

Contrastive Analysis and Students' Performance: English and Arabic Connective Devices

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Abstract. This paper intends to experimentally test the relevance of Contrastive Analysis and error prediction to second language acquisition, using a different method. It compares the performance of a group of Jordanian university students learning English as a second language with that of another group of students. Students in the first group were exposed to an analysis showing the similarities and differences between the mother tongue (Arabic) and the target language (English) and were warned about the areas of interference, while the students in the second group, who were also Jordanian university students of the same level, were not exposed to such an analysis. It is shown that the first group achieved markedly better in the area compared and contrasted (the area of English and Arabic connective devices, in this case) than the second group, in spite of the fact that both groups had had similar previous training in English.

1. Introduction

1.1 Objectives

The controversy concerning the role of Contrastive Analysis (CA, henceforth) in foreign language learning raged for quite some time and seems to have been settled in favor of those who advocate its pedagogical value in the classroom.⁽¹⁾

The author is grateful to three anonymous reviewers of the *Journal of the College of Arts* – King Saud University – for insightful comments on an earlier version of this paper.

(1) Lawrence F. Bouton, "The Problem of Equivalence in Contrastive Analysis," *IRAL*, 14 (1976), 143-63; Waldemar Marton, "Contrastive Analysis in the Classroom," in Jacek Fisiak, ed., *Contrastive Linguistics and the Language Teacher* (Oxford: Pergamon Press, 1981), pp. 147-55; Tomasz P. Krzeszowski, "Contrastive Analysis in a New Dimension," in Jacek Fisiak, ed., *Contrastive Linguistics and* =

Some⁽²⁾ claim, however, that in spite of the numerous works done in the field of CA, foreign language teaching has not been made any easier or more efficient than before and that the learners' competence has not been improved since Lado published his *Linguistics Across Cultures* in 1957.⁽³⁾ The same difficulties and problems, they go on saying, still face foreign language learners and teachers alike. Since CA has no appreciable pedagogical value, they conclude, time and efforts of scholars should rather be directed towards other areas of language sciences.

It is not the purpose of this paper to refute the claims of the opponents of CA. Several works⁽⁴⁾ have already dealt with the various aspects of this issue and shown the relevance of CA to the teaching operation. Instead, the present work reports on the results of an experimental study conducted over a period of two academic semesters and designed to test the usefulness of CA and error prediction in second language acquisition. The author is aware of the relative difficulty of this kind of testing due to other variables involved in L2 classrooms, e.g. background, time, and various physiological and psychological factors. Such an attempt will undoubtedly, however, shed some light on the pedagogical value of CA in the classroom. It will be shown that CA and error prediction help to a great extent the acquisition of foreign language by a group of college students.

1.2 Background

The subjects of the test were 65 second-year college students enrolled in two different sections of the same course – Writing I – and majoring in English Language and Literature at Yarmouk University in Irbid, Jordan. The two sections (33 students in one section and 32 in the other) were taught this course, better known as English 202, in two separate but consecutive semesters over a period of one academic year. All students were native speakers of Arabic, and their ages averaged between

= *the Language Teacher*. (Oxford: Pergamon Press, 1981), pp. 71-85; Michael Sh. Smith, "Contrastive Studies in Two Perspectives," in Jacek Fisiak, ed., *Contrastive Linguistics and the Language Teacher* (Oxford: Pergamon Press, 1981), pp.13-19.

- (2) L. Newmark, "How Not to Interfere with Language Learning," in Mark Lester, ed., *Readings in Applied Transformational Grammar* (New York: Holt, 1970), pp. 219-27; W.E.Norris, *Teaching English as a Second Language* (Washington, D.C.: Center for Applied Linguistics, 1970).
- (3) R. Lado, *Linguistics Across Cultures: Applied Linguistics for Language Teachers* (Ann Arbor, Michigan: University of Michigan Press, 1957).
- (4) Marton, pp.147-55; S.N.Sridhar, "Contrastive Analysis, Error Analysis and Interlanguage: Three Phases of One Goal," in Jacek Fisiak, ed., *Contrastive Linguistics and the Language Teacher* (Oxford: Pergamon Press, 1981), pp.207-41.

