

An Analysis of Cross-Discipline Research Article Introduction Structures through A Modified Create- A-Research-Space (CARS) MODEL

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ABSTRACT

The main purpose of this study is to identify a standard structural pattern of introduction sections of two different disciplines, i.e. research articles from English Language Teaching (ELT) and Civil Engineering (CE) corpora. Twelve articles were randomly chosen from four established journals of both disciplines namely; Language Learning (LL), Foreign Language Annals (FLA), Transportation (T) and Structural Survey (SS). Content analysis was manually conducted by incorporating the modified CARS model of Anthony's (1999) in identifying the introductions' rhetorical moves in both disciplines. Besides move structures, the headings, length and paragraphing element were highlighted for the comparison purposes. As a result, the rhetorical move of the modified model is totally applicable in CE corpora but it slightly fit the presented structural patterns in ELT research articles. Thus, it is noticeable that relying on this modified model has only given the general guide for authors of both disciplines. The model could be further revised in allowing 'emerging' patterns of any discipline writing styles and these findings can also be added to existing literature of interdisciplinary RA introduction genre analyses.

Keywords: modified CARS model; introductions; structural pattern; genre analysis

1. INTRODUCTION

Teaching in polytechnics, as one of the Technical and Vocational Education Training (TVET) higher learning institutions in Malaysia, has exposed researcher to a wider scope of English Language Teaching (ELT) orientation. The elements of language teaching are not only limited to the pedagogical knowledge or English as a subject content. It has transcended across the interdisciplinary matters like understanding unfamiliar technical terms, exploring patterns of different writing genres and employing an eclectic content knowledge of target students' background. This added combination is beneficial for the lecturers to plan, execute and revise their lessons according to their students' needs. Besides that, the institutional requirement in promoting research culture to the academic staff calls for collaborations between English lecturers and other lecturers of different technical and commercial backgrounds which indirectly enhances the regularity of technical texts usage in their practices. Subsequently, English lecturers are viewed as both language and content experts by the subject-content lecturers in producing an article especially in English article writing or translating their reports into English so that their studies possess higher possibility to be selected for publication by the submissions to academic journals. This portrays a part of the generalization held by this academic community towards English lecturers in this higher institution context. Indirectly, it unintentionally promotes English lecturers to unconsciously explore other disciplines in order to fit the expectation. Thus, it moves the researcher to conduct a small scale study in identifying a standard writing structure that can occupy both English Language Teaching (ELT) community and civil engineering (CE) discipline, as it is one of the engineering courses taught in polytechnics. In a common ground, this type of study is closely related to genre analysis research in which normally studied by applied linguists (Anthony, 1999), but it is considered as a starting point for those who are directly involved in academic writing community, particularly if one is teaching to heterogeneous groups from different disciplines, to explore the topic (Dudley-Evans, 2000). This genre analysis study is meant to investigate the structural pattern of introduction section, as it is considered as a troublesome part (Swales, 1990) and a crucial aspect (Afful, 2009) in academic writing. The findings are expected to provide suggestion on general organization of introductions of research articles which may applicable to both disciplines' writing framework. Moreover, the findings of the study is hoped to be considered as a contribution to the literature of similar comparative studies of this particular genre analysis.

2. BACKGROUND

2.1 Research Articles

Basically, research article (henceforth RA) is one of the genres in discourse analysis. It is a written communicative medium in the academic field. It can be in a form of a chapter in an edited collection, an article in a scientific journal, a technical report, a conference paper or an academic monograph (Noorzan & Page, 2012). One of the

early studies of research articles was conducted by Hill, Soppelsa & West in 1982 (as stated in Bunton, 2005). They have categorized the ‘rhetorical divisions’ of an experimental-research paper into three main units: *Introductions, Procedure (Methods & Results) and Discussion*. These researchers also proposed that the framework of the contents started off from general to particular, and from particular moved back to general. Swales (1990) referred this particular structure as an hour-glass diagram (Figure 1) in which can be considered as ‘a more manageable starting-point’ to be taken into account in order to discuss the sections of research article writing. Based on this regard, Swales’s ground-breaking work has provided valuable insights of RA rhetorical structural analysis through *Introduction-Method-Result-Discussion (IMRD)* concept, and generated numerous studies of individual sections of research articles in various disciplines (Kanoksilapatham, 2007).

