

Discourse Markers in ESL Personal Narrative and Argumentative Papers: A Qualitative and Quantitative Analysis

Emad A. Alghamdi

English Language Institute
King Abdulaziz University
Jeddah
Saudi Arabia

Abstract

This study reports a quantitative and qualitative analysis of the use of discourse markers (DMs) in personal narrative and argumentative papers written by 30 undergraduate students: 15 native speakers (NS) and 15 non-native speakers (NNS). The study also ascertains whether the frequency and the incorrect use of DMs plays a role in determining the quality of ESL writings. Findings showed that there was no significant difference in the use of DMs. In both types of composition, NS and NNS writers used elaborative, contrastive and reason markers at higher rates than any DMs in other categories, forming, as consequence, a hierarchy of use. The qualitative analysis of NNS writings showed an overuse of DMs at sentence-initial position and an unnecessary use of semantically similar DMs within the boundary of a single sentence. The incorrect use and the frequency of DMs were key indicators of the quality of ESL writings. Finally, some pedagogical implications are offered.

Key Words: discourse markers, writing quality, personal narrative writing, argumentative writing, ESL writing

1. Introduction

As difficult as composing an academic English prose is for native-speaker students, it is even more so for non-native students, demanding not only a great linguistic competence but also a great awareness of how discourse segments can be effectively connected all together in a cohesive manner. Coherence, indeed, is a distinctive feature and an essential quality of good writing, a tightly-structured text through which a naïve reader can navigate effortlessly. One way to cohesively join or relate sentences, clauses, and paragraphs with one another is through an appropriate use of discourse markers (henceforth DMs).

In essence, DMs are linguistic items or expressions such as *well*, *however* and *you know* that contribute to the integrity of discourse (spoken or written) through relating and joining discourse segments in a coherent way. In literature, however, there is little consensus among researchers on what to call DMs: hence they, as Fraser (1990) noted, have been investigated under a variety of different terms, including but not limited to, sentence connectives, pragmatic connectives, discourse connectives, discourse markers, and discourse operators. Nor is there a broad agreement among researchers on “how they [DMs] are to be defined or how they function” (Fraser, 1990, p. 931). As a consequence, myriad definitions have been proposed and multifarious classifications of DMs have been suggested. Thus, in the present study, the researcher will, for the sake of clarity and conciseness, rely on a definition and a classification proposed by Fraser who, after reviewing previous theoretical research, defined DMs in his 1999 article “*What Are Discourse Markers?*” as follows:

A class of lexical expressions drawn primarily from the syntactic classes of conjunctions, adverbs, and prepositional phrases. With certain exceptions, they signal a relationship between the interpretation of the segment they introduce, S2, and the prior segment, S1. They have a core meaning, which is procedural, not conceptual, and their more specific interpretation is 'negotiated' by the context, both linguistic and conceptual. (p. 931)

Discourse markers have been an interesting subject of inquiry in second language writing. A considerable body of research has investigated, among many inquires, how ESL/EFL learners use DMs in their writings (e.g., Liu & Braine, 2005; Rahimi, 2011; Jalilifar, 2008), how English native speaker writers differ from non-native speakers in the use of DMs (e.g., Field & Yip 1992; Hinkel, 2001; Johnson, 1992) and how the use of DMs can contribute to the overall quality of writing (e.g., Castro, 2004; Connor, 1984; 2000; Jalilifar, 2008).

However, little is known about how NS and NNS college students utilize DMs in two different genres of academic writing and whether or not NS/NNS students adhere to certain patterns in each type of writing (Rahimi, 2011).

2. Literature Review

Previous studies on DMs are broadly classified into three main groups. In the first group of studies, researchers have been interested in counting and comparing the overall frequencies of DMs used in NSs' and NNSs' written discourse. The findings of these studies, for the most part, suggest that NNSs use more DMs than NSs and that there is an overt overuse/underuse of certain DMs in NNS writings. For instance, Field & Yip (1992) did a comparative analysis of the use of cohesive devices in the English essay writings of Cantonese speakers and native speakers of the English language. Following Halliday and Hasan's framework and classification of DMs, Field and Yip (1992) adopted only four categories of DMs: additive (e.g., *also, in addition*), adversative (e.g., *in contrast, but, however*), causal (e.g., *thus*) and temporal (e.g., *first, next*). The findings of this study indicate that in their English essays, native Cantonese speakers utilized more discourse markers than did their English native-speaker counterparts.