18 and 20 years. Their background in English included a minimum of eight years of formal instruction at school (an average of five hours per week) and at least one year at the university level (teaching of reading skills, intermediate grammar, and comprehension of literary texts such as short stories, poems, and short plays). The overall competence of the two sections in English was nearly similar, with each section having an approximate number of mediocre, good, and excellent students as the other. In addition, the two groups' general writing abilities at the beginning of the semesters were comparable; the results of the first essay clearly demonstrated this fact.

1.3 Methodology

The students who took the Writing course during the first semester will be referred to as Group A (33 students), whereas those who took the same course during the following semester will be called Group B (32 students). In the case of Group A, no contrastive analysis of English and Arabic was carried out. Such an analysis was, however, conducted with Group B. English and Arabic were contrasted in the area of connective devices between clauses and sentences. The choice of the field of linking devices was motivated by several reasons. First, this is an area of English which, on the basis of the author's teaching experience, Arab students failed to master. Second, Jordanian learners of English consistently underestimated the importance of this area of English grammar. Third, the area of connective devices has not been given the due attention in previous works on CA in spite of its importance for the sound teaching and learning of writing.

The study bases its findings on the final compositions written by both groups of students at the end of a course which lasted for 16 weeks (3 hours a week). During each semester, the subjects were taught the structure of English expository and descriptive paragraphs (unity, cohesion, logical connection, grammatical rules, mechanics, etc...) and, as a practical exercise, were asked to write 12 essays (3 essays every four weeks). The students in Group B were taught something additional: a contrastive analysis of English and Arabic most common connective devices as used to link clauses within sentences and sentences within paragraphs. Similarities and differences between Arabic and English in this area were illustrated in some detail. The purpose was to improve the students' performance in the domain of connective devices. A more complete picture of the kind of analysis done in the classroom will be given in section 2 below.

In the final compositions, the subjects were asked to write on one of two topics in A and also on only one of the two topics in B below:

A. Write an expository paragraph on one of the following topics:

1. Modern Scientific Discoveries: Curse or Blessing?
 2. The Benefits of Reading.
- B. Write a description of either 1 or 2:
1. A High Mountain in Winter.
 2. A Crowded Beach on a Hot Summer Day.

For reasons which might be termed subjective or having to do with the difficulty of the first topic, the choice of topics was uneven in A as most students wrote on the second topic. The choice was, however, more even in B since each of the topics was selected by about half of the students possibly because the topics seemed of equal difficulty to the subjects. It is to be noted here that the students were kept in the dark about their compositions being the object of research. Moreover, the students of Group B did not have the slightest idea about the possibility of being given the same topics as Group A to write on as the author used to give totally different topics in previous semesters' final examinations.

In spite of the fact that the overall achievement of the two groups was similar in most areas (fragment and run-on sentences, tense consistency, subject-verb agreement, relativization, inflections, punctuation, spelling, unity, organization, etc...), yet Group B, as it is going to be shown in section 3 below, did markedly better in the area of connectives. Indeed, the subjects who were shown where the interference between Arabic and English would appear and who were also instructed how to avoid wrongly mixing between Arabic and English uses of connectives did much better on their final compositions than the subjects who were not so instructed.⁽⁵⁾ This was due, we assume, to the detailed contrastive analysis and error prediction presented to the students in the classroom.

It is to be stressed again here that, aside from some really rare individual differences, the writing capabilities and English proficiency of both groups were very comparable. In addition, their backgrounds in English, again aside from a couple of cases, were similar (8 years of formal instruction in school and one year at the university level). Furthermore, students admitted in the English Department at Yarmouk University are generally among those with very good or excellent grades (minimum of 80%) in high school. Thus, the achievement of both groups in high school was comparable.

2. CA of English and Arabic Connectives

The primary objective of the CA was to test whether a class made aware of the differences and similarities between L1 and L2 and instructed how to avoid errors

(5) Marton, p. 151.

which may result from the interference between the two languages would or would not achieve better than a class that was not so instructed. In this manner, students of Group B were familiarized with the similarities and differences between the most common English and Arabic cohesive devices which are used in composing a text. A brief account of the way this was done is given in 2.1–2.4 below. The actual classroom explanation was more detailed and illustrated by ample examples. The subjects in Group A were taught how to use the English linking and sequencing devices without contrasting them with their Arabic correspondents. The English connective devices and their most approximate Arabic equivalents that were compared and contrasted are given in (1) below; they reflect those devices most widely used by Jordanian college students learning English as a second language. It is to be noted that the CA conducted was not comprehensive. Due to limitations of time and priority, it did not cover the least common uses and meanings of these connectives.⁽⁶⁾ These devices were discussed and contrasted only as clause and sentence connectors.