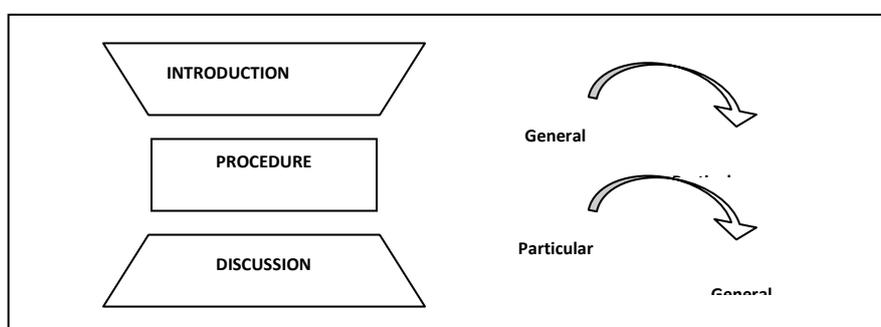


Figure 1: An hour-glass diagram

Anthony (1999) also agreed that the generalization of this structure can be applied to other RA structural patterns in different cultures and disciplines. Due to this fact, academic writing authors who are not native speakers (e.g. Atai & Habibi, 2009; Arvay & Tanko; 2004, Samraj, 2002 and Golebiowski, 1999) and those who involve in professional fields such as software engineering (e.g. Anthony, 1999), biochemistry (e.g. Kanoksilapatham, 2005), and applied linguistics (e.g. Holmes, 1997; Samraj, 2005) tend to employ an ‘hour-glass’ pattern to organize the flow of their research contents. Besides that, more systematic discourse analysis or genre analysis studies on the separate RA sections have been repeatedly conducted by most linguists whom relied on the Swale’s initial concept. These studies revealed different findings on abstract (Samraj, 2005; Zand-Vakill & Kashani, 2012), introduction (Swales & Najjar, 1989; Samraj, 2002; Arvay & Tanko, 2004; Afful, 2006; Habibi, 2008; Atai & Habibi, 2009), literature review (Kwan, Chan & Lam, 2012), discussion (Holmes, 1997), and conclusion (Bunton, 2005). Also, there are researchers who opted to study the whole piece of the research structures by exploring different disciplines other than English RAs (e.g. Kanoksilapatham, 2005; Golebiowski, 1999). Besides that, the research objectives on various lexicogrammatical features of the contents, ranging from tense choice to citation practices, are also repeatedly explored and investigated by numerous authors (Atai & Habibi,

2009; Samraj, 2002). However, as the specific structures of the research article have been analyzed, attention has been mainly directed towards the introductions (Holmes, 1997).

2.2 Introductions and ‘moves’

Attention to research article introductions was closely associated with the employment of Swales’s move structure (Zand-Vakill & Kashani, 2012). In writing academic text, presenting introduction is an attempt to provide the necessary background and context of the research (Noorzan & Page, 2012). The introduction of a research should be organized in a way to make sure that the readers can understand more about the synopsis of a research which would be explicitly explained later in the article. It depicts the research overview by giving a background of the study, putting forward the problems as significant factors of the study then describing how and why the problems will be solved. Swales (1990) claimed that introductions are known to be troublesome, and nearly all academic writers admit to having more difficulty with getting started on a piece of academic writing than they have with its continuation. Slightly similar concern had been voiced out by Bhatia (1993), who claimed RA introduction as a genre, where embedded ‘moves’ are likely identified in a particular content of introduction as the variation of its structural pattern differs in term of the research disciplines’ requirements and written document forms could be a tedious task to the writers. In a general writing thesis guide, Noorzan and Page (2012) listed as following;

1. Introduction explains why the research is being done (rationale),
2. It is crucial for reader to understand the significance of the study, the aspects of the problem that will not be discussed (scope),
3. The factors or conditions that prevent writers from achieving their objectives, what conditions they assume (assumption),
4. Writers’ expectation on what will be proved to be correct or incorrect by their research (hypotheses).

In short, it is clear that introduction is considered as presenting an opening to a specific topic in exploring the unknown content of the research from writers’ output to the readers’ input. Furthermore, this section contextualizes a research study being presented in the relevant literature, claims its novelty and presents main features of the study (Swales, 1990). Due to that, it provides essential basis of the readers’ current capacity to understand the process and product in specialized research disciplines (Swales & Najjar, 1987). For instance, in the ‘hard’ science research articles, a new knowledge claim judgment is directly stated and shared by both readers and writers. It means that both readers and writers get the same basic schemata on the topic outcome highlighted which may not be easy for the readers of different background to grasp the concepts. On the other hand, in social science research articles, writers may well address a situation (on what will happen next) with a little consensus as they expect the readers to understand it from different schemata or methodological and ideological viewpoint (Swales & Najjar, 1987). In addition, Zappen viewed RA introductions as an encapsulated problem-solution model whereby writers needed to highlight goals, latest capability, problems and

features of methodology employed in fitting into a research topic area (as cited in Swales, 1990). Thus, the writers included evaluation commentary and related their own contribution (in the past, present and future) of the research area development. The flow of the research article content which was based on this particular model followed the subtexts sequence. It began with the goals, and then followed by current capacity, preceded by problems and solution, and it ended up with the criteria of evaluation.