Hinkel (2001) compared the use of a set of cohesive ties (logical-semantic conjunctions, phrase-level coordinators, enumerative and resultative nouns, sentence transitions, and demonstrative pronouns) in academic compositions written by NS and NNS (Japanese, Korean, Indonesian, and Arabic) students. Her analysis showed that NNS students significantly use more sentence transitions in comparison with their native speaker counterparts. Hinkel (2001) attributed this disparity to the fact that NNS students depend heavily on sentence transitions to tie their sentences together in order to make their texts cohesive.

Jalilifar (2008), adopting Fraser's taxonomy of DMs, examined the use of DMs in the descriptive writings of 90 college students representing three groups: junior, senior, and graduate students. The findings of this study showed that there is a hierarchy of use of DMs in students' writings whereby elaborative markers were employed in the students' writings more frequently than any other discourse marker categories, followed by inferential, contrastive, causative, and topic-relating markers. A similar hierarchy was reported by Rahimi (2011), who analyzed and compared the use of DMs in argumentative and expository writings of ESL Iranian university students and found that students most frequently used elaborative markers, followed by contrastive and inferential markers. Martinez (2004) also found that elaborative and contrastive markers were the most frequently used in English expository writings of Spanish university students. These findings, then, point to the fact that different genres of compositions require a different use of DMs to coherently tie the components of discourse together. Yet, further studies are needed to investigate this claim across various types of writing.

Narita, Sato & Sugiura (2004) looked for the use of twenty five logical connectors in the writings of Japanese students with a high level of English proficiency as well as in the writings of native English speakers in two sub-corpora of the *International Corpus of Learners English*. After extracting each instance of the twenty five connectors investigated in the study, the researchers ran a quantitative analysis and found that Japanese EFL students significantly overused logical connectors, especially at the beginning of sentences. The findings also indicated that there were some connectors used more frequently by Japanese EFL students and others that were rarely used, such as the contrastive connectors *yet* and *instead*. The researchers attributed this tendency to the possibility that "EFL learners are less familiar with the usage of these rather formal contrastive connectors and thus they are likely to use other semantic equivalents that are already familiar to them in order to provide contrastive information." (Narita, Sato & Sugiura 2004, p.1174)

On the other hand, other studies reported no significant differences between NS and NNS in the use of DMs. For instance, Connor (1984), following Halliday and Hasan's framework, compared six argumentative essays written by English native and ESL students and found no significant difference between native and ESL students in the frequency of DMs used by both groups.

In the second group of studies, researchers have been interested in examining the use of DMs within different genres of writing, such as argumentative vs. expository. For instance, Tan-De Ramos (2010) examined the use of DMs in the body section of descriptive papers written by students at the College of Engineering and argumentative papers written by students at the College of Liberal Arts, at De La Salle University, Manila, Philippines.

The researcher applied Hyland and Tse's categorization of textual and interpersonal metadiscourse and Halliday and Hasan's framework of cohesion and found that in their descriptive writings, students from the College of Engineering employed more logical connectives of addition and contrast than any other type of DMs. On the other hand, students from the College of Liberal Arts used more logical connectives of addition, contrast and sequence in their argumentative writing. These findings suggest that ESL learners tend to utilize a particular set of DMs depending on the type of writing assignment.

More recently, Rahimi (2011) investigated the frequency and type of DMs employed by Iranian undergraduate EFL learners in two types of writing: argumentative and expository. The results indicated that elaborative DMs (especially *and*) are the most frequently used while conclusive DMs are the least used in both types of writing. In addition, the results showed that the subjects used significantly more DMs in their argumentative writings than in their expository writings.

