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Genre Analysis and the Hard Sciences: An Investigation of Research Proposal Introductions in Agricultural Science Discipline

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Abstract

This paper examines the schematic structure and linguistic analysis of research proposal introductions (RPIs). Twenty MPhil Research Proposal Introductions written by Agricultural Science students of the University of Cape Coast were randomly selected. The study used Swales' revised Create-A-Research-Space (CARS) model to account for the schematic structure of the *moves* found in MPhil research proposals. The findings revealed that three obligatory *moves* are used by the writers to realize their communicative purposes in RPIs. These *moves* correspond to the Swalesian revised CARS' model but there are differences observed in the selection of steps as most of the Research Proposal (RP) writers tend to select *step* 1a (indicating a gap) of *move* 2 instead of the other *steps*. The RP writers also seem not to state the structure of their Research Proposals (RPs) as found in Research Articles (RAs). The study also found that the RP writers normally highlight differences in the steps without observing a linear form of *moves* as noted in the CARS model. The complex sentence with the simple sentence was found predominantly used by the RP writers. Sentences with a maximum of two dependent clauses were equally preferred by the writers. This study has immense significance to discipline specific instructors, graduate students and future researchers.

Keywords: genre analysis, *introduction,* genre, *discipline*, research proposals, agricultural science

1.0 Introduction

In the past three decades, scholars in genre studies have shown considerable interest in research article (henceforth, RA) together with its multi-sections such as the introduction in different disciplines (Anthony, 1999; Nwogu, 1997; Ozturk, 2007; Posteguillo, 1999; Samraj, 2002), abstract (Hyland, 2000; Li, 2011 Samraj, 2005), literature review (Bruce, 2014; Kwan, 2006), method (Lim, 2006), discussion and conclusion (Yang & Allison, 2003). Two of the reasons for showing such an overwhelming interest are that the RA is easily accessible and provides knowledge to sustain the academic community.

Another academic genre that has drawn the attention of scholars is students' dissertations (Bunton, 2002; Paltridge, 2002, Ridley, 2008; Shaw, 2003) and theses (Al-Ali & Sahawneh, 2011; Hewings, 1993; Samraj, 2002; Taherah & Sayyed, 2014) written as part of institutional requirement for the award of various degrees ranging from first degree to terminal degrees respectively. The dissertations and theses have sections such as acknowledgements, abstracts, introductions, methods, discussions, results and conclusions sections. These sections have also been studied extensively. The dissertations and theses are written by students by way of contributing to the sustenance of knowledge in the academic community. Hence, contribution to knowledge is not only done by experts/academics as claimed by Swales (2004) but also the students who are known as novice/neophyte. Since the two groups, thus, academics and neophyte contribute to knowledge creation in the academic community and scholars have shown interest in RAs, there is the need to also consider another important academic genre, the research proposal or prospectus (henceforth, RP). This is because the RP though produced by students, is a way they indirectly declare their intentions of adding to existing knowledge.

The RP according to Al-Riyami (2008: 1) is 'a detailed description of a proposed study designed to investigate a given problem.' It is also an important document written for a review committee in a university or for a research-funding agency. It describes what a proposed research is about, what it is trying to achieve and how it will go about doing that and what we will learn from it and why it is worth learning (Punch, 2003: 268). RP as used in this study is written by graduate students who have expressed interest in joining the academic discourse community.

Just as research articles (RAs) can be written in different disciplines, the research proposals (RPs) as well, can be found in different disciplines. One of such disciplines identified is Agricultural Science. It has been observed that (RPs) in Agricultural Science have not attracted much attention although relatively few studies have been conducted in the discipline (Rubio, 2011; Shi & Wannaruk, 2014). These studies have been conducted on the RAs of Agricultural Science and not in the RPs. Thus, studies on RPs in Agriculture Science have not attracted attention from scholars as far as we know.

In this study, Swales' modified version of the CARS model is used to identify the schematic structure of RP introductions written by Agricultural Science Master of Philosophy Students. This approach will help to find out the *moves* and *steps* used in realizing the communicative purpose of the writers. The study will also make a linguistic analysis of the *moves* and *steps* to identify linguistic items that are predominantly and least used by the RP writers to help in interpreting the use of these linguistic items. According to Bhatia (1993: 25), analyzing frequency of syntactic properties is useful because it will provide the empirical evidence to confirm or disprove some of the intuitive and impressionistic statements that we all tend to make about the high or low incidence of certain lexico-grammatical features of various genres. This study will thus, be analyzed based on four paradigms:

a. Frequency of occurrence of *moves* and *steps*
b. Sequence/ordering of the *moves* and *steps*
c. Textual space allocated to the *moves* and *steps*
d. The linguistic realizations of *moves* and *steps* in terms of structural type of sentences.