(1) English	Arabic
and	wa
but	laakin
so	wahaakaʕa, liʕaalika
also	?aydan
finally	?axiiran
next	ba9da ʕaalika
then	Qumma
in addition	bilidaafati ?ila ʕaalik
moreover	9alaawatan 9ala ʕaalik
furthermore	9alaawatan 9ala ʕaalik
therefore	liʕaalika

(6) In transcriptions, the following symbols are used:

- t voiceless dental emphatic plosive
- d voiced dental emphatic plosive
- q voiceless uvular plosive
- ? glottal stop
- θ voiceless dental fricative
- ʕ voiced dental fricative
- ʕ voiceless dento-alveolar sulcal emphatic fricative
- x voiceless uvular fricative
- ʕ voiced uvular fricative
- ħ voiceless pharyngeal fricative
- ʕ voiced pharyngeal fricative
- ʕ voiceless palato-alveolar sulcal fricative
- j voiced palato-alveolar affricate
- vv long vowel

in spite of that	birraʕmi minʕaalik
however	wama9ʕaalik
nevertheless	wama9ʕaalik
meanwhile	fiiʕuquuniʕaalik
on the other hand	min naahiyatin ʔuxra

2.1 And, but

Besides joining words and phrases (cf. 2a and b), English *and* and *but* serve to conjoin clauses within sentences (3a and b). Students of English are usually warned against using these two conjunctions to join sentences. "Never begin a sentence with *and* or *but*," they are commonly told, in spite of the fact that many good authors do frequently start off sentences with these coordinating conjunctions.⁽⁷⁾

- (2a) She bought eggs and cheese.
 (2b) The boys like to play at home and in the garden.
 (3a) The mother was fixing dinner, and the daughter was ironing the clothes.
 (3b) The student worked hard, but he could not make it through college.

Arabic *wa* and *laakin* exhibit similar characteristics, but their use is not restricted to the joining of clauses; they are frequently used to join sentences. Needless to say, the notions of clause and sentence in Arabic are not as well defined as they are in English⁽⁸⁾ (this is another area which needs to be investigated), yet *wa* and *laakin* appear quite frequently after periods, i.e. at the beginning of sentences. A mere look at any Arabic text is sufficient to realize this fact. Now, compare (4a and b) and (5a and b) below with the English sentences in (2a and b) and (3a and b) above.

- (4a) jaaʔa samiirun wa9aliyyun
 came Sameer and-Ali 'Sameer and Ali came'

(7) Thomas S. Kane, *The Oxford Guide to Writing* (Oxford: Oxford University Press, 1983), p.120; Betty Rizz, *The Writer's Studio* (New York: Harper & Row, 1982); Larry F. Selinker, "A Brief Reappraisal of Contrastive Linguistics," *Working Papers in Linguistics*, University of Hawai (1971), 1-10.

(8) Barbara Johnstone, "Parataxis in Arabic: Modification as a Model for Persuasion," *Studies in Language*, 11 (1987), 85-98; for a discussion of Arabic phrases, clauses, and sentences. In this paper, we consider a sentence any group of words set off by periods or ended with a period; a combination of words consisting of at least a subject and a verb that is not closed by a period is considered a clause. The reader is also referred to Mahmoud Al-Batal, *The Cohesive Role of Connectives in a Modern Expository Arabic Text*. University of Michigan, Ann Arbor, Ph.D. Dissertation, 1985, for a discussion of connectives in Modern Arabic.

