

***“Although if is more frequent than whether...”:*  
An Analysis of the Uses of Adverbial Clauses in  
Philippine English Research Articles**

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**Abstract**

The purpose of this paper is to analyze the distribution and the functions of the semantic classes of adverbial clauses in the different organizational sections of L2 research articles in the field of applied linguistics and language teaching. Compared with nouns and verbs, the study of adverbs and adverbials is less popular because of the notion that they are not the main elements of sentence meaning. However, adverbs and adverbials are significant because of the roles they play in discourse. This study used 20 research articles selected from four journals and a book, which contained research papers written by Filipino authors. The clauses were manually marked and classified according to their semantic classes, and were counted separately according to the four conventional organizational units identified: Introduction, Methodology, Results and Discussion, and Conclusion/Recommendations (I-M-R-C). Then their functions in the different parts of the articles were analyzed. One of the salient findings is the high incidence of condition and cause clauses in the introduction and results and discussion sections. In the introduction, it is extensively used to establish the research territory; while in the results and discussion section, it plays a role in the explanation of research findings. It is recommended that more studies be undertaken such that the uses of adverbial clauses in different genres of discourse can be investigated and comparisons of findings can be made across genres and across languages.

## Introduction

Compared with nouns and verbs, the study of adverbs and adverbials is less popular because of the notion that they hardly construct the main elements of sentence meaning and they do not possess various grammatical functions in sentence (Ogura, Shirai, & Bond, 1997). However, adverbs and adverbials are significant because of the roles they play in discourse. Among the many types of contextual indexal devices, adverbs and adverbials are most often utilized in establishing deictic references of place, time, manner, and other parameters, which greatly affect the meanings in the texts (Hinkel, 2003). In his study of the meanings, functions, and roles of adverbs and adverbials with modals in spoken and written texts, Hoye (1997) stresses their importance and extraordinary diversity in the corpora of the English language. Adverbials modify sentence elements that include adjectives, other adverbs, verbs, and entire clauses. The diverse semantic functions of adverbials fall into several classes, and adverbials of place, time, duration, frequency, cause, and manner are among those that constitute the largest classes.

Some studies have examined the syntactic properties of adverbials in other languages and compared them with the English adverbials. An example of this is the work of Devi (2002) in his analysis of conditionals and concessives in Indian languages. Kannada, a Dravidian language, is compared with the other two Indo-Aryan languages in order to find out their similarities and dissimilarities in forming concessive and conditional clauses. Results of the analysis of the concessives reveal that the concessive clauses in these three languages follow that of the English. Kannada, Assamese and Bengali concessive clauses generally precede the main clause as in the English language. However, the conditional systems in Indian languages differ greatly from English. Moreover, there are more similarities than dissimilarities between the Indo-Aryan languages Assamese and Bengali. On the other hand, it was found that Kannada, which is not related to those two languages, differ to a considerable extent.

Our knowledge of the functions and uses of adverbials is widened with the development of electronic corpora and computer aided analysis in the past several years. It made possible the analysis of large corpora of published written texts as well as in spoken texts,

not only in the native English varieties but as well as in the context of English as a second or foreign language. An analysis of the functions of adverbial clauses in the Kenyan subcorpus of International Corpus for English (ICE) gleaned interesting findings about adverbial clauses. Clauses of purpose are mostly expressed by to-infinitives and only a few by finite clauses, a feature which is found mainly in the persuasive texts and was interpreted to be a formal feature particularly characteristic of persuasive writing. Clauses of condition, mainly finite, are predominantly found in the spoken text and are the fourth most frequent type in the Kenyan subcorpus. Most clauses are introduced by *if* and *unless*, and other forms are rare. In addition, causal clauses are found to be more important in the spoken text, which are predominantly introduced by *because*. Along with other clauses, concessive clauses are also represented in the corpus but have fewer instances compared to temporal, causal, conditional, and purpose clauses.