In the third and last group of studies, researchers investigated, among other inquires, the relationship between the use of DMs and the overall ESL writing quality or writers' language proficiency levels. In general, the findings of these studies are inconsistent and contradictory. Some studies found a significant relationship between the frequency and type of DMs used and the overall writing quality of L2 texts while others revealed no such correlation. For instance, Liu and Braine (2005), applying Halliday and Hasan's framework and concept of cohesion, analyzed the use of cohesive devices employed in the argumentative writing of fifty Chinese undergraduate students studying non-English majors at Tsinghua University, Beijing. Besides a quantitative analysis of how frequently the Chinese participants used cohesive devices in their compositions, the study was also aimed to ascertain whether or not there was a relationship between the frequency of cohesive devices and quality of writing. After counting the number of cohesive devices, the researchers correlated the total number of cohesive devices used by students with their writing scores. The findings revealed that there was a significant relationship between the quality of students' compositions and a higher use of cohesive devices in general and lexical devices, references, and conjunction devices in particular.

In his study, Jalilifar (2008) found that elaborative (e.g., *and*, *in addition* and *furthermore*) and inferential DMs (e.g., *because* and *thus*) were extensively used in good writing than any other types of DMs. The findings of this study indicated that there is a statistically significant relationship between the quality of students' descriptive writings and their language proficiency or writing experience. The graduate students' group had the highest number of "well-functioned" DMs in their writings, which helped improve the overall quality of their writings. In a similar study, Grant and Ginther (2000) also found a relationship between the use of conjuncts and the writing quality of a sample of 90 Test of Written English (TWE) essays at three different levels of language proficiency, whereby writers at the advanced level use more conjuncts than those at the lower levels (133).

On the other hand, other studies have reported no significant correlation between writing quality and the use of DMs. For instance, Zhang (2000) conducted a quantitative and qualitative analysis of the use of DMs in one hundred and seven expository compositions of Chinese undergraduates. Following Halliday and Hasan's taxonomy of cohesive devices and their framework, Zhang found out that the students employed a variety of cohesive devices in their writings with some categories of ties used more frequently than others, and that there was no statistically significant relationship between the frequency of cohesive ties used and the quality of writing. Castro (2004) analyzed the use of grammatical and lexical cohesive devices in low, mid and high rated essays written by thirty homogenous Pilipino EFL students. The results showed no significant differences in the total number and type of cohesive devices employed by students at the three levels of language competence.

Based on data from the International Corpus of Learner English, Tapper (2005) conducted a study on the use of three types of connectives (adverbial conjuncts, content disjuncts and lexical discourse markers) in argumentative writings of advanced Swedish learners of English and native-speaking American college students. The researcher counted the frequently of connectives per essay and then compared the number of connectives with the writing quality scores of each essay, which were holistically determined using the Test of Written English (TWE) scoring guide. The comparison revealed no significant correlation between the number of connectives and students' writing scores but yet a moderate correlation in the Swedish students' ESL writings and a very low correlation in the American students' writings. Thus, the researcher concluded that "a high frequency of connectives was not found to be an indicator of good writing quality for either group of student writers" (Tapper, 2005, p. 137).

To sum up, the results of the above studies, in general, demonstrated that NNS students use more DMs in their writings than do NS students. A close look at the individual occurrences of each DM showed that NNS learners overuse additive and contrast DMs than any other DMs in other categories. The findings of Tan-De Ramos's study suggested that different genres of compositions (argumentative vs. narrative) require different use of DMs to coherently tie the components of discourse together. Finally, the inquiry of the relationship between the use of DMs and the overall writing quality yielded inconclusive findings. Some researchers (Jalilifar, 2008; Jin, 2001; Liu & Braine, 2005) found a significant relationship between the frequency and type of DMs used and the overall writing quality of L2 texts while others (Castro, 2004; Tapper, 2005; Zhang, 2000) found no such significant relationship.