- (4b) *yal9abu ?al?awladu filbayti wafilmadrasah*
 play the-boys in-the-home and-in-the-school
 'The boys play at home and in the school'
- (5a) *kaanat ?al?ummu tu9iddu ?al9ašaa? wakaant ?albintu taqraa?*
 was the-mother prepare the-dinner and-was the-girl read
 'The mother was fixing dinner, and the daughter was reading'
- (5b) *darasa ?at9aalibu ka9iiran laakinnahu lam yanjaħ*
 studied the-student a lot but-he not succeed
 'The student studied hard, but he did not pass'

The subjects in Group B were instructed to use *and* and *but* to join clauses within sentences and to never use them to begin sentences. Because Arabic *wa* and *laakin* are commonly used to conjoin clauses and sentences, a great emphasis was laid upon that difference between the two languages. The emphasis was made even more urgent due to the fact that Jordanian students consistently tended to use the English conjunctions at the beginning of sentences. In addition, students in Group B were made aware of a second difference between the English and Arabic uses of these conjunctions. Whereas the comma is optional before Arabic conjunctions when clause-connectors, they were told, the use of the comma in the same environment in English constructions is mandatory. Students in Group A were not made aware of these differences between English and Arabic. Thus, if the principles of CA were correct, they would be expected to make more mistakes than students of Group B in the use of these two conjunctions.

2.2 So

So is a little more enigmatic. In English, it has many uses as conjunction, adverb, or interjection.⁽⁹⁾ Here, however, we deal only with its use as a conjunction linking two independent clauses (6 below).

- (6) He was ill, so he could not come to class.

In Arabic, *wahaakaša* and *lišaalika* are more often used after periods; they introduce sentences rather than clauses. Thus, Arab students were expected to use English *so* at the beginning of sentences. As a result, subjects in Group B were instructed that *so* was used differently from its Arabic correspondents and were warned against using the English conjunction to introduce sentences. This premonition was made more necessary especially after the author realized that the students

(9) Otto Josepersen, *Essentials of English Grammar* (University of Alabama Press, 1964); Randolph Quirk, et al. *A University Grammar of English* (Hong Kong: Longman, 1973).

were almost always using *so* at the beginning of sentences, completely ignoring its use as a clause-connector. Students in Group A were not told about the difference in the use of the English conjunction and its Arabic equivalents. Thus, they were expected, if the principles of CA were to be correct, to erroneously use *so* to introduce sentences even when they meant it to be a clause-connector.

2.3 Also, next, finally

Also, *next*, and *finally* share the characteristic of both being sentence-initial (cf. 7a, b, and c below) and, optionally, embedded within the first part of the sentence (cf. 8a, b, and c). When sentence-initial, they are usually followed by a comma.⁽¹⁰⁾

- (7a) Also, no solution could be found for the problem.
- (7b) Next, we got to a small cottage.
- (7c) Finally, the wind died down.
- (8a) Many other officials were also informed about the subject.
- (8b) We next got to a small cottage.
- (8c) The wind finally died down.

Arabic *?aydan*, *ba9da ʒaalika*, and *?axiiran* do not differ much from their English correspondents, as the examples in (9a, b, and c) and (10a, b, and c) illustrate. They can be used both sentence-initially and medially. We notice, however, that the Arabic ‘particles’ are preceded by the conjunction *wa* when sentence-initial.⁽¹¹⁾ Indeed, they become more forceful (semantically speaking) if *wa* is cliticized to them. Moreover, the Arabic connectives are not commonly followed by a comma when sentence-initial.

- (9a) *wa?aydan lam yatimm ?attawaʒsulu ?ila ʔhallin lilmuʒkilah*
and-also not achieve the-reaching to solution for-the-problem
‘Also, no solution could be found for the problem’
- (9b) *waba9da ʒaalika waʒalna ?ila kuuxin ʒaʒiir*
and-next arrived-we to cottage small
‘Next, we got to a small cottage’
- (9c) *wa?axiiran hada?at ?arriyaʔñ*
and-finally calmed the-winds
‘Finally, the winds died down’
- (10a) *lam yatimm ?aydan ?attawaʒsulu ?ila ʔhallin lilmuʒkilah*
not achieve also the-reaching the solution for-the-problem

(10) Quirk et al., pp.211-13; p. 248.

(11) Cf. Johnstone (1987) for a similar remark and for the assertion that Arabic uses a lot of coordination and very little subordination.

'No solution could also be found for the problem'

(10b) waṣalna ba9da ʒaalika ?ila kuuxin ʃaʒiir
arrived-we next to cottage small
'We next got to a small cottage'

(10c) wahada?at ?axiiran ?arriyaah
and-calmed finally the-winds
'The winds finally died down'

As a result, Arab learners of English are expected to often use *and* before *also*, *next* and *finally* and to forego the comma after them when they are sentence-initial. Students in Group B were warned against this kind of practice and shown the similarities and differences between English and Arabic regarding this issue, while students in Group A were left in the dark on this matter.