Rich insights into the meanings and uses of adverbs and adverbials are made available to us in Hinkel's (2003) study, in which she presents her quantified analysis of deictic, modifying, and intensifying adverbials, as well as some semantic classes of adverb clauses found in academic essays written by first-year native speakers (NS) and academically-advanced non-native speakers (NNS). The most striking differences between the two groups are found in the frequency rates of amplifiers and emphatic adverbs. Those intensifiers are strikingly more frequent in L2 essays and results in a colloquial tone in NNS academic writing. In the analysis of adverbial clauses, Hinkel (2003) found that cause and condition clauses are more frequent in many NNS texts, a feature which is also found in informal speech.

Despite the information on the functions of adverbials in discourse available in previous studies, there is dearth of information about their uses in academic writing, specifically in L2 research articles. Among others, we have heard of move analysis within the genre analysis framework from published works such as those of Salager-Meyer (1992) on verb tense and modality distribution in medical abstracts, Brett (1994) on the results section of sociology articles, Henry and Roseberry (2001) on letters of application, and Martin (2003) on contrastive analysis of Spanish and English paper abstracts in experimental social sciences, but we are uninformed

about what genre analysis can reveal about the use of adverbial clauses in L2 research articles. The word genre refers to a distinctive category of discourse of any type which can be distinguished by its features (Salager-Meyer, 1992). Genre analyses have been carried out in the academic domain (Swales, 1996) and in English for specific purpose contexts (e.g. Salager-Meyer, 1999; Roseberry, 2001) and have been proven to be an effective approach in the analyses of the communicative functions, rhetorical strategies and linguistic features of texts.

The purpose of this paper is to analyze the distribution and the functions of the semantic classes of adverbial clauses in the different organizational sections of L2 research articles in the field of applied linguistics and language teaching. This is in response to the usual call in linguistic studies to analyze linguistic categories using different genres. Research article is the genre chosen for this study because of the pivotal role it plays in the dissemination of knowledge. The findings of the study would prove beneficial not only to researchers but also to students and teachers of academic writing.

Specifically, the present study aims at providing answers to the following questions:

1. How are the semantic classes of full adverbial clauses distributed across four organizational units or sections of the research articles and across the specific moves?
2. What are the uses of full adverbial clauses in the different sections of research articles?

## **Methodology**

### ***Selection of the Articles***

Convenience sampling was employed for the choice of the research articles--that is, the articles that were readily available and served the purpose of the study were chosen. The corpus is made up of 20 research articles selected from four journals and a book which contained research papers written by Filipino authors. They were published in the Philippines in the field of applied linguistics and language teaching. The following sources constitute the present data:

Philippine Journal of Linguistics (PJL) –	7 articles
Tanglaw –	4 articles
The ACELT Journal –	5 articles
In Focus, Selected writings in Applied Linguistics –	3 articles
The Philippine Special Education Journal—	1 article

### ***Procedure and Data Analysis***

This researcher read the articles in order to identify the full adverbial clauses, which are introduced by adverbial markers (reduced adverb clauses are hardly represented in the present corpus) using the list made available by Eli Hinkel (2003) and Quirk, Randolph, Greenbaum, Sidney, Leech, Geoffrey, and Svartvik (1985). The clauses were manually marked and classified according to their semantic classes, and were counted separately according to the four conventional organizational units identified: Introduction, Methodology, Results and Discussion, and Conclusion/Recommendations (I-M-R-C). Almost all the articles followed the IMRC structuring. In the articles where functional headings or content headings were employed by the writers, this researcher looked at the communicative purpose of those sections to see which heading belongs to the I-M-R-C units.

The adverbial clauses were examined in two stages: (1) their distribution and (2) their function in the text. The analysis of the functions per move in the introduction and results and discussion sections were based on Swales' (1990) and Ruiying and Allison's (2003) frameworks. The second stage of the analysis was motivated by the results of the first phase: adverbial clauses were more frequently used in the introduction and results and discussion sections. This researcher believes that move analysis of the two sections might prove useful in our understanding of the uses of adverbial clauses in relation to the different moves in the sections being considered. The adverbial clauses identified in the first phase of the analysis were read several times in order to analyze the contexts of their use in relation to the different moves. Then they were coded in the margins of the research articles (e.g. R-M3 explain results; I-M1 review research) to facilitate location and counting of their occurrences.