3. The Present Study

The present study employed quantitative and qualitative analyses to examine the use of DMs in argumentative and personal narrative papers written by NA and NNS college students. In particular, the study aimed to answer the following three questions:

- I. What types of DMs are used by NS and NNS students in personal narrative and argumentative writing?
- II. Are there any significant quantitative and qualitative differences among and between NS and NNS students in their use of DMs?
- III. Does the incorrect use of DMs affect the overall quality of NNS students' writings and is there a direct relationship between the number of DMs used and the overall quality of students' writings?

3.1 Method

3.1.1 Participants

As a part of their degree requirements, undergraduate students at a Midwest university take an advanced composition course during which they write a variety of writing assignments demanding different writing forms or genres. Two genres of writing were of interest in this study, personal narrative and argumentative writings. As the name implies, personal narrative writing allows students to narrate a personal story or a life experience that students had in the past. In writing argumentative papers, students investigate a particular topic, gather and evaluate evidence, and then establish a position on the topic. The reason for this choice was that the two writing genres demand different writing structure, styles, language and tone, hence increasing the plausibility that DMs would be used differently in each type of writing.

A total of 60 papers (30 personal narrative papers and 30 argumentative papers) were examined in this study. The papers were written by an equal number of NS and NNS second-year college students, 15 students in each group.

Table 1: Participants

	NNSs				NSs
	Arab	Chinese	Korean	Georgian	
Male	4	4	2		6
Female	1	2	1	1	9
Total			15		15

Given the comparative nature of the study, length of papers was an important criterion upon which the data of the present study was selected. Thus, only papers with closely similar lengths were selected. In personal narrative essays, an average of 3.79 and 3.90 pages represented NS and NNS writings, respectively, while in argumentative essays, an average of 4 and 3.85 pages represented NS and NNS writings, respectively.

3.1.2 Procedure

This study builds upon Fraser's taxonomy of DMs. This taxonomy, as Rahimi (2011) noted, "is mainly used for the classification of written discourse and seems to be the most comprehensive classification in written discourse" (p.71). According to Fraser (1999), there are two main categories of DMs: "those that relate the explicit interpretation conveyed by S2 with some aspect associated with the segment, S1; and those that relate the topic of S2 to that of S1" (p.931).

Category 1

1. Contrastive DMs: *however, although, but, yet, in contrast, on the other hand.*

2. Elaborative DMs: *in addition also, and, besides, furthermore.*
3. Inferential DMs: *accordingly, as a result, because of, therefore, thus.*
4. Reason DMs: *after all, because, for this/that reason, since.*

After examining Fraser's taxonomy, Martínez (2004) noted that two additional groups of DMs were not included in Fraser's classification and could be added under the second subcategory, elaborative markers (69). These are:

5. Conclusive DMs: *in conclusion, in short, to sum up, in sum.*
6. Exemplifiers: *for example, such as, for instance, e.g.*

Category 2

While the first category of DMs relate the explicit interpretation or message presented in S2 with some aspect associated with the segment S1, the second category of DMs relate the topic of S2 to that of S1, hence Fraser labeled them *topic relating markers* (e.g., *by the way, to return to my point and with regards to*).

4. Data Analysis

4.1 DMs Types and Frequencies

The researcher thoroughly examined students' writings and classified all the DMs in accordance with Fraser's taxonomy of DMs. The frequency and the mean of the total use of each DM category were calculated. Then, to compare the use of DMs within and between subjects in both types of writings, a one-way ANOVA test and an independent t-test were carried out on each type of compositions.

4.2 Writing Quality

To address the last question of this study, the NNS students' writings were examined through two procedures. First, the researcher and an independent rater assessed the overall quality of students' papers based on *Ashwell's (2000) Content Scoring Guide*. The scoring guide is based on 4 major scale measurements, each with 5 points (20 points is the highest possible score), and it evaluates writing quality based on criteria such as the logical organizational structure of writing, the smooth flow of ideas, and the effective use of transitions. Then, after excluding papers on which both raters' assessments did not agree, a calculation of inter-rater reliability was computed on only 14 papers and the index obtained was $r=.895, p<.001$.