Initially, the proposed move scheme, i.e. Create-A-Research-Space (CARS) model, which was introduced by Swales in 1981, has provided scholarly attraction to the move structure of RA introduction (Zand-Vakill & Kashani, 2012). The concept was also used as a model for the empirical description of the rhetorical organization (Golebiowski, 1999). Hence, there have been revisions made up to the proposed scheme since its original establishment conception in 1981. In 1990, Swales revised his previous four-move structure to a three-move pattern: 1.Establishing a territory, 2.Establishing a niche, and 3.Occupying the niche (Afful, 2009; Zand-Vakill & Kashani, 2012). It incorporated the findings of Coopers, who applied it in engineering, and Crookes, who applied it both in the ‘hard’ and ‘social’ science (as cited in Anthony, 1999). Each move consists of communicative steps (refer Figure 2). Since then, these moves and steps within the model have been mostly applicable and widely used in introduction analysis (Swales, 1990; Kanoksilapatham, 2007; Afful, 2009). As such, the scheme is considered to be one of the most influential text rhetorical structures to date and its acceptance in the genre analysis field is reflected in the number of textbooks which directly quote it (Afful, 2006).

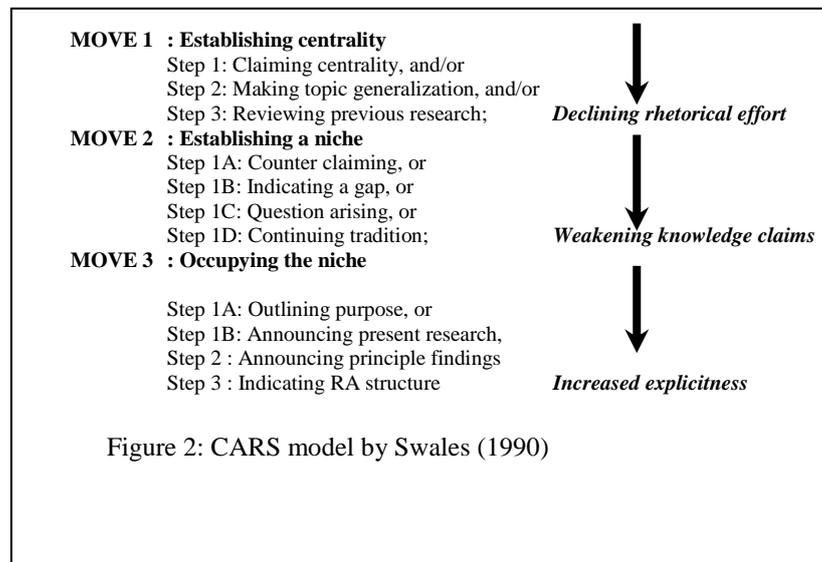


Figure 2: CARS model by Swales (1990)

Yet, there are studies on research article introductions from different disciplines that provide conflict of interests related to genre analysis based on Swale’s model. For

instance, research article introductions in environmental science discipline, particularly referred to Conservation Biology, were written more similarly to abstract section in which centrality claim was made, then followed by strong justification for the actual research required was reported (Samraj, 2005). This reveals the overlapping rhetorical structure was employed in both genres; it could contribute to confusion in drawing the distinctive elements in abstract and introduction section. In a way, the same rhetoric patterns were repeated after one another though different writing purposes are initially intended. It was required as the 'persuasive function' is needed in both sections in which a 'centrality claims' in an abstract could increase the 'value of the research' (Samraj, 2005).

Another example is the study of three subdisciplines of research articles, namely; English as Specific Purposes (ESP), sociolinguistics and psycholinguistics by Habibi (2008). The findings indicated that Swales's model does not cater some significant variation featured in these RA introductions due to the rigidity rhetorical bound of the model which should be noted if improvising the moves to the element of a 'pattern-seeking' structure rather than 'pattern-imposing' (Habibi, 2008). Although there were some flaws in the applicability of the model to these subdisciplines, it still provided a sound writing framework to the researchers (Habibi, 2008). Hence, disciplinary variations are much more welcomed in reflecting the underlying theory of their epistemology orientation which is significant in their own disciplines (Dudley-Evans, 2000). In short, the order of Swales's moves varies depending on the structure in the research articles of different disciplines involved.