The frequency of occurrence and percentage of adverbial clauses were recorded. The computation of percentages is either with respect to the total number of adverbial clauses per section or with respect to the total number of adverbial clauses in the whole corpus. Within each section, the percentage is with respect to the number of adverbial clauses per semantic class. Frequencies and percentages are presented in tables. Since figures are short of explaining the functions of the clauses in the texts, the description of the functions/uses of the adverbial clauses being considered is done through the examples randomly extracted from the data. It is not the intention of the present study to present categories for the functions/uses of the adverbial clauses under each semantic class. A follow up study using a concordance software might do well in doing this task since it can show the contexts of each adverbial clauses in a click of a mouse.

### ***Scope and Limitations***

The examination of full adverbial clauses is focused on the four semantic classes: conditional, cause, concessive, and purpose clauses. The limitations of the study consist in its (1) small sample and (2) inability to fully describe the syntactic properties of the adverbial clauses, although mention of some of the syntactic realizations of the clauses cannot be avoided in the course of the discussion.

## **Results**

The findings of the present study will be presented and discussed as follows: first, I will present the overall distribution of the full adverbial clauses across the four organizational units and describe their uses/functions. Next, I will move on to the investigation of the specific location of the full adverbial clauses in each move of the introduction and results and discussion sections.

### ***The Semantic Classes of Full Adverbial Clauses***

Table 1 presents the semantic classes of full adverbial clauses under consideration in the different sections of research articles.

Table 1  
*Semantic classes of full adverbial clauses in research articles*

Semantic Class	Introduction	Method	Results and Discussion	Conclusion/Recommendations	Total	
	f	f	f	f	f	%
Condition	19	14	31	10	74	38
Cause	23	10	30	10	73	37
Concession	15	6	17	4	42	22
Purpose	1	2	1	2	6	3
Total	58	32	79	26	195	100

Taking the overall percentage of the semantic classes of full adverbial clauses as displayed at the extreme right of Table 1, we find the condition category with the highest occurrence, constituting almost 40 percent of the total number of clauses across organizational units. Coming close is the cause category with almost the same frequency as the cause class. The concession class trails after the cause category, and the purpose category comes last. Interestingly enough, the importance given to condition and cause clauses is revealed when we look at the extent to which they are used in each section of the article. The writers of research articles under study utilized more condition and cause clauses across four organizational units.

The above figures seem to tie up with the results of Eli Hinkel's (2003) study of NS and NNS academic essays in which condition and cause adverbial clauses received more median frequency rates than concession and purpose clauses did. It should be pointed out, however, that in the present study, although concessives did not appear as more salient in comparison to the frequencies of cause and condition clauses, they had a considerable representation (22% of the total adverbial clauses) in the sample.

Looking now at the distribution of adverbial clauses per section, we can see that the clauses tend to cluster around introduction and results and discussion. This result may be partly attributed to the length devoted to those two structural units.

Introduction and results and discussion sections are usually lengthier compared to the methods and conclusion sections. In addition, it may also be related to the rhetorical functions of the introduction and results and discussion sections. In the results and discussion, for instance, writers need to use cause and conditional clauses to explain why a variable behaves in a particular way. Furthermore, writers need concessives to present their interpretation in a balanced fashion.

The question now is, how were the full adverbial clauses utilized in the different organizational units of research articles? To answer this, the present study identified the adverbial markers and analyzed how they were used in the clauses. The ensuing discussion tackles this.

*Cause clauses.* Table 2 lists the adverbial markers that introduced cause clauses and their frequencies and percentages.