2.4 Remaining Connectives

The remaining connectives in (1) above, i.e., *then*, *in addition*, *moreover*, *furthermore*, *therefore*, *in spite of that*, *however*, *nevertheless*, *meanwhile*, and *on the other hand* differ markedly from the linking devices already discussed. When used to link two independent clauses, a semicolon must precede and a comma must follow them, as illustrated in (11a, b, and c) below.⁽¹²⁾

- (11a) The man crossed the bridge; then, he decided to wash his feet in the river.
- (11b) The old man was lonely; moreover, he was mistreated by his neighbors.
- (11c) The principal was tolerant; however, he refused to let the student go unpunished.

Sometimes, they serve to link sentences together. In this case, they are either sentence-initial and obligatorily followed by a comma (cf. 12a, b, and c below) or sentence-medial. In the latter environment, they are preferably set off by commas (cf. 13a, b, and c).

- (12a) Then, the officer began to torture the captives.
- (12b) Moreover, the man was unable to get in touch with the police.
- (12c) However, the ingenious proposal could not be implemented.
- (13a) The officer, then, began to torture the captives.
- (13b) The man, moreover, was unable to get in touch with the police.
- (13c) The ingenious proposal could not, however, be implemented.

(12) Rizzo, p.50, Quirk et al., p. 249.

Arabic correspondents of these transitional devices differ in several respects. First, they are never preceded by a semi-colon.⁽¹³⁾ Second, they are not commonly followed by a comma. Third, they are optionally preceded by a comma or a period (cf. 14 and 15 below). When embedded within the first part of the sentence, they are not set off by commas (cf. 16).

- (14) qaṭaʿa ʔarraǰulu ʔalǰisr, ʕumma qarrara ʔann yaǧsila qadamayhi fin-nahr.
crossed the-man the-bridge, then decided-he that wash feet-his in-the-river.
'The man crossed the bridge; then, he decided to wash his feet in the river'
- (15) qaana ʔarraǰulu ʔalǰajuuzu waḥiidan. ʕalaawatan ʕala ʕaalika qaana jiiraanuhu yusiiʔuuna muʕaamalatah.
was the-man the-old lonely. moreover were neighbors-his wrong-they treatment-his.
'The old man was lonely. Moreover, he was mistreated by his neighbors'
- (16) waqaana maʕaʕaalik rajulan xaluuqan.
and-was however man well-mannered.
'He was, however, a well-mannered man.'

Consequently, Arab learners of English are expected not to use a semi-colon before English devices. Instead, they will tend to use a comma or a period, but they will not use a comma after them. Moreover, when using these connectives sentence-medially, they are expected not to have them set off by commas. Here again, the similarities and differences of English and Arabic linking devices were explained in detail to students of Group B, but students of Group A were not made aware of them.

3. Subjects' Performances

In this section, the achievements of the students in both Groups in the field of connectives as they appear in the final examinations will be presented and analyzed. Table 1 illustrates the performances of the individual students in Group A while Table 2 indicates those of the subjects in Group B. The first column shows the student's number; the second column illustrates the number of connectives used by each

(13) This means that a semi-colon before the Arabic connectives is not required as in English; however, in various modern Arabic texts, the semi-colon is used, most probably on the analogy of English and other European languages. The problem of punctuation in Arabic is badly understood by many people and needs to be investigated.

student; the third shows the number of times the student used the connective correctly; the fourth column indicates the percentage of the correct connectives. At the end of each Table, the reader will find the total number of connectives used by students in the Group concerned and the total number of the correct uses, followed by the average number of connectives used per student and the mean percentage of correct uses (average score).

A mere look at the data in Table 1 and 2 reveals that students in Group B scored markedly higher in the area of clause and sentence connectors: 68.3% as compared with only 50.8% for students in Group A. Moreover, students in Group B used on the average more connectives (11.8 connectives per student) than those in Group A (11.3 connectives). This fact is indicative of at least two things. Firstly, it implicitly reveals that Group B felt more confident about the use of connectives, which shows that the subjects in this Group mastered this skill better than the subjects in Group A. Secondly, it is a universal truth that the likelihood of making mistakes augments with the increase of the number of items used. Since students in Group B used on the average more connectives (11.8 per person), the likelihood of making mistakes was higher in their case. In spite of that, they made less mistakes than students in Group A, a fact which further strengthens their average score of 68.3%.