Table 2: Assessment of NNS Papers

	Personal Narrative							Argumentative						
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	13	S14
Students														
Researcher	15	15	18	14	13	17	17	15	17	18	13	13	18	17
Rater	16	16	17	15	13	16	17	14	16	17	12	14	18	17

Second, a Pearson's r correlation test was computed on students' writing quality scores and on their overall numbers of DMs and the numbers of incorrect uses of DMs. The researcher used Quick, Greenbaum, Leech, Svartvik's book (1985), *A Comprehensive Grammar of the English Language*, and Celce-Murcia and Larsen-Freeman's book (1999), *The Grammar Book: an ESL/EFL Teacher's Course*, as reference guides to identify students' incorrect uses of DMs.

5. Results and Discussion

5.1 Quantitative Findings

In both types of writing, NNS students used a slightly more DMs than did their counterparts. The results of an independent-samples t-test indicated no statistically significant difference between NNS ($M=75.29, SD=104.85$) and NS ($M=63.57, SD=122.05$) in their use of DMs in personal narrative papers; $t(12)=193, p=.850$. There was also no significant difference between NNS ($M=64, SD=86.14$) and NS ($M=57.57, SD=94$) in argumentative papers; $t(12)=.133, p=.896$.

Table 3: Frequencies and (Percentages) of DMs in Personal Narrative Papers

DM Categories	NNS	NS
Contrastive	112 (21.6)	62 (13.9)
Elaborative	292 (56.4)	336 (75.5)
Inferential	34 (6.5)	10 (2.2)
Reason	65 (12.5)	27 (6)
Conclusive	3 (0.5)	0 (.00)
Exemplifiers	10 (1.9)	10 (2.2)
Topic-Relating	1 (0.1)	0 (.00)
Total	517 (100%)	445 (100%)

Table 4: Frequencies and (Percentages) of DMs in Argumentative Papers

DM Categories	NNS	NS
Contrastive	86 (19.1)	87 (21.5)
Elaborative	249 (55.5)	260 (64.5)
Inferential	32 (7.1)	13 (3.2)
Reason	38 (8.4)	28 (6.9)
Conclusive	6 (1.3)	3 (0.7)
Exemplifiers	36 (8)	9 (2.2)
Topic-Relating	1 (0.2)	3 (0.7)
Total	448 (100%)	403 (100%)

As shown in Table 3 and Table 4, the frequencies and percentages of DMs use by NNS and NS students showed that both groups employed more DMs in some categories than in the others, creating, as a consequence, a hierarchy of use of DMs. NS and NNS students used elaborative, contrastive and reason markers, respectively, at higher rates than any DMs in other categories. In the personal narrative papers, NNS and NS students used, most of all, elaborative markers (NNS=56.4% & NS= 75.5%), followed by contrastive (NNS= 21.6% & NS= 13.9%), and reason (NNS=12.5%& NS=6%) markers respectively.

The same order of DM categories was also found in the students' second type of writing, the argumentative writing. As shown in Table4, both groups also used elaborative markers (NNS=55.5%& NS=64.5%) more than any other types of DMs in their argumentative compositions. Then came contrastive markers (NNS=19.1%& NS=21.5%), followed by reason markers (NNS=8.4%& NS= 6.9%). The frequent use of elaborative and contrastive markers in argumentative writing was also reported by Rahimi (2011) in his analysis of argumentative writings by ESL Iranian university students and by Martinez (2004) in her study of English expository writings of Spanish university students.

Comparing the use of DMs in each DM category to ascertain whether there were significant differences, the results (Table 5) of a one-way ANOVA test revealed that in personal narrative papers, the NS and NNS writers differed significantly in their uses of DMs at the $p < 0.5$ level for the following three categories: contrastive [$F(1, 28) = 10.081, p = 0.004$], inferential [$F(1, 28) = 5.584, p = 0.025$], and reason markers [$F(1, 28) = 4.323, p = 0.047$] with NNSs using more DMs.