Other than that, in software engineering discipline, Anthony (1999) concluded that CARS model does not account for some important features of the introduction since there were no definitions of terms, exemplifications of difficult concepts and evaluation of the research presented. On the contrary, these elements were essential in such discipline as an alternative to 'preach the cannibals' (Anthony, 1999). In this case, the 'cannibals' were actually referred to the interdisciplinary audience who are not necessarily up to date in this rapidly developing field (Dudley-Evans, 2000), but they acquire the results into their own subject frameworks (Anthony, 1999). Thus, in his modified version of CARS model, Anthony (1999) added one step (3-3) under move 3 to acknowledge the 'evaluation of research'. Apart from that, his model is almost the same as Swales's except for the flexibility element added into selected steps (e.g. 2-1A, 2-1B, 2-1C and 3-1A) by adding the word 'and'. This was anticipated that more than one type of step could be used at a particular place, it may raise disagreement yet it was necessary to categorize in separately in software engineering (Anthony, 1999).

Despite many genre analyses conducted into the aspects of introduction rhetorical move, most of such studies employ the applied linguistic orientation particularly in term of their discussion parts to the discourse community. These may not be able to hold the interest of the practicing language teachers or lecturers, or non-natives or subject-content practitioners who are only intended to acquire some basic knowledge regarding the interdisciplinary structural patterns in a direct and simple

medium. With this in mind, the present study was designed to address this vignette as well as to investigate the interdisciplinary structural patterns of ELT and Civil Engineering (CE) research article introductions by using Anthony's modified CARS model (1999) in a small scale study. As summarized by Zand-Vakill & Kashani (2012), simple exposure to research articles in one's field may not confirm the ability to acquire the writing convention without the explicit teaching of academic writing. Instead, helping the audience to notice and become aware of the different contexts and discourse functions in academic disciplines provide an inclusive view of the general variation of the research articles. Contribution to the literature of similar comparative analyses may also be the outcome of this study.

3. METHODOLOGY

For the analysis purpose, inductive qualitative content analysis was employed. Two language based journals (which were merely focused on English Language Teaching - ELT) and another two engineering based journals (that were categorized under Civil Engineering, or CE, field) were randomly selected due the availability of the corpora as the instruments for the data collection purposes. Three research articles were randomly selected from each corpus which was obtained from open online databases. The publication dates for these journals were ranged from 2000 up to 2006. Thus, these introductions could be considered as having similar weightage of their content inputs and the styles of introduction writing might be slightly similar to one another, taking on the writing trend of this stipulated term. Similar effort shared by Zand-Vankill and Kashani (2012). So, all together, there would be 12 RA introductions. For ELT corpus, 3 introductions were chosen from *Foreign Language Annals* (FLA) and, the rest were selected from *Language Learning* (LL). Another 6 were picked up from *Structural Survey* (SS) and *Transportation* (T) which represented CE corpus.

Despite of the convenience factor sampling applied in this study design, each selected RA had been identified to have clear introduction section. Then, each journal was coded as follow:

Table 1: List of the selected research articles

| Journals | Research Article Titles |
|-----------------|---|
| LL1 | The Validation of Three Scales Measuring Anxiety at Different Stages of the Foreign Language Learning Process: The Input Anxiety Scale, the Processing Anxiety Scale, and the Output Anxiety Scale. |
| LL2 | Attitudes, Orientations, and Motivations in Language Learning: Advances in Theory, Research and Applications |
| LL3 | Sex and Age Effects on Willingness to Communicate, Anxiety, Perceived Competence, and L2 Motivation Among Junior High School French Immersion Students. |
| FLA1 | Foreign Language Education, Academic Performance, and Socioeconomic Status: A study of California Schools. |
| FLA2 | Behaviours & Attitudes of Effectives Foreign Language Teachers' Results of a Questionnaire Study |
| FLA3 | Foreign Language Teachers' Perceptions of Students' Academic Skills, Affective Characteristics, and Proficiency: Replication and Follow-up Studies |

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| | |
|------------|---|
| T1 | Effects of Increased Awareness on Choice of Travel Mode |
| T2 | Bayesian Estimation of Multinomial Probit Models of Works Trip Choice. |
| T3 | Modelling Passenger Demand for Parkway Rail Stations. |
| SS1 | Condition Monitoring of Vibrating Steel-Reinforced concrete Beams Through Wavelet Transforms. |
| SS2 | Benchmarks to minimize water leakages in basements |
| SS3 | The Assessment of Risk in Conservation Refurbishment Projects |