Thus, it will therefore be in order to find out the applicability of Swales' (1990, 2004) revised version of the CARS model in order to add to the existing stock of knowledge in the literature. Additionally, the study will help create the awareness among both graduate students and their instructors who find themselves in the discipline, how knowledge is reported in the discipline. Hence, instructors in the discipline, Agricultural Science, will have the empirical evidence to know how their students report knowledge in the discipline. The results of the study might help the instructors to identify the strengths and weaknesses of their students and help them (the students) to overcome such difficulties. Where it becomes necessary to mount a course or readjust the course outline to help the students, it will not be a difficult thing to do. Future researchers may also be compelled to find out how knowledge is reported in other sections of the RP in the same discipline or in different disciplines.

2.0 Notions of *introduction* and *discipline*

'Introduction' as a genre, according to Bhatia (1993:79), is conventionally understood as a piece of discourse which introduces other forms of lengthy discourse, be it a research article, a project report, a laboratory report or a student essay. It is the introduction that motivates research writing and justifies its publication (Swales, 1990:138). Writing of introduction has been identified by Swales (2004) as the most difficult thing to do. Hence, many students' writers find it very difficult to write but it is the introduction that gives readers the impetus to read. Rubio (2011:259) also confirms that the introduction as an opening paragraph, poses quite a challenge for both native and non-native writers because it is this section that they project themselves for the first time. Hence, it is therefore necessary to identify what constitutes the introduction in research proposals.

After Swales' (1981) pioneering work on research article introductions (RAIs) in three different disciplines: hard sciences, social sciences and health and life sciences, RAIs in different disciplines have also received an overwhelming attention from scholars. The introductions sections of RPs on the other hand, as far as we know, have received relatively little attention from scholars and it is our aim to fill this gap created in the existing literature.

Becher (1989) holds the view that there are no simple definitions of the term discipline and that the concept of academic discipline is not as straightforward as it would appear and where the boundaries lie between one discipline and another, is a difficult thing to do. Despite different opinions shared by scholars on the word, 'discipline' (Thompson, 2001; Afful, 2005; Youngblood, 2007), in the present study, discipline is used in line with Slavicek's (2012) definition as 'classification of knowledge'. Mac-Donald, 1994 in Becher (1989) classifies academic disciplines into soft and hard sciences. Hard sciences according to him, include science disciplines while soft science disciplines include the discipline in the humanities and social sciences. Hence, Agricultural Science can be classified under hard sciences and it is this discipline that the present study focuses on. This discipline, as an applied science, has different branches: crop science, animal science, soil science and agriculture engineering. Each of these branches is considered as a part of the discipline, Agricultural Science.

3.0 The Revised Version of Swales' (1990, 2004) Create-a-research-space (CARS) Model

Swales (1990, 2004) formulated a model known as the create-a-research space (CARS). This model was used in analyzing research article introductions (RAIs) in three disciplines: hard sciences, social sciences and health and life sciences. Swales identified four moves initially in the three disciplines, but he was criticized and later had to revise the model. In revising the model, he identified three moves instead of the initial four moves. It is this revised model that is used in analyzing the RPs of Agricultural science MPhil students.

The introduction of an RA normally displays a three-move approach as found in Swales' revised version of the CARS model. The first *move* known as *Move* 1- (Establishing a research territory) is comprised of three *steps*: claiming centrality, making topic generalization(s) and reviewing items of previous research. *Move* 2- (Establishing a niche) comprises four *steps*: counter claiming, indicating a gap in research, raising questions and continuing a tradition. Swales is of the view that two of the four *steps* are most frequently used. These are counter claiming and indicating a gap in research. Continuing a tradition and raising questions are barely found in introductions of several disciplines. *Move* 3 - (Occupying a niche) is made of four *steps*: outlining purposes, announcing present study, announcing principal finding and outlining RA structure. Swales points out that these *moves* and *steps* constitute an RA introduction. The following is a table that illustrates the various *moves* and *steps* found in the revised model.