Table 2  
*Frequency and percentage of cause clause markers*

Cause clause markers	Introduction	Method	Results/ Discussion	Conclusion	Total	
					f	%
<b>Since</b>	15	7	15	3	40	20
<b>Because</b>	4	2	12	5	23	12
<b>For</b>	2	0	1	1	4	2
<b>As</b>	2	1	2	1	6	3
<b>Total</b>	23/195	10/195	30/195	10/195	73/195	37
	12%	5%	15%	5%		

\*Percentage is with respect to the total number of adverbial clause markers

As table 2 shows, there were four causal clause adverbial markers that figured in the present data. From among them, *since* emerged as the most represented marker; while *because*, the predominant marker of cause clauses in Biber et al's (1999) study of academic texts and in the Kenyan English subcorpus, came next. *For* and *as* are less common, and the prolix forms such as *given the fact that* and *due to the fact that* did not occur. It seems that the writers of



research articles being considered here preferred the shorter than the prolix form because the latter was not represented in the data. Consistent with the finding about the semantic classes mentioned earlier, cause clauses are well represented in the results and discussion section and in the introduction.

According to Hinkel (2003) adverb clauses of cause is used as “the most direct means of indicating causal relationships between actions and events in context” (p. 1060). The cause clause gives the reason for the effect or result in the other clause. They may precede or follow the matrix clause. Below are examples of cause clauses in the present study:

- (1) The present study is exploratory in nature *since it aims to show how English teachers take part in the social construction of knowledge*. (Tanglaw Text 2: 23)

*Since* introduced a subordinate clause, which expressed a known cause-- *the aim to show the teachers' part in the social construction of knowledge*—while the matrix clause expressed the effect of the cause, exploratory nature of the study. *The cause clause* here, which was used in the introduction, was employed to announce the nature of the study.

- (1) *Because this research relied mainly on 'naturally occurring' verbal data*, there was no means of checking the accuracy of the respondents' recording (Tanglaw Text 3: 55)

Unlike in (1), the cause clause introduced by **because** precedes the independent clause. Here, the clause associated with cause is fronted before the effect, but the same causal sense is achieved as in (1); it was used to make known a cause for a certain methodological limitation.

- (1) The study also discovered that the use of narration should be taught to ESL students, *for it could be an effective style in writing argumentative essays* (PJL Text 5: 21).

Example (3) is connected by *for*, a coordinating conjunction. Similar to the first two examples, *for* connects the action of the effect

clause with the known cause in the dependent clause. The causal relations in (3) was used to justify why an approach to teaching should be adopted.

- (4) *As the data for the study involved only 42 news leads..., the features ascribed to news leads in this study are not reflective of all American and Philippine English newspapers (PJL Text 6:63).*

In example (4) the writer used as to point out a limitation in the study which is the reason for making a claim that the findings in her study are not representative of all American and Philippine English newspapers.

Cause clauses were utilized in the different sections of the research articles to serve the purpose of the writer in establishing relations between cause and effect situations. In the examples considered, they were relied on to announce why a certain design, limitation, approach, and interpretation or claim were pursued by the writers in their study.

*Concessive Clauses.* Table 3 summarizes the frequencies and percentages of concessive clause markers.

Table 3  
*Frequency and percentage of concession clause markers*

Concession Clause Markers	Introduction	Method	Results/ Discussion	Conclusion	Total	
					f	%
Even though	0	0	<b>3</b>	0	3	1.5
While	<b>8</b>	3	<b>5</b>	1	17	8.7
Although	<b>6</b>	2	<b>7</b>	3	18	9.2
Though	<b>1</b>	1	<b>2</b>	0	4	2.0
Total	<b>15/195</b>	6/195	<b>17/195</b>	4/195	42/195	22
	<b>8%</b>	3%	<b>9%</b>	2%		

Quirk et al. (1985) lists *if, even if, even though, though, although, while, whilst, when, and whereas* as subordinators that can introduce concessive clauses. As shown in Table 3, only four concessive clause markers figured in the data. *Although* and *while* appear to be the two most frequently used clause markers. *Even though* is found only in the results and discussion section, while *though* is present in the three sections but not in the conclusion. Again, the markers tend to aggregate around the introduction and results section of the articles.