Many other facts revealed by the data in the Tables argue in favor of better achievement by group B. First, only three students in Group B scores below the 50% mark, commonly considered a passing grade in undergraduate education. In the case of Group A, however, 13 students scores below 50%. Furthermore, the lowest score in Group B was 41.7, whereas it was 28.6 in the case of Group A. In addition, 8 subjects in Group A had scores below 40% while none among the students in Group B scored so low (a score below 40% is commonly considered very poor). If we move next to the good, very good, and excellent grades, we notice a few facts that strongly argue in favor of a better achievement by Group B. First, 7 students of B scored a mark of 'good' (70.0–79.9%), while none of the students in A scored such a grade. Second, 8 subjects of B scored a 'very good' grade, whereas only one subject of A got this mark (80.0–89.9%). Third, one student from each Group scored an 'excellent' mark (90.0–100%). The fact that two students of A could get high marks (83.3 and 90.9) may be explained by invoking individual differences among students.

Table 1. Performances of Students in Group A.

Student #	# of Connectives	# of Correct Uses	% of Correct Uses
1	11	4	36.4
2	10	4	40.0
3	7	2	28.6
4	16	5	31.3

Table 1 (cont'd.)

Student #	# of Connectives	# of Correct Uses	% of Correct Uses
5	12	4	33.3
6	13	7	53.8
7	12	8	66.7
8	12	7	58.3
9	13	9	69.2
10	9	6	66.7
11	8	3	37.5
12	9	3	33.3
13	10	4	40.0
14	11	4	36.4
15	8	4	50.0
16	11	6	54.5
17	12	6	50.0
18	11	5	45.5
19	9	3	33.3
20	14	7	50.0
21	15	8	53.3
22	12	8	66.7
23	10	5	50.0
24	10	6	60.0
25	11	6	54.5
26	13	7	53.8
27	14	6	42.9
28	12	10	83.3
29	11	10	90.9
30	13	6	69.2
31	12	6	50.0
32	10	4	40.0
33	11	6	54.5
Total	372	189	
Average	11.3		50.8

Table 2. Performances of Students in Group B.

Student #	# of Connectives	# of Correct Uses	% of Correct Uses
1	12	6	50.0
2	13	8	61.5
3	12	10	83.3
4	11	7	63.3

Table 2 (cont'd.)

Student #	# of Connectives	# of Correct Uses	% of Correct Uses
5	12	7	58.3
6	14	9	64.3
7	15	12	80.0
8	13	11	84.6
9	10	7	70.0
10	9	7	77.8
11	12	10	83.3
12	15	12	80.0
13	13	11	84.6
14	10	9	90.0
15	9	6	66.7
16	10	6	60.0
17	12	10	83.3
18	13	10	76.9
19	14	11	78.6
20	11	9	81.8
21	13	9	69.2
22	7	5	71.4
23	8	5	62.5
24	10	5	50.0
25	12	5	41.7
26	11	8	72.7
27	13	7	53.8
28	14	8	57.1
29	14	10	71.4
30	13	8	61.5
31	11	5	45.5
32	12	5	41.7
Total	378	258	
Average	11.8		68.3

All in all, then, Group B did substantially better than Group A in the area linking devices. This, it is believed, was due to the CA of English and Arabic connectives, which included warning the students of Group B against confusing between the different uses of each language's transitional devices. One may claim, however, that the fact that Group B performed better than Group A was due to circumstantial or physical reasons (.e.g., Group B being a better class with a superior training in writing) and not to CA and error prediction. This claim can not stand for several reasons.

First, both Groups had had similar previous training not only in writing but also in English grammar as well. Second, in all other areas relative to writing skills (.e.g., subject-verb agreement, tense consistency, object relativization, spelling, and punctuation), the subjects scored similar results (comparison of sample paragraphs written by both Groups in Appendix A and Appendix B illustrate this points). Third, the overall scores of both Groups were quite similar (the average grade was 66.4% for Group A and 67.8% for Group B). Finally, such a big gap in scores (50.8 vs. 68.3) can not be blamed on circumstantial or physical reasons. A gap in the range of 5 points may be due to accidental reasons, but not one in the range of more than 17 points.

