *Move c: Stating research conclusions* | **Featuring** | **Percentage** |
| c1 Indicating research implications. | 3 | 37,5% | c1 Indicating research implications. | 5 | 62,5% |
| c2 Promoting further research. | 4 | 50% | c2 Promoting further research. | 2 | 25% |

As can be seen in Table 7, all moves/steps in the discussion-conclusion section were used in all RAs from the two fields. Both soft and hard science RAs were frequently used Move 9 but in different ways. The authors manifested Move 9 in soft science RAs to conclude their articles by presenting the main findings. On the other hand, Move 9 was manifested in hard science RAs in two different ways. First, the authors stated that the experiments had been carried out successfully, while the second way was to inform the research's significance. However, this is in contrast to Suherdi et al. (2020) findings. He stated that reporting result was conventional in the discussion section of 113 unpublished ELT RAs from a state educational university in Bandung. Below are examples of Move 9.

**Example**

**Move 9 Step 1:** The service-learning model is very apt to be used in social studies learning [...] Service learning rests on the social cognitive theory and contextual learning because it links social sciences with the reality of student life in the form of social service practices to the community. [RA 4, soft science discipline]

**Move 9 Step 1: ...**it can be concluded that the attributes of employability skills that have uniformity are based on a review of several frameworks used in several countries [...]. Based on the perspective of the Vocational School teachers assisted by the MCDM decision system, it is proven that the ability to interact with colleagues, the ability to use basic information technology, and the ability to have a personal vision and mission are the attributes of employability skills which are important and to be mastered by Vocational School graduates. [RA 13, hard science discipline]

Furthermore, Move b Step 1 was most frequently used in hard science RAs, and it was supported by Maswana et al. (2015) findings which found that this move/step was commonly used in electrical and chemical engineering. Therefore, Move b Step 1 was deemed obligatory in hard science RAs. On the other hand, Move b Step 2 was frequently used in soft science RAs rather than hard science RAs. This indicates that Move b Step 2 was optional in hard science. This was different from Maswana et al. (2015) findings which reveal that Move b Step tended to be obligatory and commonly used in a hard science discipline.

**Example**

**Move b Step 1:** The result revealed that the operating costs generated from the economic dispatch process using the Lambda iteration method with anomalous load on the 2018 national holiday which has undergone a forecasting process is as

much as IDR. 60,773,779,919.00. [RA 15, hard science discipline] **Move b Step 2:** In the learning process, authentic assessments are a source of positive and effective feedback for students and teachers as they provide more motivation and reflection on skills [...] [RA 3, soft science discipline]

Meanwhile, Move b Step 3 was used in half of the soft science RAs, and thus it was indicated that this move was optional. As for Move b, Step 4 was conventional due to the use of this move/step in almost all soft science RAs. In hard science, this move was found only be used in one RA. In addition, Move b Step 5 was least frequent in both disciplines. Based on the percentage, this move was optional in soft and hard science RAs.

**Example**

**Move c Step 1:** It shows that the addition of coconut fiber is directly proportional to the value of the compressive test and water absorption test. [RA 10, hard science discipline] **Move c Step 2:** Further research needs to broaden the study by including attributes and supporting factors of CE implementation into the investigation. [RA 7, soft science discipline]

Moreover, the writers also manifested Move c in a different way. Hard science authors used Move c step 1 more frequently than soft science authors. This was in line with the findings of Stoller and Robinson's (2013) study, which suggests overall implication to be a part of the concluding step in chemistry RA. On the other hand, half of the soft science tended to use Move c Step 2 frequently. This demonstrates a disciplinary variation in the soft sciences, in which they will be more likely to recommend further research rather than in hard sciences (Zamani & Ebadi, 2016).

**CONCLUSION**

This study aims to analyse the rhetorical organization of English RAs in the fields of soft and hard science, which are written by highly reputable lecturers in their established-career period and are published in Scopus-indexed journals. The findings revealed how the authors organize the moves and steps rhetorically throughout sections in their RAs. This is in accordance with the previous studies mentioned above (Kanoksilapatham, 2005; Maswana, Kanamaru, & Tajino, 2015; Ye, 2019). However, a quite notable difference lies in how the authors in these two fields manifest moves in the Method section. The difference could be due to the disciplinary variation

between soft and hard science. This certainly can be evidence for people who want to write articles for international publications to realize the importance of recognizing the disciplinary variation they want to investigate. The findings also found that the more expert and skilled people are in their established-career period, the more structured rhetorical moves are used in their RA.

Moreover, further research needs to be done since this study only presented a limited corpus of RAs from two disciplines (soft and hard science). Therefore, analysing this issue with a larger corpus and from numerous disciplines is highly recommended. In addition, this research can be a guideline for expert writers to evaluate and improve their RAs in order to increase the productivity of publications in reputable journals. The findings of this study can also help novice writers get an overview of RAs written by expert writers, which can shed light on the discourse competencies commonly used in academic culture, so it enables novice writers to be part of the expert writers' group.

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