At the first layer analysis, the common writing organization was highlighted in each introduction. The word count was run to determine the length, and identifying the organization of headings, and paragraphing structure were carried out and taken into consideration for providing additional justifications to the move structure patterns in each selected introduction. At the second layer analysis, following the analytical framework of modified CARS model (refer Figure 3), textual boundaries between each sentence were identified line by line through the repetition of manual content analysis. On the surface, this move were similar to Swales' but an additional step, Move 3-3, was included in order to highlight the value of the research, and how it extends previous results (Anthony, 1999). This added move was intentionally inserted in dealing with the problems on how to distinguish the statement of secondary findings (3-2) and the statement about the value of the research (3-3). The identification of moves and steps of the identified textual boundaries was marked by [[]], and then coded by stating the number of a specific move (e.g. Move 2) and a step (e.g. step 1B), coded as 2-1B, to the highlighted phrases or sentences as shown in the following example:

...foreign language anxiety occurs at each of the following three stages of the second language acquisition process: input, processing, and output. **[[Although, MacIntyre and Gardner (1994b) were careful to note that “the term *stages* in Tobias...they nonetheless contended that the interdependence of three stages does not preclude that foreign language anxiety can be conceptualized as occurring at these stages.]]** **2-1B**

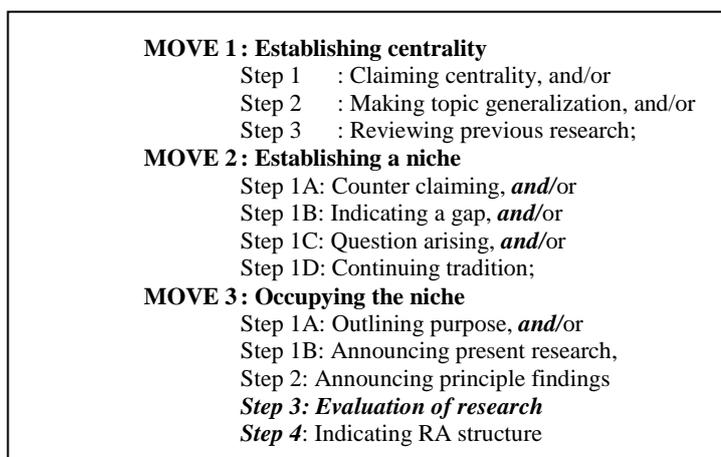


Figure 3: The modified CARS model (Anthony, 1999)

All findings were recorded and organized into tables for a clear comparative analysis purposes, which later discussed in the following section.

4. FINDINGS AND DISCUSSIONS

4.1 First Layer Analysis –Heading, Length and Paragraphing

In the first stage of analysis, the research article introductions were analyzed according to these elements:

Headings

Based on the findings, almost all selected introductions were written under *Introduction* heading. One particular introduction in *Transportation* (T3) from CE corpus used the term *Introduction and objective* meanwhile one introduction in *Language Learning* (LL2) from ELT corpus named a specific title for the heading, i.e. “*The Inherent Social Dimension of Language Learning Motivation*”. Yet, another 2 introductions from *Language Learning* (LL1 & LL2) were not given any headings or titles for this introduction section. The write up began directly after the abstract section of the research article.

Table 2: Summary of headings, length and paragraph

| Journals | Headings (name/title) | Words | Sentences | Paragraphs | Table |
|-------------|------------------------------|-------|-----------|------------|-------|
| LL1 | No name/title | 848 | 32 | 7 | - |
| LL2 | Specific title | 231 | 6 | 1 | - |
| LL3 | No name/title | 217 | 7 | 2 | - |
| FLA1 | ‘Introduction’ | 870 | 24 | 5 | - |
| FLA2 | ‘Introduction’ | 332 | 14 | 3 | - |
| FLA3 | ‘Introduction’ | 892 | 14 | 2 | - |
| T1 | ‘Introduction’ | 1299 | 49 | 6 | - |
| T2 | ‘Introduction’ | 1208 | 45 | 15 | - |
| T3 | ‘Introduction and objective’ | 1247 | 48 | 9 | 1 |
| SS1 | ‘Introduction’ | 682 | 20 | 3 | - |
| SS2 | ‘Introduction’ | 198 | 10 | 3 | - |
| SS3 | ‘Introduction’ | 121 | 6 | 2 | - |

Length and Paragraphing

The introductions’ lengths were also analyzed based on the total of words and sentences. It is stated that introduction from CE journal, *Transportation* (T1) has the longest length of word counts. It consisted of 1299 words which were organized in 6 paragraphs of 49 sentences. Ironically, the shortest length of introduction section is also identified in CE journal, *Structural Survey* (SS3) whereby it was written in 6 sentences which were presented in 2 paragraphs only. For the ELT journals, the longest length of introduction section was found in *Foreign Language Annals* (FLA3). It was written using 892 words which were organized in 2 different paragraphs that consisted of 14 sentences. Whereas, there were 217 words found in the shortest introduction section of ELT journal, *Language Learning* (LL3), which consisted of 7 sentences in 2 different paragraphs. Other than that, there was a rare

feature found in this analysis because the introduction section in *Transportation* (T3) included an illustration as an additional figure in the section.