Table 1

Swales' modified version of the CARS model

MOVE 1	**ESTABLISHING A TERRITORY**
Step 1	Claiming centrality
	and/or
Step 2	Making topic generalization(s)
	and/or
Step 3	Reviewing items of previous research
MOVE 2	**ESTABLISHING A NICHE**
Step 1A	Counter-claiming
	or
Step 1B	Indicating a gap
	or
Step 1C	Question-raising
	or
Step 1D	Continuing a tradition
MOVE 3	**OCCUPYING THE NICHE**
Step 1A	Outlining purposes
	or
Step 1B	Announcing present research
Step 2	Announcing principal findings
Step 3	Indicating significance of study

Source: (Swales, 1990: 141)

The essential concept that underlies Swales' rhetorical analysis is the *move*. A *move* according to Swales (2004:226) is a rhetorical or discoursal unit that performs a coherent communicative function. It is a functional unit and not a formal unit. Indeed, the various constituent of a move is termed a step. Hence, we find that in the three *moves* identified by Swales, each has a number of steps that make up the *move*. In the current study, a slight modification has been made because research proposal writers do not indicate the structure of their proposals as found in the CARS model, hence, we have replaced *step* 3 of *move* 3 by *indicating significance of study* as found in the Table above.

4.0 Research Questions

This study tries to find answers to the following research questions.

1. What organizational structures (*moves* and *steps*) characterize the research proposal introductions (RPIs) in Agricultural Science (AG)?
2. What linguistic resources in relation to structural types of sentences are predominantly and least employed in the RPIs of AG to help the writers accomplish their communicative purposes?

5. 0 Data Collection Procedures and Method of analysis

5.1 Data Collection Procedures

The corpus for the study is extracted from MPhil proposals written by graduate students of the College of Agriculture and Natural Sciences in the University of Cape Coast. 20 RPs written by the graduate students and submitted in 2010 for admission into the Graduate School were randomly selected. The choice for the RPs as the main source of data is based on a reason that Agricultural Science as a discipline, as far as we know, has received relatively little attention. Also, Swales' revised version of the CARS model has been found suitable in analyzing different disciplines, hence, it will be appropriate to find out the applicability of the model on the discipline, Agricultural Science.

Our interest is in analyzing only textual data as against other forms of data such as ethnographic (participant observation, interviews). A reason for focusing on textual analysis is to ensure an in-depth analysis of the data in order to identify the actual constituents of *moves* and *steps* that the AG writers use in realizing their communicative purposes. Additionally, if we are able to increase the number of data used by the AG writers, our findings can be generalized (Dornyei, 2007) as compared to studies that limit themselves to few data which makes it very difficult to generalize findings. It has been noticed that studies that combine other forms of data such as interview and observation data seem not to deal with large number of data (Bin, 2006; Jalilifar, et al, 2013).

5.2 Method of Data Collection and Analysis

An introductory letter was sent to the Department of Soil Science which is one of the sub-divisions of the College of Agriculture and Natural Resources in the University of Cape Coast. The administrator in the department instructed her subordinate to offer the needed help. Thus, files containing students' MPhil research proposals were given out to enable us select those that we needed. After randomly selecting the RPs, we made photocopies of the 20 RPs selected and returned the originals to the administrative worker. In order to avoid ethical problems in relation to research, the names of the students together with their index numbers were covered before

photocopying. Each data was coded in order to help distinguish one from the order and to index the data. Pseudonyms such as AG1, AG2, AG3, AG4 … to AG20 were used to make it easy in identifying each data. The next step was to read each data thoroughly to identify and label the *moves*. This is in agreement with the CARS model because according to Renu et al (2013) the first step to take in genre analysis is to identify and label the *moves* and *steps*. To ensure consistency and reliability of the data, two research assistants who are experts in the field of study were employed. Thus, problems that were found in the identification and labeling of the *moves* and *steps* were resolved through discussions. The next step after the identification and labeling of the *moves* and *steps* was to identify the number of times each *move* appears in a data (the frequency of occurrence of the *moves* and *steps*). This identification was also followed by indicating the order of the *moves* and *steps* and the textual space allocated to each of the *moves*. Textual space according to Afful (2005) is the allowable grammatical unit that makes up each *move*. Thus, textual space can be identified in terms of units such as a word, phrase, clause and a sentence. In this study, the sentence was selected as the unit for measuring the *moves* and *steps*. Hence, the number of sentences found in each *move* was counted. The frequency of occurrence and textual space allocated to each *move* determine the relative importance the writers attach to each *move* (Afful, 2005).