Table 5: The Results of ANOVA Test on NNS and NS Students' Use of DMs in Personal Narrative Papers

DM Categories		Sum of Squares	DF	Mean Square	F	Sig.
Contrastive	Between Groups	83.333	1	83.333	10.081	.004*
	Within Groups	231.467	28	8.267		
	Total	314.800	29			
Elaborative	Between Groups	64.533	1	64.533	.534	.471
	Within Groups	3383.333	28	120.833		
	Total	3447.867	29			
Inferential	Between Groups	19.200	1	19.200	5.584	.025*
	Within Groups	96.267	28	3.438		
	Total	115.467	29			
Reason	Between Groups	48.133	1	48.133	4.323	.047*
	Within Groups	311.733	28	11.133		
	Total	359.867	29			
Conclusive	Between Groups	.300	1	.300	3.500	.072
	Within Groups	2.400	28	.086		
	Total	2.700	29			
Exemplifier	Between Groups	.000	1	.000	.000	1.000
	Within Groups	46.667	28	1.667		
	Total	46.667	29			
Topic relating	Between Groups	.033	1	.033	1.000	.326
	Within Groups	.933	28	.033		
	Total	.967	29			

Note: * Significant difference at $P < .05$

In argumentative papers, the results (Table 6) of an ANOVA test indicated that the two groups of students differed significantly at the $p < 0.5$ level in two DM categories, elaborative [$F(1, 28) = 4.240, p = 0.049$] and exemplifiers [$F(1, 28) = 9.295, p = 0.005$].

Table 6: The Results of ANOVA Test on NNS and NS Students' Use of DMs in Argumentative Papers

DM Categories		Sum of Squares	DF	Mean Square	F	Sig.
Contrastive	Between Groups	.033	1	.033	.004	.952
	Within Groups	257.333	28	9.190		
	Total	257.367	29			
Elaborative	Between Groups	4.033	1	4.033	.046	.832
	Within Groups	2464.933	28	88.033		
	Total	2468.967	29			
Inferential	Between Groups	12.033	1	12.033	4.240	.049*
	Within Groups	79.467	28	2.838		
	Total	91.500	29			
Reason	Between Groups	3.333	1	3.333	.660	.423
	Within Groups	141.467	28	5.052		
	Total	144.800	29			
Conclusive	Between Groups	.300	1	.300	1.400	.247
	Within Groups	6.000	28	.214		
	Total	6.300	29			
Exemplifier	Between Groups	24.300	1	24.300	9.295	.005*
	Within Groups	73.200	28	2.614		
	Total	97.500	29			
Topic relating	Between Groups	.133	1	.133	.700	.410
	Within Groups	5.333	28	.190		
	Total	5.467	29			

Note: * Significant difference at $P < .05$

The significant use of contrastive markers in personal narrative and the significant use of elaborative markers in argumentative writing by NNS writers reflect their insufficient understanding of the different writing structure, language and tone each type of writing demands.

Moreover, the quantitative analysis of DMs in NS and NNS students' compositions showed a strong evidence of both an overt overuse and underuse of some individual DMs within each DM category. Out of 93 DMs investigated in this study, NNS students collectively employed a total number of 22 distinctive cohesive markers in their personal narrative writings and 21 in their argumentative writings. On the other hand, NS writers utilized 15 different cohesive markers in their personal narrative writings and 16 markers in their argumentative writings. A closer look into the students' individual uses of DMs showed that there is an apparent discrepancy in the overall amount of DMs used within native-speaker students' compositions: some students utilized DMs extensively in their writings; others, however, used only a relatively few cohesive markers throughout their writings. For instance, one writer used only 9 markers while another used 35 markers.

Similarly, the analysis of students' individual uses and their selections of DMs revealed that students in both groups relied on a small repertoire of DMs expressing certain semantic properties and fulfilling particular stylistic and syntactic functions. For instance, an analysis of four randomly selected writings (one argumentative and one personal narrative essay each by a NS and NNS student) shows that in both types of compositions, a NS student used recurrently the following markers, *but*, *and*, *also*, *because*, and *such as*, while the NNS student used in both types of writings only the following markers, *however*, *but*, *and*, *in addition*, *for example* and *in conclusion*.