Full adverb clauses of concession can serve as background information. They indicate that the event in the independent clause is contrary to expectation with respect to what is said in the concessive clause (Hinkel, 2002). In academic writing, concessive clauses present the information in a balanced position and show the writer's credibility as they present opposing views objectively (Hinkel, 2003). Usually, the information in the concessive clause is less crucial than in the independent clause. Below are the examples of concessive relations in the present data:

- (5) *Although such venue is devoid of a face-to-face interaction, letters to the editor can provide an interesting situation...* (PJL Text 5:20).
- (6) *Though 'but' connects two clauses within the sentence, it establishes adversative cohesive relations suggesting the meaning 'contrary to expectations'....*(PJL Text 4: 7).
- (7) *Even though the mean percentage in analysis by the high school group was slightly lower (1.16%) than that in application, it was found out that the higher order cognitive skill had been reached in high school* (PJL Text 3: 129).
- (8) *While the two varieties of English show similarity in structuring the news, we can find instances of differences* (PJL Text 1: 56).

*Although* and its more informal *though* in (5) and (6), respectively, convey contrary expectations. The more emphatic forms *even though* in (7) and *while* in (8) express the same contrary expectations. Expressing contrary expectations may mean that when the information in the concessive clause has a negative content, the information in the matrix clause carries a positive meaning, and vice versa. For example, in (5), the concessive clause carries a negative

meaning (the letters to the editor is a venue devoid of face-to-face interaction); but the matrix clause conveys a positive meaning (it has something interesting to offer). In (8), this time a positive meaning is conveyed in the concessive clause, but a negative sense is conveyed in the matrix clause. Concessive clauses in the above examples seem to serve as a 'balancer' in presenting opposing views contrary to what is expected in the matrix clause in the different sections of research articles. In doing so, the writers presented facts and opinions in an objective way because both views were presented, giving the readers the opportunity to weigh both sides of information.

*Conditional clauses.* Table 4 shows the condition clause markers and their frequencies.

Table 4  
*Frequency and percentage of condition clause markers*

Condition clause markers	Introduction	Method	Results/ Discussion	Conclusion	Total	
					f	%
If	14	13	25	8	<b>60</b>	31
Whether	5	1	6	2	14	7
Total	19/195	14/195	31/195	10/195	74/195	38
	10%	7%	16%	5%		

Table 4 lists only two conditional markers *if* and *whether*. However, as mentioned earlier, this semantic class constitutes the greatest percentage of the total number of full adverbial clause markers, a finding which agrees with that of Biber et al.'s (1999) finding. Biber et al. (1999) claim that conditional adverb clauses are much more frequently used in English-language academic prose than any other types of adverb clauses. More interestingly, this semantic class contains the adverbial marker that has the greatest frequency of occurrence. *If* accounts for almost one fifth of the total occurrences of the adverbial clause markers in the data.

The function of conditional clauses is to express a direct condition on which that action or event in the matrix clause is

contingent (Hinkel, 2003). Here are examples of conditional clauses from the data:

- (9) This is a big turn from the FTA since the writer uses another positive politeness strategy by stating the advantages people (the Arab nation in particular) will get *if the previous suggestions are carried out* (PJL Text 5:26).

In the above example, the action/situation in the *if* clause—“*if the previous suggestions are carried out*”—constitutes the condition, which could make the situation “*the advantages people (the Arab nation in particular) will get*” true. The conditional clause here was used to explain a sample analysis in the analytical framework.

- (10) *Whether or not it is in initial position, however* suggests contrasts between the ideas connected. It means “against or to be against” (PJL Text 4: 13).