The identification and labeling of structural type of sentence based on Quirk et al's (1985) classification of sentences into simple and non-simple sentences (complex, compound and compound complex) was next considered. Each sentence which was found a move was marked as being S (Simple), Cplex (complex), C (compound) and CC (compound complex). A quantitative analysis was done to help identify which structure was predominantly and least used in realizing the communicative intentions of the writers. Various interpretations have been given to explain the writers' choices following the examples of Wiredu (2012).

6. 0 Results and Discussions

In analyzing the data, the following procedures were observed: frequency of occurrence of *moves* and *steps*, sequence of *moves* and *steps,* textual space allocated to *moves* and *steps* and linguistic realization of *moves* and *steps* in terms of structural types of sentences.

6.1 Frequency of occurrence of moves and steps

Table 2

Frequency of Moves and Steps in AG data

Moves	**Steps realizing the moves**	**No of AG RPs with moves/ steps**	**Total= 20 Freq.%**
1. Establishing a territory	1. claiming centrality 2.making topic generalization(s) 3. reviewing previous research 1, 2 &3	1 5 6 8	5% 25% 30% 40%
2. Establishing a niche	1a. counter claiming 1b. indicating a gap in previous research 1c. raising questions 1d. continuing a tradition	1 11 0 0	5% 55% 0% 0%
3. Occupying the niche	1a. outlining purposes/research questions 1b. announcing present research 2.announcing principal findings/expected outcome 3.indicating significance/contributions of study 1a & 3 1a & 2	6 0 0 0 0 10 3	30% 0% 0% 0% 0% 50% 15%

From the table above, three *moves* were found in the RPIs of Agricultural Science. These moves are *move* 1 (Establishing a territory), *move* 2 (Establishing a niche) and *move* 3(Occupying the niche). In the case of *move* 1, it is realized by three steps. These steps are not sequenced as found in Swales' revised CARS model. 8 (40%) of the AG writers combined all the three *steps* in realizing *move* 1 while 6 (30%) used only step 2 in realizing the *move*. For *move* 2, the step that was most frequently used is *step* 1b. This is because 11 (55%) of the AG writers used this step in

realizing the *move*. This confirms a modification in the CARS model made by Swales (2004). According to him, the *step* that has been found most frequently used is *step* 1b. *Steps* 1c and 1d of *move* 2 are no longer used since most of the RP writers find it more appealing to use *step* 1b *indicating a gap in research* than any of the other *steps*. Thus, it was found in the analysis that none of the writers used *steps* 1c and 1d to realize the *move*. Indeed, it can be observed that though the study dealt with research proposal as data, it was found that the constituent of an RAI seems to be similar to the RPI. In the case of *move* 3, 10 (50%) of the RP writers combined *steps* 1a and 3. Also, 6 (30%) of the RP writers used only *step* 1a in *move* 3. It was also found that the RP writers did not show interest in using *steps* 1b and 2 in realizing *move* 3. The writers' choices made in RPI showed that they did not select the same *steps* to realize each of the *moves*. Hence, in just a single discipline, there are different ways of reporting knowledge.

6.2 Sequence of *moves* and *steps*

In this part of analysis, the study showed interest in how the *moves* are ordered or arranged in each of the data. The study showed interest in finding out whether or not the *moves* appear in a linear order as found in the CARS model. The following is a table that shows how the *moves* and *steps* are ordered in the data.

Table 3

Sequencing of Moves in RPs of AG

Move Patterns	Count T-units	Percentage
1 Move Sequence (Total = 1)		
1	1	5%
2 Move Sequence (Total = 5)		
1 > 3	5	25%
3 Move Sequence (Total = 5)		
1 > 2 > 3	5	25%
4 Move Sequence (Total = 2)		
1 > 2 > 1 > 3	2	10%
5 Move Sequence (Total = 2)		
1 > 2 > 3 > 1 > 3	2	10%
6 Move Sequence (Total = 5)		
1 > 2 > 1 > 3 > 1 > 3	1	5%
1 > 3 > 1 > 3 > 1 > 3	1	5%
1 > 2 > 1> 2 > 1 > 3	1	5%
1 > 2 > 1> 2 > 3 > 1	1	5%
1 > 3 > 1> 2 > 3 > 1	1	5%

Table 3 above illustrates the *moves* as they appeared in the AG data. In all, three *moves* were found in the entire data. These are *moves* 1, 2 and 3 as found in Swales' CARS model. It was however, found that only 5 (25%) of the RP writers observed a 3-*move* sequence (1>2>3) in their RPIs. Surprisingly, 1(5%) of the writers observed a 1-*move* sequence. It was also found that 5

(25%) of the RP writers observed a 6-*move* sequence yet each has a different order. An observation made from such an order is that some of the *moves* are repetitive. This is because it was found that the RP writers used *move* 1 more than once in a data. In the 5-*move* sequence (1>2>3>1>3) for example, it was found that *moves* 1 and 3 are repetitive. In the same manner, in the 6-*move* sequence, *moves* 1, 2 and 3 are also cyclical. By implication, the RP writers seem to be inconsistent in their choices of *moves* since about 15(75%) observed an order different from one another.