The types of errors made by the students in the area of English linking and sequencing devices were many and varied. Some mistakes involved using *and*, *but*, or *so* sentence-initially when these conjunctions were meant to be clause-connectors. Other errors pertained to the area of punctuation such as leaving off a comma before *but* or *so* and after *finally* or *also*, not using a semi-colon before *then* or *moreover*, and neglecting to set off *however* with commas when used sentence-medially. Still other deviations resulted in run-on sentences when no conjunction or a proper punctuation mark was used to link two independent clauses. Another type of errors consisted in using expressions like *and also*, *and next*, or *and finally* at the beginning of sentences, most probably because of the widespread use of similar expressions in Arabic. The reader is referred to Appendices A and B for a more detailed idea about these errors. As stated earlier, however, these mistakes occurred less in the writings of students of Group B than in those of subjects in Group A.

4. Conclusion

This paper has purported to further test (in a different way) the relevance of CA to second language learning. It has experimentally demonstrated that a group of students made aware of the areas of interference between the mother tongue and the target language performed markedly better than another group that was not so informed. The area selected to carry out the test was that of English and Arabic connective devices. It has been shown that the subjects who were shown the areas of interference and taught how to avoid the expected errors scored higher (68.3%) than the subjects who were not so instructed (50.8%). Obviously, in order to be generalizable, this conclusion has to be corroborated by further studies in the areas of possible interference between English and Arabic and between other pairs of languages. It is suggested that such studies take into consideration other experimental variables such as time, treatment, and initial English proficiency. This is left for further research.

Appendix A

This Appendix contains compositions written by two students of Group A. These are student # 5, who scored a low grade (33.3%), and student # 28, who scored a high mark (83.3) in the area of connectives. All errors are reported as they occurred in the final papers in order to enable the reader to compare between the compositions in this Appendix and the following one.

Student # 5

Modern Scientific Discoveries

No one can deny that modern scientific discoveries have an important role in humans' life. One of these discoveries is called, Radium, which was discovered by Madam Currie, and her husband Pier. And this discovery has an important role in humans' life for many reasons: first, this element can wipe out and conquer the diseases such as, cancer, and contagious disease of heart. Then, this element enables the farmers whose lands are not good for farming to plant their land with crops; and this gives fertility to land. Moreover, this discovery is used for different kinds of manufacturing such as, medicine, and purifying the salty land. Finally, Radium is important for mummification. But despite the advantages of this discovery, Radium has some disadvantages. So the pure element of Radium is important for manufacturing nuclear power and atomic weapons, which lead humanity for war and death.

A crowded beach on a hot summer day

I wondered when I reached the Gulf of Aqaba last week. The weather was very hot, and the beach was crowded. When I reached there, I thought that all people were coming from every place. The people were swimming, and enjoying with fresh water. I swam for half an hour, then I walked along the beach. There I saw some people cooking meat, and others were playing. At the opposite side of the beach, I saw other people had instruments such as Lute, violin, and brass; they were playing on the violin; others were dancing, then I walked for 100 meters, I saw a group of foreigners coming there. On the beach, the foreigners swam, then they played tennis. The sun was shining; so the weather is very hot. When I looked on the sea surface, I thought that some people were sleeping on water. The scene was very marvellous, and enjoyable.

Student # 28

The Benefits of Reading

Reading is a good habit. We must practise ourselves to read, at least, one hour every day. First, reading enriches our knowledges. It gives us new informations about the foreign countries; the habits and the practises of other nations, and it tells us about their religious beliefs. Moreover, it gives us a good idea about Nations' history. Reading gives an important idea about any sciences' branches. It creates an educated person. Second, reading is the best way to develop our language. Reading enriches our vocabulary, and it improves our grammar and spelling. Furthermore, it teaches us how to use a good style in writing. Third, reading helps us to achieve more scientific discoveries. Scientists read about old theories and correct them. So they save time and effort, and they reach to new discoveries. Finally, reading builds a strong, educated and confidence personality so we must help our children to read.