5.2 Qualitative Findings

A careful qualitative look into the students' compositions revealed some insightful observations into the way second language learners utilized cohesive markers in their ESL writings. The following observations were noted in NNS writings:

5.2.1 Extensive Use of DMs in Sentence-Initial Position

The prevalent use of DMs in sentence-initial position was one of the eye-catching observations in the writings of all ESL students in general and Asian students in particular. Consider the following a sentence from the writing of a Chinese ESL student:

- a) Billiards, actually, I am not good at it. *But* I don't know why I can win, just follow the feeling. *And* now, I am in semi-finals. My opponent is an American who has beer belly. *But* he is really good at it.

ESL/EFL students' use of DMs in sentence-initial position was reported in many previous studies in the literature (e.g., Field & Yip, 1992; Narita, Sato & Sugiura, 2004). Narita, Sato and Sugiura (2004) attribute this tendency to two possible reasons; 1) placing DMs at the beginning of a sentence seems to be the easiest and the most explicit way for ESL/EFL learners to create a cohesive linkage between different text's components, and 2) learners' insufficient understanding of the difference between conjunctions and adverbial connectors may lead learners to mistakenly use conjunctions (coordinators) at the sentence-initial position.

5.2.2 An Unnecessary Use of DMs

English allows the use of DMs adjacently with conjunctions (e.g., *or*, *but instead*, *and*, *so*, and *else*) or the use of two DMs of the same or different category within the boundary of a single sentence "without necessarily being tautologous, contradictory, or ungrammatical" (Quirk et al, 1985, p. 642). However, this combination very often creates sentences that are "stylistically objectionable" (p.642) and "very undesirable" (p.643). Moreover, there is a stylistic restriction when DMs are used with conjunctions; some DMs cannot occur with conjunctions that follow them immediately.

None of the possible correct combinations of conjunctions with DMs was observed in students' writings. For instance, in the following sentence, a Georgian ESL writer added unnecessary contrastive markers to his sentence:

- b) *Although* I lost semi-finals finally, *but* I feel I blend into the party.

Similar to the use of additional DMs is the insertion of syntactically and stylistically unneeded DMs. In the following sentences, a Korean ESL writer added unnecessary DM that interrupted the flow of his writing:

- c) Unfortunately, we got caught by the principle. I realize that someone, who was at the birthday party told the principle about everything that we had done. Her name is Amy, and I could not figure out why she did this, *because* even she got expelled from school.

5.2.3 Incorrect Use of DMs

In (d), an Arabic-speaking ESL student incorrectly used the DM *therefore*, which often used to conclude previously mentioned facts or arguments (Celce-Murcia and Larsen-Freeman 534). The writer did not provide sufficient arguments or information needed to help readers to draw a conclusion on their own:

- d) Moreover, some scientists have witnessed the extension of several animal species due to countless arbitrary experimentation. *Therefore*, the birth of particular organizations which fights for animal's right were born, organizations such as ... [the rest of the sentence is omitted].

In (e), a Georgian ESL writer seemed to confuse the use of *on the contrary* which denies an aforementioned statement with *on the other hand* which contrasts two different statements of a single topic or subject (Celce-Murcia & Larsen-Freeman, 1999):

- e) The insect taboo warns the society to be more careful with child adoption and do not hide the truth. *On the contrary*, there is a right of birth parents. They have right of privacy.

5.2.3 Coordination vs. Subordination

The following errors in students' uses of DMs are the result of students' insufficient understanding of the difference between coordinators and subordinators and how they are correctly used in sentences.

In (f), a Chinese ESL writer incorrectly used the coordinator *but*; where there was a need to use a subordinator (e.g., *although*) to build an argument.

- f) *But*, the fetus is not a perfect shape of human, but it does have a feeling like us.

In the following sentence, the writer's insufficient understanding of coordinating and subordinating conjunctions and their rhetoric roles led her to write fragmented clauses:

- g) I always thought how stupid I was. *Because* I was the only poor guy who was caught by the computer teacher by sending curse words to him. (Chinese ESL student)

Fragment errors may also be due to the ESL learners' unawareness of sentences' boundaries and their inadequate understanding of the different sentence types and structures.