6.3 Textual Space Allocated to *moves* in RPIs of AG

The number of sentences that are found in each *move* was considered. The table below illustrates the spaces allocated to each of the moves.

Table 4

Textual space allocated to *moves* in RPIs of AG

Moves	**No. of T-units**	**Percentage**
Move 1 (establishing a territory)	336	72.57%
Move 2 (establishing a niche)	20	4.31%
Move 3 (occupying the niche)	107	23.11 %
Total	**463**	**100%**

From the table above, *move* 1 *establishing a territory* has a total of 336 (72.57%) sentences and it occupies the largest textual space, it is followed by *move* 3, *occupying the niche*. The least textual space is occupied by *move* 2 *establishing a niche*. The RP writers attach greater significance to *move* 1 because it is the *move* that is supposed to persuade members in the academic discourse community they hope to join, to accept that their RPs are researchable. This same *move* is used by the RP writers to convince their readers that they are conversant in their field of study and they have a deeper knowledge in identifying current-state-of-the-art knowledge in the area of study. All these contribute to the expansion of the textual space. It is, therefore, unsurprising that *move* 1 occupied the largest textual space.

Move 2 occupied the least textual space. This observation has been found in other studies. A reason might be that the RP writers lay emphasis on just one of the steps (step 1a) and do not focus on the other steps.

6.4 Linguistic Realizations of the Moves

The linguistic structures in terms of structural types of sentences found in each of the moves can be illustrated in the table below.

Table 5

Structural Types of Sentences in Move 1

Types	**No of Sentences in AG**	**%**
Simple	110	32.73%
Complex	177	52.67%
Compound	26	7.73%
Compound complex	23	6.84%
TOTAL	**336**	**100**

From the table above, 177 (52.67%) complex sentences were used by the RP writers to realize *move* 1. This means that the most frequently used linguistic structure is the complex sentence. The complex sentence is a sentence which has one main clause and one or more dependent clauses (Quirk et al, 1985). This type of sentence is non- simple. It also means that such a sentence can consist of two, three, four or more clauses. The complex sentence is the most preferred choice made by the writers in realizing *move* 1. The next choice the RP writers make after the complex sentence is the simple sentence which is a sentence made of a subject and a predicate. The compound complex is the least used in realizing the *move*.

Table 6

Structural Types of Sentences in Move 2

Types	**No of Sentences in AG**	**%**
Simple	6	30%
Complex	13	65%
Compound	0	0%
Compound complex	1	5%
TOTAL	**20**	**100%**

It is indeed obvious that the complex sentence is the most preferred choice of structural type of sentence used in realizing *move* 2. From the table above, 20 (100%) sentences were used

by the RP writers in *move* 2, 13 (65%) of the sentences are complex while the compound sentence which is made of two independent clauses was not used by the RP writers. The next choice after the complex is the simple. By implication, the choice of sentence structure for *move* 1 is similar in *move* 2 despite the differences in communicative purposes.

Table 7

Structural Types of Sentences in Move 3

Types	**No of Sentences in AG**	**%**
Simple	17	15.88%
Complex	82	76.63%
Compound	6	5.60 %
Compound complex	2	1.86%
TOTAL	**107**	**100%**

The complex sentence is still the most preferred choice used by the RP writers in *move* 3. A total of 82 (76.63%) of the sentences used are complex. The simple sentence is the next choice after the complex while the least preferred choice is the compound complex 2 (1.86%).

The complex sentence is the most preferred structure used in realizing the *moves*. The simple sentence is the second choice of the RP writers. The compound and the compound complex seem not to be appealing to the RP writers; hence, they are barely used in the data.

The choice of the complex sentence is significant. According to Wiredu (2012), the choice of the complex sentence allows for the pile of information. It also allows for information ranking. Ranking simply mean that ideas in the information are arranged in such a way that while some ideas are found to be most important others are support the main idea only.