All in all, the introduction section of the CE research articles consisted of longer length in term of their content elaborations as compared to the ELT research article introductions. This may be related to what Swales (1990) has suggested that shorter and longer introductions may have differing characteristic features; therefore, various lengths of texts can be reviewed as a purpose to make it a general conclusion depending on the context of the discipline. Thus, it will not be an abnormal finding if the professional authors of civil engineering field to include more backgrounds into their introductions compared to the linguists whom are known having more ways with words.

4.2 Second Layer Analysis – Rhetorical Moves

Table 3: Move structures in RA introductions

| No of move | LL1 | LL2 | LL3 | FLA 1 | FLA 2 | FLA 3 | T1 | T2 | T3 | SS1 | SS2 | SS3 |
|------------|------|------|------|-------|-------|-------|------|------|------|------|------|------|
| 1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 | 1.3 | 1.3 | 1.1 |
| 2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 | 1.2 | 1.1 | 1.2 |
| 3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 2.1B | 2.1A | 2.1C | 1.3 | 1.2 | 3.1A |
| 4 | 1.2 | 2.1C | 2.1C | 3.1A | 2.1B | 2.1A | 1.3 | 1.3 | 1.2 | 1.1 | 2.1A | 3.4 |
| 5 | 1.3 | 3.4 | 3.4 | 3.1B | 1.2 | 2.1B | 1.1 | 2.1A | 1.3 | 3.3 | 1.3 | |
| 6 | 2.1A | 3.1B | 3.1B | 3.2 | 2.1C | 1.3 | 1.2 | 2.1B | 2.1C | 1.3 | 3.3 | |
| 7 | 2.1B | | 3.1A | 3.1B | 2.1D | 2.1C | 1.3 | 2.1C | 1.2 | 2.1A | 3.4 | |
| 8 | 2.1C | | | | 3.1B | 3.3 | 2.1A | 3.3 | 2.1A | 1.2 | | |
| 9 | 3.1C | | | | 3.1A | 2.1B | 2.1D | 1.2 | 2.1D | 3.3 | | |
| 10 | 3.2 | | | | 3.4 | 3.1A | 1.1 | 1.3 | 2.1B | 2.1C | | |
| 11 | | | | | | 3.4 | 1.3 | 3.1A | 1.3 | 3.1A | | |
| 12 | | | | | | 3.1A | 3.1A | 3.4 | 1.2 | 3.3 | | |
| 13 | | | | | | | 3.3 | 3.3 | 1.1 | | | |
| 14 | | | | | | | 3.1B | 2.1B | 1.2 | | | |
| 15 | | | | | | | 3.2 | 1.3 | 1.3 | | | |
| 16 | | | | | | | 3.4 | 2.1C | 3.3 | | | |
| 17 | | | | | | | | 1.3 | 1.2 | | | |
| 18 | | | | | | | | 3.3 | 3.3 | | | |
| 19 | | | | | | | | 3.1A | 1.2 | | | |
| 20 | | | | | | | | 1.3 | 3.1A | | | |
| 21 | | | | | | | | 3.4 | 3.4 | | | |
| 22 | | | | | | | | | 3.3 | | | |

For the second layer of the analysis, the ‘moves’ of each research article introduction structural pattern was analyzed based on the modified CARS model by Anthony (1999). The result of the analysis indicated that the longest move is found in *Transportation* (T3), whereby 22 move occurrences were identified. This is related to the number of words (1247 words) included in this particular section. Yet, it also was resulted of the cyclicity of certain moves that appeared more than 2 times in the structure. This is related to complexity of the topics being presented in the introductions (Kanoksilapatham, 2005). Thus, the references of previous research and the statistical facts were included in introduction of this journal to provide an explicit background of the topic to the readers. Clearly, the concept of ‘preaching to the cannibals’ in Anthony (1999) is also found in this CE article with the author’s aim to present as much general statements as possible before downsizing the scope into the specific objectives of the study. As a result, identification of Move 1-2 (which is **making topic generalization** whereby the statements included were about the knowledge or practice, phenomena and uniqueness of the highlighted topic) appeared 7 times in this particular introduction section. These things were restated from the starting point up to the nearly end point of the introduction structure (refer Table 3).