The conditional clause in (10) expresses the idea that neither this condition nor that condition matters; the result will be the same. Hence, in (10), it is equivalent to saying, “If *however* is in the initial position, it suggests contrast between the ideas connected. If it is not in the initial position, it will suggest contrast between the ideas connected. It does not matter where it is placed.” The conditional clause here was used to explain a finding.

*Purpose Clause.* Full adverbial clauses of purpose are rare in the data, a finding which is expected since Biber et al. (1997) has already made known its rarity both in conversational and written genres. The adverbial markers of purpose *so* and *such that*, which were used to justify certain propositions or claims conveyed by writers, only account for 3% (6 occurrences) of the total number of occurrences of adverbial markers in the data. This may be due to the fact that the meaning of purpose can also be expressed in adverb phrases with infinitival constructions (e.g., in order + to), which are much simpler than the clause construction.

*Functions of full Adverbial Clauses in Relation to the Moves.* As mentioned in the methodology, the purpose of the move analysis undertaken here is to get a specific account of the exact location of the adverbial clauses in the introduction and results and discussion

section of the research articles. In this way, we can investigate how these adverbial clauses were used in relation to the communicative function of each move. Table 5 lists the moves which were adapted from Swales (1990) but modified for the purpose of the present study in the move analysis of the introduction section and summarizes how the full adverbial clauses were employed in each move.

Table 5  
*Uses of Adverbial Clauses in Each Move in the Introduction Section*

Adverbial clause markers in each semantic class	Move 1: Establishing a research territory		Move 2: Establishing a niche: indicating a gap in research	Move 3: Occupying the niche			'Others'
	Showing the importance	Reviewing Previous research		Stating nature of present study	Announcing Principal findings	Indicating structure of RP	Describing source of data
CAUSE							
Because	0	4	0	0	0	0	0
For	0	2	0	0	0	0	0
Since	3	9	0	2	0	0	1
As	1	1	0	0	0	0	0
Sub-total	4	16	0	2	0	0	1
CONCESSION							
Although	0	5	0	0	0	0	1
Though	1	0	0	0	0	0	0
While	0	8	0	0	0	0	0
Sub-total	1	13	0	0	0	0	1
CONDITION							
If	4	10	0	0	0	0	0
Whether	0	5	0	0	0	0	0
Sub-total	4	15	0	0	0	0	0
PURPOSE							
Such that	0	1	0	0	0	0	0
TOTAL	9	45	0	2	0	0	2

As can be seen in Table 6, the adverbial clauses are distributed unevenly in three moves: M1 establishing a research territory, M3 occupying the niche, and 'Others' describing the source of data. The

adverbial clauses appear to be heavily used for the purpose of M1 establishing research territory. Taking the percentages of the clauses in the two sub-moves of M1, we get over 90% of the total adverbial clauses that are distributed in the introduction section. Another point of interest is that the full adverbial clauses were extensively used in the sub-move reviewing previous research of M1. There are only two instances in which the adverbial clauses were used to state the nature of research and two occurrences for the description of the source of the data for the study. Lastly, quite revealing is the fact that full adverbial clauses did not occur at all in M2 establishing a niche and in the two sub-moves of M3 occupying the gap.

Table 6 presents the moves in the results and discussion section and summarizes how the clauses were used in each move.



**Table 6**  
*Uses of Adverbial Clauses in Each Move in the Results and Discussion Section*

Adverbial marker	M1 Preparatory Background information	M2 Reporting Results	M3 Commenting on Results				M4 Summarizing the results or study	M5 Evaluating the study	M6 Deduction from Research
			Explain/ interpret	Compare results to literature	Account for results	Evaluate results			
<i>Cause</i>									
since	0	2	10	2	1	0	0	0	0
because	1	2	7	1	1	0			
as	0	0	1	0	0	1	0	0	0
for	0	0	1	0	0	0	0	0	0
	1	4	19	3	2	1	0	0	0
<i>Concession</i>									
although	0	3	3	0	1	0	0	0	0
though	0	0	2	0	0	0	0	0	0
even though	0	1	1	1	0	0	0	0	0
while	1	3	0	0	0	0	1	0	0
	1	7	6	1	1	0	1	0	0
<i>Condition</i>									
if	2	8	10	2	1	0	1	0	1
whether	2	0	3	0	1	0	0	0	0
	4	8	13	2	2	0	1	0	1
<i>Purpose</i>									
so	0	1	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0
Total	6	20	38	6	5	1	2	0	1