Indeed, the analysis has indicated that the communicative purpose seems to have no influence on the choice of the structural types of sentences. This is because each of the *moves* has a different communicative purpose, yet the RP writers choose between the complex and the simple.

It was also observed that the compound complex sentences are barely used in each data but then the compound complex has some features of the complex sentence. That is to say that the compound complex also has the feature of dependency. Based on that it was found necessary to

consider sentences that have dependent clauses and those without the dependent clauses in each of the *moves*.

Table 8

Distribution of dependent clauses in Move 1

1.	**Sentences without dependent clauses**	**No of sentences in AG**	**%**
	Simple	109	32.44%
	Compound	26	7.73%
2.	**Sentences with dependent clauses**		
	Complex	178	52.97%
	Compound complex	23	6.84%
	TOTAL	**336**	**100**

It is obvious from the table above that sentences with dependent clauses (complex and compound complex) are the most preferred choice made by the RP writers in achieving *move* 1. This is true in the sense that out of 336 (100%) sentences used in *move* 1, 201 (59.81%) are sentences with dependent clauses while 135 (40.17%) are sentences without dependent clauses. The following is an example of a sentence with dependent clause taken from the data.

An example:

1. *Surveys have shown that over 75% of farmers in Ghana do not control the black pod disease at all while about 2-3% sprays between one and two times in a season*. **AG13**

In sentence 1 above, there are two dependent clauses: 1) *that over 75% of farmers in Ghana do not control the black pod disease at all* and 2) *while about 2-3% sprays between one and two times in a season.* The dependent clauses point to the fact that all the ideas in the sentence are not of the same status. There is a main idea that is *Surveys have shown.* This main idea is supported by the dependent ideas. The use of such sentences helps the RP writers to expand ideas in sentences.

Table 9

Distribution of dependent clauses in Move 2

1.	**Sentences without dependent clauses**	**No of sentences in AG**	**%**
	Simple	6	30
	Compound	0	0
2.	**Sentences with dependent clauses**		
	Complex	13	65
	Compound complex	1	5
	TOTAL	**20**	**100**

From the table above, sentences with dependent clauses are the most preferred choice of the AG writers since out of the 20 (100%) of the sentences used, 14 (70%) have dependent clauses. The following example also attests that such sentences allow for idea expansion.

An example:

2. *There is sufficient evidence that there is not much research on socio-economic aspect of the mango industry in Ghana.* **AG16**

In sentence 2 above, the RP writer could have ended just immediately after the main clause, *there is sufficient evidence* and this could have served a purpose but to ensure that the readers get the deeper meaning of such a structure, the RP writer decided to expand the piece of information through the use of the dependent clause, *that there is not much research on socio-economic aspect of the mango industry in Ghana*. The use of the dependent clause also informs readers that ideas expanded in the dependent clause indicate that there is a level of dependency in such sentences. That is to say that the dependent clause depends solely on the independent clause to make meaning.

Table 10

Distribution of dependent clauses in Move 3

1.	**Sentences without dependent clauses**	**No of sentences in AG**	**%**
	Simple	17	15.88
	Compound	6	5.60
2.	**Sentences with dependent clauses**		
	Complex	82	76.63
	Compound complex	2	1.86
	TOTAL	**107**	**100**

Indeed, sentences with dependent clauses are still the most preferred choice of the RP writers despite the differences in the communicative purposes in each of the moves. In realizing Move 3, the writers select a total of 84 (78.49%) which are sentences with dependent clauses. The following is an example used by one of the writers.

An example:

3. *The research is important because it will focus among other things, the various principles of the control methods of Chromolaena odorata.* **AG1**

The sentence above has a dependent clause *because it will focus among other things, the various principles of the control of chromolaena odorata.* By implication, the use of such a dependent clause is elaborating on the main idea in the sentence.

The analysis done here has shown that the RP writers have preference for the use of sentences with dependent clause in realizing different communicative purposes expressed in each move. This observation confirms that in the dependent clauses, ideas that the RP writers want to express in sentence are ranked in such a way that the most important ones can be found in the independent clause while the supporting ideas are also found in the dependent clauses.

Again, the analysis has shown that even though the communicative purpose of each move is different the RP writers prefer sentences with dependent clauses in realizing each move

identified in their RPIs. Hence, it is not the communicative purpose that influences the choice of structural types of sentences to use.