5.3 Writing Quality and the Use of DMs

With regards to the relationship between the frequency of DMs and the incorrect use of DMs and the overall quality of NNS students' writings, the results (Table 7) of a Pearson's *r* correlation test showed that there was a modest significant correlation ($r = -.597$, $p = .024$) between the researcher's assessment of students' writings and the frequency of DMs while there was no significant correlation ($r = -.506$, $p = 0.065$) between the independent rater's evaluation and the frequency of DMs. Second, there was a strong relationship between writing quality and incorrect use of DMs. The researcher's correlation index ($r = -0.754$, $p = 0.002$) and the independent rater's ($r = -0.698$, $p = 0.005$) significantly correlated with the number of incorrect uses of DMs in students' writings. That's the more incorrect uses of DMs were present in students' writings, the lower the quality of their writings was.

Table 7: The Results of Pearson's *r* Correlation Test

		DM Freq.	DM Error
Researcher	Pearson Correlation	-.597*	-.754**
	Sig. (2-tailed)	.024	.002
	N	14	14
Rater	Pearson Correlation	-.506	-.698**
	Sig. (2-tailed)	.065	.005
	N	14	14

Note:**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

In light of these results, the use of DMs plays a key role in determining the overall quality of a discourse and hence this study aligns with the some previous studies (e.g., Grant & Ginther, 2000; Jalilifar, 2008) indicating that there is a relationship or linkage between the use of DMs and the overall quality of NNSs' writings.

6. Conclusion

The findings showed that NNS students slightly used more DMs in their writings than did their native counterparts. The difference in the total use of DMs was not statistically significant. However, when examining the use of DMs within DM categories, the ANOVA results indicated that the two groups differed significantly in their use of contrastive, inferential, and reason markers in personal narrative papers and elaborative and exemplifier markers in argumentative papers.

Another quantitative finding is that in both types of writing, NS and NNS students used elaborative, contrastive and reason markers at higher rates than any DMs in other categories, forming, as consequence, a hierarchy of use of DMs. As far as the frequency of individual markers is concerned, both groups of students, especially NS students, used recurrently a small repertoire of DMs. At the top of the DMs used, the elaborative marker *and* was used by both groups at a higher rate than any other cohesive markers belonging to other DM categories.

The qualitative analysis showed a number of observations as far as the use of DMs is concerned. For instance, there was an overuse of DMs at sentence-initial position by all ESL students in general and Asian students in particular. An unnecessary use of two semantically and syntactically similar cohesive markers adjacently or within the boundary of a single sentence was also found.

Moreover, there were instances of incorrect uses of DMs that were the result of ESL students' insufficient understanding of the syntactic role and function of certain DMs (e.g., *on the contrary* and *therefore*) and their misunderstanding of the difference between coordinators and subordinators and how they are correctly used in sentences.

Finally, when analyzing the relationship between the overall quality of NNS students' papers and their use of DMs, it was found that high quality papers contain fewer DMs used properly in the discourse.

7. Pedagogical Implications

In the light of the quantitative and qualitative findings of this study, some pedagogical implications can be offered:

1. In order to eliminate the extensive use of DMs and to increase the overall quality of students' writings, ESL teachers should teach their students how to use other cohesive devices (e.g., pronoun reference, article reference, ellipsis, and substitution). ESL teachers should also work on broadening students' grammatical structures and vocabularies to enhance their academic writings.
2. The overuse of a very limited set of DMs make students' writings dull and hard to read. Thus, in their teaching, ESL teachers should incorporate the teaching of a wide range of DMs and encourage their students to vary their use of DMs.
3. Students' incorrect use of DMs might be the result of students' insufficient understanding of the core meanings, and stylistic and syntactic functions of individual DMs. ESL teachers, then, should raise their students' awareness of the subtle syntactic differences of DMs. Moreover, ESL teachers should work on explaining and clarifying the differences between coordinators and subordinators and how they are correctly used in sentences.

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