As shown in Table 6, two moves appear to be particularly salient with respect to the distribution of adverbial clauses: M2 reporting results and M3 commenting on results, the latter constituting the greatest percentage if we sum up all the sub-moves under it. The adverbial clauses employed in M2 reporting results constitute a little more than one fourth of the total adverbial clauses in the results section. What is more striking is that, within the category of M3, the adverbial clauses were heavily used in interpreting/explaining the results of the study, most of which come from the cause clauses (24.05%) and conditionals (16.5%). It is

interesting to note that the adverbial clauses were hardly used in other moves such as M1 preparing background information, M4 summarizing results, and M6 deduction from research. Adverbials were not used in evaluating the study as a whole.

### **Discussion**

The present study demonstrates the usefulness of genre-specific discourse study and move analysis in identifying the rhetorical function of each research section move. The move analysis provided a rich linguistic context for and facilitated the location and identification of the functions of adverbial clauses in discourse. Furthermore, the present study highlights the importance of adverbial clauses—that they have significant roles to play in the construction of meaning. The analyses of the present study show how the four semantic classes of adverbial clauses aided the writers in conveying their messages that served different functions. Cause clauses in the research articles investigated in the study appear to be important in that they lend support to writers when the latter need to justify the nature of a study, interpret data, and point out a limitation of a study or a certain method. In the examples considered, cause clauses, which are mostly marked by *since* and *because*, provided justification for the writers for holding certain claims. Conditional clauses help in explaining a finding and a data analysis framework. Concessive clauses are useful when the writers need to present balance perspectives regarding their findings. They serve as background information for the readers so that the latter can weigh the claims of the writers when they discuss their findings. Purpose clauses aid in justifying claims made by the writers.

One of the salient findings is the high incidence of condition and cause clauses in the introduction and results and discussion sections. In the introduction section, the move analysis revealed that they were extensively used in establishing the research territory, especially in reviewing previous studies. The differences in the distributional frequencies of adverbial clauses in the different communicative moves of the results and discussion section seem to suggest that while the writers of research articles considered in the study did not place more importance on adverbial clauses to convey causal, conditional, concessive, and purpose relations in the four

other moves, they had a greater need for adverbial clauses in explaining/interpreting and reporting their findings. Adverbial clauses played a role in establishing claims of knowledge associated with the results and discussion section.

Due to the restrictions imposed on the data which were drawn from a small sample, the present study cannot make generalizations concerning the uses of adverbial clauses in research articles. However, it demonstrates the significance of adverbial clauses in discourse and the usefulness of genre analysis in locating the adverbial clauses and pointing out their uses in relation to the different moves in the structural units. Also, the present study can make suggestions concerning language teaching and future research. First, why a specific linguistic variable is salient in a particular structural unit and is not in another is not something accidental. It tells us of its importance, and, therefore, should be given emphasis in teaching especially in academic writing. Second, so far, most of the linguistic variables that have received attention in research articles are tenses, modals, lexical markers of modality, and other metadiscoursal markers. Published articles on adverbial clauses in academic research writing are scant. Hence, it is suggested that more studies be undertaken such that comparisons of findings can be made. It would also be beneficial if other genres involving different disciplines can be examined to give new and more insights about the uses of adverbial clauses in discourse. Lastly, since the findings of the present study were drawn from a limited sample, it is suggested that more inquiry be done to verify these findings using larger sample. Computer-aided investigation (e.g. through concordance softwares) may be a practical step since computers can handle large amounts of data.

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