Another observation made is that the dependent clauses selected by the RP writers are of varying numbers. It was found that while some make use of one dependent clause, others make use of two or more.

Table 11
Number of dependent clauses per sentence in Move 1

Types	**No. of sentences in AG**	**%**	**Total no. of clauses**
Sentences with 1 dependent clause	139	69.15	139
Sentences with 2 dependent clauses	34	16.91	68
Sentences with 3 dependent clauses	24	11.94	72
Sentences with 4 dependent clauses	3	1.49	12
Sentences with 5 dependent clauses	1	0.49	5
Sentences with 6 dependent clauses	-	-	-
TOTAL	**201**	**100**	**296**

Sentences with one dependent clause are the most preferred choice of the RP writers since out of 201 (100%) sentences used in *move* 1, 139 (69.15%) have one dependent clause. Sentences with two dependent clauses 34 (16.91%) are the next preferred choice. The margin between sentences with one dependent clause and two dependent clauses is wider than that between sentences with two dependent clauses and three dependent clauses. This observation indicates that sentences with one dependent clause are the most frequently used by the RP writers. On the other hand, sentences with five dependent clauses are barely used.

A reason for the pervasive use of sentences with one dependent clause is that it helps the RP writers to be simplistic in relation to the kind of meaning they hope to convey. Using sentences that have more than three dependent clauses might lead to ambiguity, dangling modifiers and other

meaning related problems which in our view, are avoided by the RP writers through the predominance use of sentences with just one dependent clause.

Table 12
Number of dependent clauses per sentence in Move 2

Types	**No. of sentences in AG**	**%**	**Total no. of clauses**
Sentences with 1 dependent clause	8	57.14	8
Sentences with 2 dependent clauses	6	42.85	12
Sentences with 3 dependent clauses	0	0	0
Sentences with 4 dependent clauses	0	0	0
Sentences with 5 dependent clauses	0	0	0
Sentences with 6 dependent clauses	0	0	0
TOTAL	**14**	**100**	**20**

The table above indicates that sentences with 1 dependent clause are more than sentences with two dependent clauses. Sentences with 3 dependent clauses and above are not used by the RP writers at all. This confirms a fact that in both *moves* 1 and 2, the number of dependent clauses is limited to two. Sentences with three or more dependent clauses are barely used. The following is an example of a sentence with one dependent clause used in realizing *move* 2.

An example:
5. *There is sufficient evidence that there is not much research on socio-economic aspect of the mango industry in Ghana.* **AG16**

Table 13
Number of dependent clauses per sentence in Move 3

Types	**No. of sentences in AG**	**%**	**Total no. of clauses**
Sentences with 1 dependent clause	30	34.48	30
Sentences with 2 dependent clauses	38	43.67	76
Sentences with 3 dependent clauses	19	21.83	57
Sentences with 4 dependent clauses	0	0	0
Sentences with 5 dependent clauses	0	0	0
Sentences with 6 dependent clauses	0	0	0
TOTAL	**87**	**100**	**163**

In achieving *move* 3, the RP writers prefer sentences with two dependent clauses since it can be found that out of 87 (100%) sentences used, 38 (43.67%) are with two dependent clauses. This is followed by sentences with one dependent clause 30 (34.48%). Sentences with more than three dependent clauses are not used by the RP writers. This observation confirms once again that the RP writers want their introductions to be devoid of mistakes hence the decision to use sentences with a maximum of three dependent clauses. The following is an example of a sentence with two dependent clauses used in this move.

An example:

6. *There is, therefore, the need to assess the performance of the 'Aribro' strain in other places away from the breeding farms and other locations where the birds may be raised on either small scale or large scale.* **AG2**

In this example, two dependent clauses can be found: 1) to assess the performance of the Aribro strain in other places away from the breeding farms and 2) where the birds may be raised on either small scale or large scale. Indeed, the first dependent clause provides specific information about its headword, *need* and the second also perform a similar function, where, *locations* is the headword that the dependent clause touches on. There is therefore, no meaning related problem here as one finds it easy to get the exact meaning of the dependent clauses used.

The study observed that the dependent clauses used by the RP writers are of different types. Six types of dependent clauses: relative, subordinative, interrogative, that-nominal and non-finite clauses (infinitival and participial) are found used in varying percentages by the RP writers. The various types found in realizing each of the moves can be found below.