However, it differed from the longest move in ELT corpus. The *Foreign Language Annals* (FLA3) RA introduction consisted of 892 words and somehow managed to be organized in 12 move occurrences only. Then, the distribution of the move steps was evenly scattered whereby 4 moves were found from each major step. It indicates that the flow of this section is more organized than the introduction of *Transportation* (T3). The tendency to state more citations (Hyland, 1999 as cited Dudley-Evans, 2000) did not affect the author to summarize their points to support the statements which were smoothly written from general to specific scope. The additional step (3-3) was also identified in this research article; it means that ‘evaluation of research’ is also included in ELT research. Thus, structural pattern based on the modified rhetoric move of Anthony’s could be applicable given that language teaching field has always evolved from time to time especially in term of instruction and material development (Habibi, 2008).

Similar to previous claim, the shortest move occurrence appeared to be influenced by the number of the words too. This is because the *Structural Survey* (SS3) introduction was elaborated in 121 words only. So, there were respectively 4 move occurrences in its structure. Furthermore, there was no move 2 appeared in this structure. Hence, it means this introduction did not establish any niche to the study. This might support the hypothesis that engineering papers will show ‘brevity and linearity’ (Swales, 1990) as compared to language and linguistic papers. It is also opposite to the aforementioned concept of ‘preaching to the cannibals’ by Anthony (1999) in the previous paragraph. Hence, it is agreeable that any presented models can be used as an instructional guide on how to write yet over reliance on it and rigidity to fulfill all features are absurd (Anthony, 1999; Dudley-Evans, 2000; Habibi, 2008).

On the other hand, the shortest move in ELT corpus, i.e. *Language Learning* (LL2), consisted of 6 rhetoric moves which were able to cover all three types of moves. It shows that the authors of ELT community possess the ability to blend everything and state the clarity to present the points. It is related to the characteristic which was emphasized by Dudley-Evans (2000) that the efficient use of 'integral structure' in most humanities and social science studies is noticeable. So, the content for this particular introduction structure was written in 231 words only. Aforementioned, the main factor that influences the length of move occurrences is the number of words written in those RA introductions of both two corpora.

From the similar result, almost all introductions (except for three CE journals) started with move 1-1, i.e. **claiming interest of the research area**. It was written in clear description by referring to the highlighted issue in a sentence such as:

In the past two decades, foreign language researchers and educators have increasingly focused their attention on foreign language anxiety among the most important affective predictors of foreign language achievement. (LL1)

In the last 50 years, many researchers and professionals responsible for teacher development and evaluation have sought to establish criteria for assessing effective teaching. (FLA2)

Rapid population and industrial concentration in Seoul Korea, over the last 30 years has increased the demand for transportation. (T2)

Conservation refurbishment work is a highly specialized area of activity, particularly in all aspects of scheme design. (SS3)

These introductions mostly ended with move 3. They ended by **indicating research article structure** (which was Move 3-4). For example:

To this end, this study first identified teaching behaviours and attitudes that are specific to foreign language teaching. It then identified teaching behaviours and teacher attitudes that are considered to be discipline specific. (FLA2)

The experiment was conducted in the field with one experimental and one control group. It consisted of a pre-treatment phase, a treatment phase, and a post-treatment phase. Attitudes and habits were measured by questionnaires and travel behavior by diaries. Deliberate decision making was induced in the experimental group in the treatment phase, where the subjects had to indicate the contextual conditions for each planned trip-chain, and indicate alternative travel modes if they planned to use the car. (T1)

The present paper is organized as follows. Section 2 presents the model, and Section 3 contains the data. Section 4 contains the results and discussion, and Section 5 presents the summary and conclusions. (T2)

This paper discusses research findings of these preventive strategies, evaluated from 987 cases. (SS2)

The second frequent ending move is **evaluation of research** (move 3-3) whereby all the four introductions were from CE corpus. It shows that the emphasis on evaluation of current research is indeed a favourable move in this field as it is frequently identified in software engineering corpus (Anthony, 1999). However, this move also featured in one of the language research article, which means the move may be considered as an emergent style of writing among ELT academic authors due to the development of their research genres.