A high Mountain in Winter

In one of the coldest area in the world, there is a mountain lies like a wild lion. The snow covers its top, and white small trees spread here and there. The wind whispers gently, and the snow falls and covers the mountain like a beautiful white dress. Small animals try to find a shelter to hide. Also, the mountain stands like a fierce soldier vies the bad weather and rough wind. There is some cottages spread in different

parts, and that reduces the wildness of the mountain. Small rocks with sharp edges cover some places of the mountain, and that makes walking in this place hard. The mountain scene is immemorial one. You can't forget it.

Appendix B

This Appendix contains compositions written by two students of Group B. These are students # 8, who scored a high grade (84.6%), and student # 31, who got a low grade (45.5%) in the area of connectives. Again here, all errors are reported as they occurred in the final papers.

Student # 8

Modern Scientific Discovers

Modern Scientific discoveries have many benefits that no rational human can neglect, although their risks are immense and unpredictable. New technology has changed every aspect of human's life. Instead of moving from one place to another on feet or over the backs of horses or camels, especially it is a long journey, man now can reach the most distance place on earth within an incredibly short time, in comparison with ancient eras' means of transportation. Chemistry has also affected humans' lives substantially. Meanwhile, new discoveries of medicines became a matter of routine, different ways of manufacturing clothes became a matter of art, and everything became more and more pertinent and convenient for us thanks to new technology. But, on the other hand, new innovations and discoveries make us live on the edge of a hell while we are enjoying our new invented paradise. Weapons are becoming more and more dangerous. Moreover, different kinds of bombs, aircrafts, rockets, are recently invented to make our destruction easy at hand. Then, came the atomic bomb with its terrifying threat to all the human kind. Hundreds of these bombs are built in many countries of the world, and they are waiting for the day of the final count down of our existence.

A High Mountain In Winter

There it stood, covered with the mistries of nature, and the ambiguity of dark long-lasting winter, a huge lofty mountain. Wet grass with faint various colours scattered in wide spots on the mountain. Pools of water were also here and there empeding my climbing. In addition, different kinds of reptiles looked at me suspiciously and curiously through wet piled rocks. They seemed to accuse me of trespassing their fearful privacy. Reaching up to the summit, I found snow covering a wide area of the mountain. The stinging cold wether, however, chilled me and my body began to shudder. Furthermore, loneliness and fear of the unpredictable made me go down and keep a thrilling memory of the adventure in my mind.

Student # 31

The Benefits of Reading

There are many benefits of reading we can get. Firstly, reading, broaden our mind. There are many people reading about subjects and this case make them having a broad mind. Also, we get more information from reading. For instance, there are various subjects written in books, magazines and newspaper and by reading them we can get more information. In addition, we find people like reading in order to get their degree, also, we get more educated people be reading and those people will help the society to solve their problems. Finally, there are many benefits of reading we can get.

A Crowded Beach on a hot Summer Day

In the outskirts of a small town there is a magnificent beach, where many people go there on a hot summer day. People are laying on the beach beside each other, whereas, no place to walk on. And we see

many people are swimming and playing in the water and others are skiing on the water (on the surface of the water). We see people are playing games such as football, running each other. But there are some people camping all the week and others living in the boat. So a crowded beach on a hot summer day is remarkable where people meet each other and chat.

التحليل المقارن وأداء الطلبة: أدوات الوصل في العربية والإنجليزية

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ملخص البحث . يحاول هذا البحث اختبار مدى إمكانية الإفادة من التحليل اللغوي المقارن وتوقع حدوث الأخطاء في عملية اكتساب لغة ثانية، وذلك بإجراء تجربة تعتمد على طريقة جديدة هي مقارنة أداء مجموعة من الطلاب الجامعيين الأردنيين الذين يدرسون اللغة الإنجليزية كلغة أجنبية، تعرّضوا لشرح كامل عن أوجه التشابه والاختلاف بين اللغة الأم (العربية) واللغة الثانية (الإنجليزية)، مع أداء مجموعة أخرى مشابهة من الطلاب لم يتعرضوا لمثل هذا الشرح. ويبين البحث أن أداء المجموعة الأولى فيها يتعلق بالمجال المدرّس وهو مجال أدوات الوصل بين الجمل في اللغة الإنجليزية، كان أفضل بكثير من أداء المجموعة الثانية المساوية للأولى من حيث تمكنها من اللغة الإنجليزية، ويتوقع أن يكون مرد ذلك التحليل اللغوي المقارن.