Table 14
Types of Dependent clauses in Move 1

Types	**No. in AG**	**%**
Relative	85	28.71
Infinitival	75	25.33
Interrogative	1	0.33
Participial	64	21.62
Subordinative	48	16.21
That-nominal	23	7.77
TOTAL	**296**	**100**

From the table above, the relative clause 85(28.71%) is the most preferred choice of the RP writers in *move* 1. The next choice of the RP writers is the infinitival 75(25.33%) clause. According to Beaman, 1984 in (Wiredu, 2012), the relative clause is usually used for purposes of identification as well as to provide additional information about the noun it modifies technically known as the antecedent. The following are some examples of how the RP writers use the relative clause in realizing *move* 1.

Examples:

7. *Furthermore, practices that remove the vegetative material prevent addition of organic matter into the soil.* **AG6**

8. *Cassava plant (Manihot esculenta Crantz) is a woody shrub with edible tuberous roots, which grows in tropical and subtropical areas of the world.* **AG12**

The sentences above have relative clauses. In sentence 7, the relative clause *that remove the vegetative material* expands the information on the antecedent (practices). The use of such a clause allows the RP writers to give elaboration on the noun it modifies. At the same time, readers also understand the content of the information better. Sentence 8 has the relative clause *which grows in tropical and subtropical areas of the world* and the relative clause here, provides additional information about the antecedent. The interrogative 1(0.33%) clause on the other hand, is not attractive to the RP writers. This is because the clause does not allow the RP writers to provide detail information as compared to other types of dependent clauses.

Table 15
Types of Dependent clauses in Move 2

Types	**No. in AG**	**%**
Relative	3	15
Infinitival	3	15
Interrogative	2	10
Participial	4	20
Subordinative	8	40
That-nominal	0	0
TOTAL	**20**	**100**

From the table above, it can be found that the subordinative clause 8 (40%) is the most preferred choice of the RP writers in realizing *move*2. The writers prefer to use the subordinate clause in realizing *move* 2, because it gives them the opportunity to indicate which ideas are main and which ones are supporting. The same number of sentences makes up both the relative and

infinitival clauses. The that-nominal clause is not used by the RP writers. Surprisingly, the interrogative clause is slightly recognized by the writers.

The following is a table which examines the types of dependent clauses used in *move* 3.

Table 16
Types of Dependent clauses in Move 3

Types	**No. in AG**	**%**
Relative	25	15.33
Infinitival	43	26.38
Interrogative	17	10.42
Participial	38	23.31
Subordinative	21	12.88
That-nominal	19	11.65
TOTAL	**163**	**100**

In realizing *move* 3, the writers prefer the use of the infinitival clauses 43 (26.38%). This is followed by the participial clause 38 (23.31%). The infinitival clause, as used in realizing this *move,* also performs a function similar to the relative clause. The dependent clause that receives the least attention is the interrogative.

The analysis has shown that in realizing each of the *moves*, the writers select a different type of dependent clause. In the case of *move* 1, the most preferred choice is the relative clause and it is followed by the infinitival. *Move* 2 has the use of the subordinative as the most preferred choice while in *move* 3 the writers select the infinitival clause as their preferred choice. We can therefore deduce that the writers' choice of dependent clause in each of the three *moves* is different. This observation points out that each *move* has a different communicative purpose hence, the type of dependent clause selected by the writers confirms it. We can also deduce from the analysis that even though a different type of dependent clause is used by the writers in realizing each *move* there is the need for further studies to be conducted in other disciplines so as to provide empirical evidence to confirm or disprove this finding.

7.0 Conclusion

This study sets out to use the modified version of Swales' CARS model to identify how MPhil students of the School of Agriculture and Natural Sciences, University of Cape Coast use moves in realizing the communicative purpose of their research proposal introductions, how the *moves* they used are sequenced, the textual space they allocate to each of the *moves* and structural

types of sentences they use in realizing each *move* in their research proposal introductions. The study found that three *moves* are used in the RPI introductions, these *moves* are not linearly sequenced as found used by expert writers in Swales' (2008) study. Additionally, more textual space is given to *move* 1, and less space offered to both *moves* 2 and 3. In terms of structural types of sentences used, it was found that the RP writers predominantly use the complex sentence and follow it with the simple sentence. The RP writers equally show interest in using sentences with a maximum of two dependent clauses. The dependent clauses are found to be of varied types ranging from relative, subordinative, non-finite, nominal and interrogative clauses. Each move selects a different type of the above clauses. Various reasons have been assigned to the choices made by the RP writers. The study is of immense significance to discipline specific instructors, graduate students and future researchers.

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