In addition, there were introductions which ended by **outlining the purpose** (3-1A), **announcing present research** (3-1B), and **announcing principal findings** (3-2). Here are the examples for these moves respectively:

Move 3-3

From these results deeper analyses can be carried out, by applying this tool to actual structures. (SS1)

Move 3-1A

...The goal of this study was to examine its relation to age and sex and to establish the concomitant links with other language-related variables among young (aged 12 – 14 years) late immersion students in an L2 acquisition context. (LL3)

Move 3-1B

In this study, the 2003 Growth API scores were used for analyses. (FLA1)

Move 3-2

...Also examined was the extent to which these scales adequately measure and reflect the three-stage conceptualized. (LL1)

The most frequent move employed in this analysis is move 1-3 whereby there were 25 occurrences identified throughout the studied RA introductions. This carries the fact that the reviews of the previous research acted as the main generators to expand the content elaboration by organizing the presence of definitions of terms, exemplifications of difficult concepts, and evaluation of the research presented (Samraj, 2002). Thus, this gives clearer illustration and description to the readers in understanding the gist of the main background and purposes of the research. This move is also recurrently become visible in the CE corpus as compared to ELT corpus. This finding is contradicted with the claim that more justifications are

needed in addressing a situation of social science discipline - by giving potential readership a wide and varied explanation- whereby the authors manipulate the introduction section to provide a plausible context for ensuing findings so that as many readers as possible are attracted to their perspective (Swales & Najjar, 1987). However, this style of writing could happen if the engineering authors consistently occupy the same structural style to attract the readers' focus since the recent readers of engineering research might be unfamiliar with much of the terminology and background information necessary to understand the research (Anthony, 1999). In short, there is no total definite standard structural pattern of writing to distinguish CE corpus from ELT corpus.

Moreover, the most unfavourable move is move 3-2 (**announcing the principle findings**) whereby there were only 3 occurrences had been identified from the overall results. Two occurrences identified in ELT corpus indicate that giving expected result of the study seems to be a preferable style in social science discipline. Yet, in both disciplines, summarizing announcement the principle findings is not much preferred to attract readers' attention in understanding the purpose of the study. Last but not least, the additional move 3-3 also occurred in ELT research article introduction though it was initially employed to cater the structural pattern of engineering corpus. Hence, this modified move is applicable to be used in social science genre analysis study.

5. CONCLUSION

The aim of this study is mainly to investigate the structural pattern of RA introductions from 2 different disciplines (ELT and CE) by applying the modified CARS model by Anthony (1999) in order to get the standard framework of writing academic journal by the target audience; in this case it specifically refers to the English lecturers who directly or indirectly involve with the academic writing community. Eventually, the results of these RA genre analyses prove that structural pattern in ELT and civil engineering corpora are different in ways as mentioned in the findings before. In addition to the 'extra' move included (3-3), is slightly suitable to be included in analyzing the ELT corpus. However, this little influence of the engineering writing element – i.e. evaluation of research – indicates that this element is potentially adapted by authors from this discipline. This is because there is no specific structural pattern can be proposed for each discipline can be formed as a standardized writing framework as variation of each discipline goes beyond the nature of written discourse. It is due to the facts that many interdisciplinary fields of related or different disciplines are formed and wider multi-functional single disciplines are evolved in which allow variation of observation even in sub-disciplines' context (Atai & Habibi, 2009). This study result repeats the same tones acknowledged by Dudley-Evans (2000), Kanoksilapham (2007), and Habibi (2008) in term of the variation of discipline requirement in different writing style.

In addition, the CARS model alone is enough for the researchers to apply it in fitting the intended rhetorical pattern in writing process or for linguists to start the evaluation of genre analysis on introductions since the modified model does not really help to recognize the disparity between the two disciplines involved. Even

Anthony (1999) claimed that CARS model as 'one of the text stronger descriptions to date'. Similar opinion stated by Kanoksilapatham (2007) in the contrastive analysis study of RA structures in Thai and English regarding Swales' move possibility in genre analysis application, it considered as a means to provide a baseline for comparison. However, over reliance on the model should be avoided (Zand-Vakill & Kashani, 2012).

In conclusion, the results of this small scale study can be used to familiarize readers with the concept of rhetorical move in academic writing and genre analysis. Readers can be from linguists and non-linguists background or subject-content researchers. Thus, in facilitating or collaborating with target groups who are actively involved academic writing, the language lecturers may rely on any structural patterns to instruct their peers in organizing their RA introductions depending on the intended contents to be included based on their research focus. Last but not least, there are chances for other researchers to reconstruct the modified move in order to be better corresponded with any introduction structures by allowing the 'emerging' patterns of any discipline writing styles and these findings can also be added to existing literature of interdisciplinary RA introduction genre analyses.

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